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Corporate Governance Mechanisms and the Insolvency Risk: Evidence from GCC Countries

A Thesis Submitted in Partial Fulfilment of the Requirements for the Masters Degree in Accounting

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Abstract

This study aims to investigate the relationship between corporate governance mechanisms and the insolvency risk of publicly listed companies in the GCC stock exchanges. This investigation is conducted by utilizing multinomial logistic regression analysis. This study has considered nine corporate governance mechanisms which include board size, board meetings, board independence, blockholders ownership, institutional ownership, executive ownership, audit committee size, audit committee meetings and audit committee independence. The results show that there is a significant negative association between board size and the insolvency risk, which determines that in the case that the firm has more members on the board, there is a higher likelihood that it will have a low insolvency risk. The results also show that there is a significant positive relationship between board meetings and insolvency risk, thus indicating that the more and frequent meetings, the more likely it is that the firm will experience a higher insolvency risk. However, the results show that the board independence has no significant impact on the firm's insolvency risk. Regarding the ownership structure characteristics, the results have shown that blockholders ownership has a positive relationship with insolvency risk, however, the results show that the institutional ownership and the executive ownership, have no significant impact on the firms' insolvency risk. Additionally, regarding the audit committee characteristics, the results show that there is a positive relationship between audit committee size and insolvency risk. Whereas the frequency of audit committee meetings has a negative impact on the firms' insolvency risk. However, the results of the final independent variable, the audit committee independence, have contradicted each other in the first and second models, where the first model concluded that the audit committee independence has no significant impact on the insolvency risk, whereas in the second model, results have inferred that there is a negative relationship between the audit committee independence and the insolvency risk. Consequently, the outcome of this study provides a useful contribution to policymakers, investors, and other stakeholders in the firm to follow essential precautionary measures in order to avoid financial distress and insolvency risk.

Keywords – Corporate Governance, Insolvency Risk, Financial Distress, Altman Z-Score, GCC Countries

Dedication

To my loving parents,

Hassan Haddad and Layla Al Sayed

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List of Abbreviations

BLR	Binomial Logistic Regression
CEO	Chief Executive Officer
CG	Corporate Governance
EMS	Emerging Market Score
GCC	Gulf Cooperation Council
IPO	Initial Public Offering
KSA	Kingdom of Saudi Arabia
LRA	Logit Regression Analysis
MDA	Multivariate Discriminant Analysis
MLR	Multinomial Logistic Regression
OECD	The Organization for Economic Co-operation and Development
SEC	The Securities and Exchange Commission
SOX	Sarbanes-Oxley Act
UAE	United Arab Emirates
US	United States

Chapter One

The General Framework

1.1 Introduction

Corporate insolvency, also known as corporate bankruptcy, is an underlying issue that is faced by corporations worldwide. A company is said to be insolvent when it is unable to pay its debts which results in the firm's inability to meet its financial obligations in the long run. The global financial crisis of 2008, although started in the United States (US), has affected countries all over the world. Because of this crisis, numerous companies have been forced to downsize, liquidate, and eventually declare bankruptcy over the years. Since then, other financial and economic crises have risen including banking crises, stock market crashes and the present day COVID-19 pandemic, which also had a substantial effect on companies, both in the financial sector as well as non-financial industries.

Although unforeseen financial crises have a significant influence on corporate insolvency, there are many other known factors that can cause a company to face the risk of insolvency, such as over-borrowing, poor financial management and defaulting on payments. These aspects have raised questions about management competence, their integrity, as well as their capability to protect these companies from failure. Corporate governance (CG) involves shareholders, boards, executive management, and employees of the firm. The CG code issues standards for the purpose of protecting stakeholder interests.

Controversial to popular opinion, the CG codes are not exactly binding. According to the Organization for Economic Co-operation and Development

(OECD) "OECD Corporate Governance Factbook, 2019" (OECD, 2019), there are two approaches to following CG; the first would be issuing the CG codes based on the "comply or explain" framework which includes voluntary recommendations and requires listed companies to either comply to the code or explain why they do not comply. The second approach is addressing these issues through formal regulation. It was also stated that 83% of jurisdictions have adopted the "comply or explain" approach. On the other hand, 11% reported that they had applied regulations that could either be voluntary or mandatory. Out of the six Gulf Cooperation Council (GCC) countries, the Kingdom of Saudi Arabia (KSA) has adopted this approach. The GCC countries have issued their CG codes to be implemented by publicly listed companies in order to ensure shareholder protection from mismanagement that results in corruption within the firm. By monitoring the company's activities, eliminating corruption, appealing to investors, and maintaining global competition, CG strives to ensure the firm's continuing success and development.

As a result of the financial crises, many researchers have emphasized the importance of the role of CG on the risks and performance of publicly listed companies. Although most of the existing literature on the topic has focused on financial institutions, bank performance, banking risks and credit risks (Dedu & Chitan, 2013; Anginer et al., 2014; Oyerinde, 2014; Iqbal & Ali, 2016; Li et al. 2020), there are several studies that conducted their research on non-financial institutions (Adams, 2011; Abdallah & Ismail, 2017; Saidat et al., 2019). An effective board of directors and board audit committee should direct management to make sound decisions with regards to the company's operations. Research shows that well-governed companies are known to

perform better financially (Mishra & Mohanty, 2018). Consequently, firms with a weaker governance structure could face difficulties in sustaining the business when encountering external shocks like economic decline and thus have a higher likelihood of financial distress which then leads to corporate insolvency (Lee & Yeh, 2004). According to Brown & Caylor (2004), companies having a stronger CG structure are more likely to have better performance, higher value, and more frequent shareholder payouts.

Among other financial risks, one of the underlying risks a company could face is the risk of insolvency or bankruptcy. Prediction of insolvency allows the company to be prepared for future obstacles which then allows them to plan the necessary approaches to overcome them. Several researchers have discussed the importance of predicting financial distress and insolvency (Luqman et al., 2018; Waqas & Md-Rus, 2018; Chenchehene, 2019). Many of which have used CG elements and mechanisms as a basis of prediction. Predicting corporate insolvency has a vital role in sustaining the long-term survival of the firm by helping managers take corrective measures to avoid financial distress (Waqas & Md-Rus, 2018). Prior literature stressed on the importance of predicting corporate insolvency and the financial difficulties that direct companies towards bankruptcy. These studies have performed research on the various methods and models used as a prediction tool to either identify companies falling under financial distress or study the factors that caused these companies to be financially distressed. Simic et al. (2011) utilized an MDA-SOM model that is comprised of a combination of the Multivariate Discriminant Analysis and the Self-Organizing Map which was composed by including financial ratios and the Altman Z-Score. Their research has shown that this model could assess the financial well-being in 95

percent of the sample companies. Taj et al. (2017) have conducted their research to compare between two models of predicting financial distress, the Multivariate Discriminant Analysis (MDA) and Logit Regression Analysis (LRA) and have concluded that the LRA model is slightly more efficient in predicting financial distress. A study by Bešlić Obradović et al. (2018), where the researchers have applied the Binomial Logistic Regression (BLR) model, has achieved an overall prediction accuracy of 88.4 percent, in which they were able to predict the solvency of 82.9 percent and insolvency of 93.3 percent of the companies in the sample. Insolvency prediction models can be of benefit to different stakeholders such as the company's shareholders, managers, and including future investors who are planning to buy into the company. According to Chung et al. (2009), these models could also help external bodies such as auditors, to protect them from being found negligent because of not reporting the likelihood of a company's insolvency. They could also assist financial advisors who could utilize this information to identify which companies to avoid and which to invest their clients' money in. Chung et al. (2009) also stated that predictive models do not necessarily help managers in identifying the issues that cause financial difficulties but instead, can make them aware that the company's financial health is struggling, which will direct them towards making changes within the organization in order to prevent the company's downfall.

1.2 Research Objectives

The objective of this study is to examine the relationship between CG mechanisms and the insolvency risk of non-financial institutions listed on the GCC countries' stock exchanges for the designated period of 2015 to 2019.

By using the Altman Z-Score (Altman, 1968) to predict the companies in the sample which are under financial distress, this research then uses that data to identify and study the CG elements that influence the company's insolvency. The study examines the impact of CG mechanisms on the likelihood of firms having high, moderate, or low insolvency risk.

1.3 Research Significance

Prior research has emphasized on the importance of CG and its impact on firm performance and corporate insolvency (Khanchel, 2007; Mishra & Kapil, 2017; Manzaneque et al., 2016). They proved how well-governed companies could enhance the firm's performance and that discovering early warning signs of financial distress could be beneficial to the different stakeholders in the firm. A firm's financial performance is the key to the long-term success of the organization, and as CG has a vital role towards that success, identifying the weaknesses in the structure could reveal the areas that are open for improvement. This study will contribute to the existing literature by identifying the components of CG that have a significant relationship with corporate insolvency, and in turn will shed light on the issues that could be addressed by companies in order to strengthen the CG structure to avoid financial distress. Additionally, this research intends to understand these areas in order to help reduce the insolvency risk in non-financial firms and contribute to progressing the companies' survival. To the researcher's best knowledge, there are limited studies that have examined the relationship between insolvency risk and CG of non-financial institutions in the GCC region. Therefore, this study aims to fill that gap by providing evidence from a sample of publicly listed companies in the GCC countries.

1.4 Research Structure

This study consists of six chapters and will be structured as follows: Following the current chapter which provides a brief introduction to the study, the research objectives and significance, chapter two introduces the theoretical framework. Chapter three provides the literature review, after which the hypotheses of this study will be developed. Chapter four covers the methodology section of the research which discusses the research tools and statistical methods used. Chapter five presents the results and discussion of the selected analysis. Finally, chapter six concludes the study and provides recommendations for future research.

Chapter Two

The Theoretical Framework

2.1 Introduction

There are several theories that have been developed to study the issues related to CG. The problem being tested in this research is whether CG has a significant effect on firms' insolvency risk. In other words, can CG affect the financial stability of a firm? As an approach to understanding explanations to this problem, multiple theories have been developed and tested by previous researchers (Anginer et al., 2014; Dhouibi, 2013; Grassa, 2016; Iqbal & Ali, 2016; Ernawati et al., 2018; Handriani et al., 2021; Mariano et al., 2021)

Prior research on CG has directed their focus mainly on the agency theory (Vargas-Hernández & Teodoro Cruz, 2018; Islam et al, 2010; Herlambang et al., 2020). In this study, the agency theory will be discussed further, however, there are other frameworks that consider alternative theories which could also assist in clarifying the research problem. This study considers a multi-theoretic approach to help assess and understand the research perspective. This chapter will discuss three main frameworks; section 2.2 reviews the agency theory, section 2.3 considers the stakeholder theory, and section 2.4 discusses the resource dependency theory.

2.2 The Agency Theory

The theory was first proposed by Stephen Ross and Barry Mitnick in 1973. Ross introduced the theory in an economic perspective and discussed problems of compensation contracting and the incentives problem, while Mitnick introduced the institutional theory of agency and discussed the

problems of the agency relationship that institutions are based on (Mitnick, 2011). The current theoretical foundations for CG were derived from the work of Berle & Means (1932), in which they stated that the agency problem revolves around the separation of ownership and control. Jensen & Meckling (1976) identified the agency relationship as a contract between two parties in which the principal delegates duties to the agent to make decisions regarding the firm and its operations on the principal's behalf. The principal(s) in this theory being the owners or shareholders of a firm. The theory assumes that the agents will not act in the best interests of the principals, but instead seek maximizing their own utilities. The shareholders entrust the company's operations to the agents, and in turn the agents must protect the shareholders' interests and reward them with the profitability and stability of the company. However, the assumption that managers are bound to act in opportunistic behavior creates a conflict of interest. The shareholders invest in the business to earn profits and get a high rated return, while the managers of the company have an agenda for themselves. Managers have the knowledge and expertise of the business that helps them in ensuring the firm's continuance, whereas the shareholders do not possess this experience. CG plays an essential role in avoiding agency conflicts between senior management and the shareholders of the firm by appointing the board of directors as the middlemen between the two parties. The primary responsibility of the board is to ensure that the managers set aside their self-interest and focus their time and resources to maximize the value of the organization and in turn ensure that the shareholders get a good return and secure their investment. The board must also work alongside management to ensure that the outcomes of management decisions are consistent with their obligations to the shareholders in terms of accurately reporting profitability and performance of the organization. They monitor the

process of the business and ensure that there is efficiency and accuracy in the reporting of the company.

The theory is based on the concept that the principal needs protection from the agent from misaligned interests and the agency problem revolves around the question on how to get the agents to work in the best interests of the principal. A firm with a strong CG structure intends to prevent the agency problem by having a proper monitoring system to ensure the cooperation of management not to stray from their main goal, which is to maximize shareholder value and wealth. One way to direct management towards that goal is the reward strategy. Vargas-Hernández & Teodoro Cruz (2018) stated that the agency theory aims to solve the problem of misaligned interests and objectives whereby the principal intends to ensure the loyalty of the agent by providing a reasonable compensation system. Ahmad & Adhariani (2017) stated that offering shares to management could reduce agency conflicts. Management receives incentives to achieve the firm's objectives while working towards enhancing shareholder wealth and protecting their interests in the company (Ahmad & Adhariani, 2017). Management could be rewarded for their performance through the profits made at the end of the financial period as an attempt to encourage them to work towards increasing the firm's profits. If managers are paid bonuses based on the profitability of the business, this will act as an incentive for them to become more efficient in order to secure their compensation. Previous studies also argued that audit committees could prevent management manipulation of financial statements for the purpose of increasing their compensation and increases the possibility of detecting fraud (Goodwin & Seow, 2002; Islam et al., 2010). If the agents work harder to get their own bonuses, and in doing so increase the profitability

of the business, it will in turn increase the dividend payout for the shareholders, thus the principal-agent problem is somehow self-correcting.

The attempt to solve the agency problem also increases agency costs that are associated with managing the needs of conflicting parties. These costs include monitoring costs such as appointing auditors to verify the financial reporting process of the company, bonding costs related to compensation and remuneration to the appointed board of directors, and residual losses which involve earnings management, fraud, and other accounting scandals which could take place regardless of the company's best efforts to prevent them. Monetary incentives given to managers to perform their duties properly are considered as agency costs. Monitoring management through a board of directors is also considered an agency cost.

In conclusion, the collaboration and effort of internal and external governance processes are important in solving agency problems. Solutions to the agency problem could include the monitoring function of the board of directors, as it proves to be effective in controlling management behavior on behalf of the shareholders. Another solution to this problem is contractual incentives given to management to reduce the conflict of interest between them and the shareholders.

2.3 The Stakeholder Theory

Another framework of CG is the stakeholder theory which concentrates on the activities and interests of all stakeholders in a corporation. The theory suggests that management should put efforts to minimize conflicts between stakeholder interests because aligning their interests would achieve the desired level of value to the company (Cardoso et al., 2019). In this instance,

the owners could offer shares to executive management to motivate them into working towards the primary goal of achieving the highest level of strategic value and enhancing the growth and stability of the firm.

Stakeholders could be defined as anyone who has a particular interest in the business, which includes shareholders, management, employees, suppliers, prospective investors, governments, society and all the way to customers. Kyereboah-Coleman (2008) argues that the agency theory is narrow because it identifies shareholders as the only interest group of a corporate entity. Agency theory essentially considers the owners and managers of the business, where the shareholders want security and return on their investments, and managers want job security and bonuses. Agency theory places a lot of emphasis on the shareholders, whereas the stakeholder theory is much wider. Not only does it recognize shareholders, but it also recognizes anyone who has some level of interest in the success, performance or continued operations of the organization. The company has an obligation to maximize their profits. It is the managements duty to make appropriate decisions that would benefit and satisfy all stakeholders.

If a critical supplier backs out of doing business with the firm because it is unsatisfied with the service or decisions taken by the firm, the firm would be in trouble because it will not have access to those critical resources provided by that certain supplier. Thus, it is imperative that the management of the company ensure that all stakeholders benefit from the operational decisions they are taking on behalf of the firm.

Some arguments related to the stakeholder theory of CG suggested that the shareholders of a company have their entire investment on the line, while other stakeholders such as suppliers and employees only benefit from the

business, contending that the stakeholders' corporate purpose are not a viable reason for their interests to be considered along with those of the company's owners (Pande, 2011). However, strong supporters of this theory argue that stakeholders can impact the direction of the company, therefore it is crucial for managers to give attention to those stakeholders (Freeman, 1994).

2.4 The Resource Dependency Theory

Resource dependence is the action of obtaining resources that are essential to the success of a company (Cardoso et al., 2019). Every organization needs resources to survive, and this leads to the interdependence to other firms, which leads to uncertainty of firm survival because other firms control the supply of critical resources required for running the business towards success. The goal of an organization is to minimize its dependence on other organizations for resources and to find ways to make resources available on their own. Researchers have stated that the board of directors is considered as a critical resource to the firm whereby they can contribute knowledge and experience, instead of only the role of managing the firm's agents. It is important for management to have a good relationship or network with suppliers in order to ensure that the business operations run smoothly. According to researchers, the resource dependency theory assumes that an increase in the number of members on the board of directors and the audit committees would contribute to more valuable resources that would be highly beneficial to firms, which provide better assistance in addressing the issues faced by companies (Khalid et al., 2020). These resources could be in the form of human capital such as knowledge, skills, wisdom, creativity, in addition to training, education, experience and leadership capabilities. Other resources

could also include external connections brought in by external members, which would otherwise not be available to the firm. The theory therefore implies that external members, whether on the board of directors or audit committee, bring in an added value to the firm. The theory focuses mainly on the benefits brought to a company.

Chapter Three

Literature Review and Hypothesis Development

3.1 Introduction

Over the years, CG has been widely discussed by regulators, shareholders, and scholars. The focus on CG started after the numerous financial scandals that have occurred throughout the years, i.e., Enron Corporation, Lehman Brothers Holding Inc., and WorldCom (now known as MCI Inc.). Numerous researchers who have studied the downfall of Enron, soon after known as the icon of corporate fraud and corruption (Darrat et al. 2014), concur that the demise of the company was a result of poor CG and how the failure of CG has extended within several companies throughout the years. The fall of Enron among other corporate giants has resulted in a reassessment of CG structures in the US (Munzig, 2003). The CG structure of a firm acts as the controlling body which helps in mitigating the problems faced by corporations. Nevertheless, the CG structure may not be strong enough to face challenges encountered by a firm, indicating that the structure itself has difficulties of its own in terms of its ability to control risks and prevent financial failure. Internal mechanisms such as the board of directors, audit committee and ownership structure can be enforced in order to overcome the problems in CG.

This chapter is organized as follows: Section 3.2 gives a brief overview of the insolvency risk. The following section, section 3.3, will discuss the arguments and assumptions from prior research studies on which the hypotheses are based on. This section is divided into three sub-sections for each characteristic: the board of directors, the audit committee, and the

ownership structure. Retrospectively, each of these three sub-sections discuss in detail the variables corresponding to each characteristic.

3.2 Overview of Insolvency risk

Armour (2001) defined corporate insolvency as a company being unable to pay its debts to creditors, however, this is a broad definition. According to Armour (2001), corporate insolvency can be narrowed down into various types, each of which have different concepts and definitions. He distinguished between two main types of corporate insolvency, which are balance sheet insolvency and cash flow insolvency. In both instances, the company is unable to pay its debts. Balance sheet insolvency is associated with assets versus liabilities. It is an accounting concept that occurs when the company's liabilities exceed the value of its assets, rendering it incapable of paying its debts when they fall due. However, cash flow insolvency is concerned with liabilities versus the actual cash flow of the company, meaning that the company's assets exceed its liabilities, and that it may have enough assets to pay but the assets are not in cash form or are in an illiquid form. In this case the company might lack the capacity to liquidate in a timely manner and thus may default on their debt payments. It is important to distinguish between these two types of insolvency in order for the company to understand the extent of the financial struggles as well as the risks that it may be facing in the near or distant future, and therefore attempt to prevent the problem from persisting.

It is possible to identify the companies facing insolvency even before they begin to default on their principal payments and interest on loans, or their inability to meet obligations to creditors. A corporation may start showing

signs of financial distress when the proceeds of sale or revenues are not enough to cover its operating costs over several years. Additionally, although companies are not legally obligated to payout dividends, having unpaid or undistributed dividends could also be an indication of financial struggles (Altman, 1967). In the corporate industry, financial ratios are the most common indicators for investigating the financial health and stability of a corporation; Wealth management firms, financial analysts, creditors, and investors make use of the financial ratios of firms when evaluating the areas of strengths and weaknesses in each firm they intend on doing business with.

The threat of insolvency can affect any corporation and could be the cause of several factors effecting the business world on a daily basis such as political disputes, economic downturns, and could also be due to unforeseen circumstances such as a global health crisis. Corporate insolvency can also be a result of internal financial constraints such as the inability to issue equity or the company's dependency on bank loans which causes an increase in their debts. The company's risk of insolvency also increases with inadequate decision making like excessive spending and poor cash flow management. The prediction of financial distress, insolvency or bankruptcy plays a vital role in making corporations aware of their risks which allows them to revise their actions and decisions. Since the 1960's, several bankruptcy prediction models were developed (Altman, 1968; Altman, 1993; Merton, 1974; Ohlson, 1980), all of which were designed for specific industries and markets.

3.3 Corporate Governance Mechanisms

3.3.1 The Board of Directors

After the financial scandals that have occurred which led to the downfall of large US corporations (i.e., Enron, Lehman Brothers), it was believed that the board of directors were failing in their roles to do what is necessary for the good of the firm, which became the reason for the emphasis on controlling the corporate board's performance (Salloum & Azoury, 2012). The board of directors of a company are primarily responsible for maximizing the value of company shareholders. Their role is to ensure that their strategic plans for the firm are correctly carried out by the management, and in order for that to happen efficiently, the board must have complete oversight and control on management actions. They need to be well-informed and completely involved in all matters that affect the business. The board is also responsible for appointing the executive managers of the firm, this includes activities related to recruitment, compensation and remuneration as well as termination. The board serves as controlling body between the shareholders and the management of a firm, and in turn could hold a solution to the agency conflicts. The board has the responsibility of finalizing the firm's business strategy and following up on its implementation. This role ensures that the company is following specific goals and objectives to enhance performance and increase firm value and in doing so, increasing the firm's competitive position, and maximizing the wealth of company shareholders (Pearce & Zahra, 1992). As noted by Zabri et al. (2016), the board of directors is one of the most crucial elements that represents the CG structure of a firm. In literal terms, CG means the governing of a corporations, and those who govern and oversee a company are the board of directors (Eluyela et al., 2018). This study

has selected three board of directors features that could represent the strength of the board, namely, board size, board independence and the frequency of board meetings. The following section discusses previous research on the board of directors' characteristics and develops the hypothesis in relation to each variable.

3.3.1.1 Board Size

Many previous studies have linked companies' value and performance with their CG structure. These researchers have studied the board of directors' characteristics as an attempt to overcome issues in the CG structure of companies and understand its relationship to the companies' health. Numerous prior studies have discussed the relationship between CG and firm performance. Mishra & Kapil (2017) stated that one of the primary internal mechanisms that can contribute to the strength of the CG structure of a company is the board of directors, and that these mechanisms could have a strong influence on firm performance. In addition, they discussed the impact of board size on corporate performance and suggested that board size could lead to two contradicting theories, first of which stated that a larger board size could contribute more knowledge, experience, and connections, and the second which suggested that the larger the board size, the more difficult it would be for the members to finalize their decisions (Mishra & Kapil, 2017). This suggests that having more members on the board will cause them to have a restricted time frame to communicate their ideas and opinions in the meetings and therefore lead to a lack of coordination and miscommunication (Lipton & Lorsch, 1992; Yermack, 1996). Mishra & Kapil (2017) found a positive relationship between firm performance and board size and suggested that larger boards have more oversight on the actions of executive

management which makes them better capable of directing them to work towards the shareholders' best interests and avoiding agency conflicts. This is also in line with the resource dependency theory in which larger boards can provide more resources in terms of experience, advice, and counsel. In addition, larger boards can expand the company's relationships with outsiders, providing more connections and increasing accessibility to external resources.

Lipton & Lorsch (1992) stated that the CG of firms is causing a decline in corporate performance because the board of directors are failing to do what is necessary for the progression of the firm, and among the other implementations that they have proposed to enhance board effectiveness, such as increasing the time spent in board meetings to discuss critical matters, as well as expanding the information that should be available to the board, they have also proposed that limiting the board size could suggestively improve CG. Khanchel (2007) mentioned that the board size is shown to have a significant impact on the quality of CG and suggested that smaller boards could enhance the monitoring function of the board of directors. Yermack (1996) studied the effectiveness of a smaller board size and found that companies which have a smaller board size show a positive outcome in financial performance. His findings show a negative relationship between board size and firm value which suggests that having less members in the board of directors increases the firm's performance and value.

This study associates corporate insolvency with corporate performance, suggesting that the factors that can influence a favorable outcome in firm performance would indisputably sway the company away from financial distress and reduce the risk of insolvency. For instance, Using the enhanced version of the Altman Z-score, Emerging Markets Score (EMS) as a measure

of financial distress, Tahir (2018) studied the role of CG in detecting financial distress. He incorporated the board composition as a measure of CG and hypothesized that board size has a significant negative impact on the possibility of financial distress, suggesting that a larger board size reduces the likelihood of corporate insolvency. The researcher used board characteristics, ownership structure and financial constraints to represent CG which were then tested using 10 econometric models. He then utilized these variables in different statistical tools which included correlation, descriptive statistics, and logistic regression analysis. His findings are consistent with the hypothesis suggesting that the more members on the board of directors, the lower the possibility of a firm facing financial distress.

The findings were further supported by Manzaneque et al. (2016), who studied CG and its impact on the likelihood of financial distress by grouping firms into distressed and non-distressed. Their results concluded that among other CG mechanisms, board size reduces the likelihood of financial distress. Their empirical evidence shows that a larger board size contributes to a wide range of expertise, diverse opinions, and more access to critical resources which in turn increases the board's power and ability in controlling management. The resource dependency theory argues that having larger boards acts as an advantage to the company in terms of accessing important information that can be useful in achieving the firm's performance objectives.

On the contrary, there are multiple studies which have argued that a board with more members and are larger in size might face problems with regards to aligning their interests and agreeing on certain decisions, which leads to more conflicts between the members, hence weakens the CG structure (Salloum et al., 2011; Yermack, 1996; Jensen, 1993). Salloum et al. (2011)

hypothesized that board size is positively correlated with financial distress and their results showed that firms with a larger board size are more likely to fall into financial distress and hence have a higher risk of insolvency. They stated that a firm is unlikely to benefit from the experience of the board of directors when there is a larger number of members. Furthermore, they argued that having a larger board does not imply that the board will add any value to the firm and that the Chief Executive Officer (CEO) or founder is the one making the decisions that will impact the company, thus having more members on the board is an unnecessary cost because their input will likely not be taken into consideration the way it should. When the CEOs have full control over the decisions of the firm, it enables them to make decisions that lean into their favor and could consequently result in the mismanagement of earnings. CEOs have the power to control the board by rewarding those who agree or comply with their decisions and disregarding those who have conflicting opinions, and this eventually decreases the company's performance as well as their own (Jensen, 1993). The study further argues that smaller boards are less likely to be controlled by the CEO than larger ones. This shows that having more members on the board of directors does not necessarily mean that they will be able to oppose the CEO and avoid corruption or misconduct.

The study by Jensen (1993) discussed corporate internal control mechanisms, and how the failure of these mechanisms has led companies to their downfall. He stated that the board of directors is an internal control mechanism that has full control on the functionality of a company, and given that their roles were performed efficiently, should be able to increase the value and performance of the firm. He asserted that the main purpose of the board is to direct the company when its spiraling towards distress. He stressed that

larger boards are less likely to enable an efficient monitoring system to oversee the behavior and decisions of top management which may result in poor financial management and increase the likelihood of financial distress and ultimately, bankruptcy. On the contrary, Oyerinde (2014) argued that because the board of directors are primarily responsible for the business strategy of the firm, appointing more members on the board is necessary to align management interests with the shareholders thus minimizing conflicts, which will in turn increase performance. In consistency, Darrat et al. (2014) and Mariano et al. (2021) found that firms that have a larger board size are more likely to have a lower risk of bankruptcy. Based on the above arguments made with reference to the agency theory and resource dependency theory, the following hypothesis is proposed:

H1: Board size has a significant negative impact on firms' insolvency risk.

3.3.1.2 Board Meetings

The frequency of board meetings can be determined by the number of meetings held by the board of directors during a year. These meetings are aimed to discuss matters related to the current financial status of the firm, deciding on the business strategies that are aimed to achieve the objectives and goals set by the company, in addition to members contributing their prior experiences, all of which are for the purpose of finalizing business decisions that will dictate the company's future procedures and contribute to prolonging the company's continuity (Eluyela et al., 2018). To every study, there are two or more contradicting theories; some studies believed that a higher frequency of board meetings will enhance the performance of the board, and that it would

help the board members to better monitor and oversee management, as well as the functions of the company, where others suggested that increasing the number of meetings held per year does not indicate an increase in corporate performance.

The board of directors are viewed as key factors of an organization, and thus, the frequency of meetings should provide them with sufficient time in discussing crucial matters regarding the firm's operations, the meeting outcomes and the application of the decisions taken in the meetings are what will determine the firm's performance (Eluyela et al., 2018). This is consistent with prior studies which affirmed that one of the most pressing issues faced by a board is the lack of time in meetings (Lipton & Lorsch, 1992) which is mostly due to the time wasted in routine presentations and task inefficiencies, and that the meeting time is vital for the effective functionality and improvement of the board (Conger et al. 1998). However, it should be noted that for the meetings to be considered influential, the quality of the meetings is also imperative. Studies found that increasing the board meetings will increase the board's activity and enhance their ability to closely monitor and discipline management into adhering to the goals that will enhance the firm value and maximize shareholders' wealth, in addition to increasing the firm's profitability and financial performance (Eluyela et al., 2018; Ntim & Osei, 2011).

Ntim & Osei (2011) based their research on the agency theory and found that the frequency of board meetings has a positive impact on corporate financial performance. Using various econometric models, their results suggested further evidence of the relationship between the two variables being non-monotonic, which in their study indicated that board meetings will

positively impact corporate performance whether the number of board meetings are relatively small or relatively large. Several other studies offered opposing point of views and have argued that a higher frequency of board meetings would only lead to higher costs of time, efforts, and money, contending that the company would be spending additional resources on the cost of travel, allowance paid to the directors, as well as sitting fees paid to the directors for attending the board meetings (Vafeas, 1999; Oyerinde, 2014). They suggested that reducing the frequency of meetings would also minimize the associated monitoring costs and increase performance (Musleh Alsartawi, 2019). The ability of the board to become flexible in increasing or decreasing the number of meetings to manage critical conditions faced by the company is what has an impact over performance rather than simply having frequent meetings (Vafeas, 1999; Ntim & Osei, 2011). Arranging board meetings in necessity could be more effective than having a specific number of meetings throughout the year, for instance, the directors could call for frequent board meeting when a crisis is about to occur in order to gather solutions to contain the matter and avoid disaster that may be caused by internal factors such as personnel crisis or management misconduct which results in the replacement of the CEO and other senior executives, or even if there exists an obvious threat to the shareholder's interests (Ntim & Osei, 2011). The board meetings would also be more useful in instances where the company is no longer progressing or appears to be heading towards financial instability, in which case, the members of the board can begin to strategize on increasing earnings, profitable investments and enhancing corporate performance. Moreover, Jensen (1993) suggested that boards should remain inactive to some extent which will minimize conflict, but still be active enough to maintain control during times of both prosperity and hardships. Nonetheless, Vafeas (1999)

viewed this practice as a defense mechanism against problems faced by the firm rather than taking the initiative of utilizing these meetings in an effort to enhance the performance of corporate boards.

Vafeas (1999) studied publicly listed firms in the US for a period of four years to analyze the relationship between board meeting frequency, represented by board activity, and firm performance and found a significant negative relationship between the two variables. He examined the changes in firm performance over the period and demonstrated that the decrease in share prices were accompanied by an escalated level of board activity. He further concluded that when firms are experiencing poor financial performance in previous periods, the board of directors are compelled to meet more frequently in order to investigate the cause of failure and attempt to resolve the company's situation, which is why it was observed that the contemporary years appear to have abnormally high meeting frequency despite the firms' performance. This boost in the level of board activity influenced the enhanced performance in the subsequent years. He stated that the increase in board activity is likely a reaction to weak and unsatisfactory performance. In addition to the above arguments, frequent meetings act as an important indicator of the board member's ability to monitor the CEO and senior management and ensure protection of the shareholder's interests. Based on the arguments above, the following hypothesis is proposed:

H2: The frequency of board meetings has a significant negative impact on firms' insolvency risk.

3.3.1.3 Board Independence

Board independence is defined as the percentage of the total number of independent non-executive directors, in comparison with the total number of directors on that board (Prabowo & Simpson, 2011). It is also referred to as the presence of non-executive directors on the board, or the degree of presence of independent directors on that board (Abdullah & Nasir, 2004).

Several past studies have shown multiple agreeable results among researchers when it comes to board independence. However, it has also provided argumentative and contradicting findings among them as well. A large number of researchers reported many benefits and advantages to firms that have board independence. Ramdani & Witteloostuijn (2009) stated that a firm that has more independent directors on the board will enhance firm performance, which is in line with the agency theory that assumes the opportunistic behavior of management will decrease corporate performance. In contrast, based on the stewardship theory, they argued that inside directors are more capable of making decisions regarding the firm since they are more aware of what's going on in the company than independent directors. They formed their hypothesis on the basis that there's a positive relationship between the two variables. However, by implementing quantile regression, the results of their analysis concluded a negative effect of board size on firm performance. Consistently, Rhodes et al. (2000) conducted a study on the relationship between board composition and financial performance and stated that independent directors have the capability to relieve and resolve agency problems and set aside managerial self-interest. They found that both independent boards and insider dominated boards had a positive influence on financial performance (Rhodes et al., 2000).

However, from a study that Abdullah (2004) conducted, he stated that independent directors add to the level of diversity of the board of directors when it comes to skills, knowledge, and experience. As the basis of agency theory helped to conclude, managers would most likely seek or go after their own interests and objectives, even if it is at the cost of the shareholders. This is as a result of the separation and disassociation between control and ownership (Jensen & Meckling, 1976). Moreover, the shareholders' interests can be protected and preserved as the number of independent directors on the board increases (Ramdani & Witteloostuijn, 2009). It can also result in exceedingly high stock price returns (Denis et al., 1997). Fama (1980) stated that independent directors will make more objective decisions when it comes to the benefit of the firm since they have no ulterior motive and their ultimate goal is to increase the firm's value, in addition to their conclusion that independent directors were employed or enlisted to make sure that competition among insiders and shareholder value maximization are consistent with one another. When it comes to observing and examining board activities and enhancing the transparency of corporate boards, independent directors are very valuable (Chen & Jaggi, 2000).

According to the agency theory (Rhoades et al., 2000), the independent directors have the capacity and ability to mitigate and moderate agency conflicts. They also have the facility to help managers act in the best interests of all shareholders, as opposed to acting for their own benefits and gains. In the long run, this will positively aid the company's cumulative performance by creating a decline in the probability of insolvency. A study by Dhouibi (2013) raised the question on the fundamental board composition that would reduce the insolvency risk of firms, in which their results concurred that, in

relation with the ratio of independent board directors, the insolvency risk is comparatively lower. They contended that the CEO should be the only internal member present in the board meetings and that having executive directors on the board will make them susceptible to the management's influence, both on their actions and decision making (Dhouibi, 2013). Moreover, a different study by Luqman et al. (2018) applied logistic regression in order to examine the impact of CG practices on the probability of financial distress and resulted in a significant negative relationship between financial distress and board independence. This further proves that the higher the proportion of independent directors on the board, the lower the insolvency risk the company will be facing. There is an extensive piece of literature that revolves around the board's independence, corporate performance, and financial distress. However, controversies arose regarding its effect. The conflict of interests between management and shareholders can be diminished or lowered by incorporating an independent board which will result in the reinforcement and encouragement of decision making, and in turn benefiting the company and all its shareholders (Tahir, 2018). Regardless, this particular statement is contradictory to the findings of his study, in which his study concluded that the likelihood of financial distress is increased by the board independence (Tahir, 2018). In a study by Salloum et al. (2011), it was found that a firm going through financial distress could be a result of boards that have a small or insignificant number of independent directors. This showed that the relationship between board independence and financial distress is a negative link, suggesting that independent directors could better lead the board into making decisions that are beneficial to the firm's financial performance and thus decreasing the risk of distress.

The perceptions of the external and internal board members are clearly distinct, especially regarding strategic visions. The independent members show interest in the long-term company performance which includes social and environmental issues, however, when it comes to the executive members' interest, it is in the short-term economic performance of the company (Rossi et al., 2015), as this is because executive managers tend to accomplish their goals based on the incentives that they receive for improving the company's profits in a specific period. Furthermore, in line with the resource dependency theory, studies affirmed that independent directors contribute their skills, knowledge, and expertise to the firm, which enables them to make sound decisions directed towards the company's growth (Daily & Dalton, 1992; Zahra & Pearce, 1989). Daily & Dalton (1992) reported that CEOs of successful companies are aware of the benefits that are provided by outside directors, such as insights and external contacts which are not readily available to the firm, and that these critical resources are necessary for enhancing corporate growth. According to Zahra & Pearce (1989), the board of directors are responsible for the overall leadership strategy of the firm without being involved in day-to-day activities that are conducted by the CEO and executive management of a firm, therefore, this stipulates that the roles of senior executives and the board of directors must be kept distinct from one another in order for the firm's operations to run smoothly. Additionally, when it comes to the regulatory environment, studies have reported in their findings that investors guide their trust toward the independent directors when regulations are reduced (Bruno & Claessens, 2010). This determines that the requirement and necessity to designate independent members will rise in countries where there is a weak regulatory environment. The study also concluded that better CG represented by more independent members on the board has a significant

positive relationship with firm performance (Bruno & Claessens, 2010). Based on this, it is concurred that corporate boards' quality will be improved and enriched by board independence. In turn, the transparency of accounting information will increase, and the asymmetry of the data shared with the investors will reduce. Furthermore, following the agency theory, independent directors oversee the firm's performance more carefully than internal managers. This is because independent directors with professional backgrounds bring their first-hand knowledge and experience to the table, scarce knowledge and experience which is difficult to come across elsewhere (Adams et al., 2010; Balsmeier et al., 2014).

Firms that are affiliated with independent members are described and personified with higher quality operational performance and improved shares performance (Mobbs, 2013). Moreover, firms with intricate processes are looking to assign a larger number of independent members, provided that they can transfer all their wide range of experience from their parent company. This is because their knowledge and proficiency are seamlessly and precisely equivalent to performance (Setia-Atmaja, 2010; Kor & Sundaramurthy, 2008). On the contrary, Hussain & Mallin (2003) studied the listed companies in Bahrain and noted that most of the companies have boards which are composed of independent directors who were nominated based on their relevant skills and professional reputation, however, they found that none of these companies had a nomination board, which indicates that the selection of the independent directors are purely internal recommendations made by the board members themselves. They concluded in their study that independent members should not be selected or enlisted in accordance with personal relationships as their study reported that, in a few GCC countries, independent

members practice superficial independence. This is a result of being assigned through personal connections with the board directors or the board's chairperson. Taking the above arguments into consideration, the following hypothesis is presented:

H3: Board independence has a significant negative impact on firms' insolvency risk.

3.3.2 The Audit Committee

The audit committee is a crucial component of an organization's CG. This committee shoulders the enormous responsibility of monitoring and overseeing financial reports and disclosure (Omar Juhmani, 2017). They also handle the organization's audit process, furthermore, they make sure that the entity fully complies with the government-mandated rules and regulations (Omar Juhmani, 2017). This study incorporates the audit committee characteristics because one of their most significant roles entail mitigating risks associated with financial distress. Specifically, it is the audit committee who will initially detect any risk of financial distress through adequate reporting and further inspection of the company's financial statements, and thereafter report it to the board for them to uncover the cause of the lacking performance of the company, and further attempt to resolve these issues. An effective audit committee should have a strong influence on a firm's financial performance and guarantee the going concern and future development of the company (Mohid Rahmat et al., 2009).

An audit committee must be able to analyze and amend reporting issues as they arise. They must also be privy to how management comprehends and

compiles internal financial information; for, without this understanding, the audit committee will not be capable of verifying whether the financial reports that are generated by management are up to standards. The audit committee is also held accountable for arranging and providing adequate compensation to management, in addition to overseeing of the results produced by the external auditors. An efficient audit committee must be also able to wield authority over their own budget capacities, select and maintain control over the external independent auditors (Menon & Williams, 1994). Based on the agency theory, the role of CG is to assist in maintaining a firm's performance and increase shareholder value, thus, it is only when the audit committee can uphold this level of precision will the investors develop the ability to trust the financial reports released by organizations.

Companies that cater to tighter niches are recommended to abide by the same audit committee structure that more conventional organizations follow. This is because the same external threats shall affect both types of organizations in the same way. It is also beneficial to the audit committee to have members that possess analytical and forensics background to aid in quickly identifying intentional tampering with financial records. They should also be able to resolve said issues effectively upon identification. Based on the above statements, this study suggests that the audit committee is a crucial factor for strengthening the CG structure of a firm and further aid in its progression and continuity. The following section presents prior literature on the audit committee characteristics and states the hypothesis developed for each variable.

3.3.2.1 Audit Committee Size

The discussion above has established that the audit committee is a crucial part of the company's structure. However, one must take into consideration the composition of the committee itself. For an audit committee to fully exercise monitoring procedures over the activities of top management, the size of the audit committee is an important factor to be considered, as reported by (Norziaton & Hafizah, 2019). Norziaton & Hafizah (2019) also acknowledged that the size of the audit committee should be decided based on a delicate balance. An audit committee that is too big will not be able to zero in and focus on the important tasks at hand, thus being less effective. However, if the audit committee is too small, there is a bigger possibility that the members might not have the know-how and experience required to carry out the essential duties. An audit committee that has found the right balance of members and expertise will enable every one of the members to maximize their expertise utilization for the shareholders (Mohid Rahmat et al., 2009). Previous literature that studied the examined the characteristics of the audit committee and its impact on financial distress found that most listed companies have met the minimum requirements for the audit committee size to comply with regulatory CG standards (Mohid Rahmat et al., 2009), however, adhering to those requirements does not necessarily indicate that the company will have an effective audit committee and evade financial distress. Other studies emphasized that if the audit committee is comprised of too many members, their performance would be sub-par at best due to several reasons, such as communication being impacted and the high-cost nature of having a large audit committee.

The Blue Ribbon Committee (1999) on improving the effectiveness of corporate audit committees suggested that an effective audit committee must be comprised of three directors. Similarly, Abbott et al. (2004) and Xie et al. (2003) determined that the most appropriate size for an audit committee would be three or four members. This proposes that a smaller audit committee can be more effective than an audit committee with more members. Furthermore, Haji-Abdullah & Wan-Hussin (2009) declared that Malaysia mandates that an audit committee cannot be comprised with less than three members, a law that is in place to ensure quality reports that are up to standards, which confirmed that an audit committee cannot perform well if it is too small. Their study claimed that there is an association between financial reporting quality and financial distress and further concluded that an audit committee that is greater in size have a positive impact on the quality of financial reporting (Haji-Abdullah & Wan-Hussin, 2009), they believed that having more members in the audit committee, the better the output of financial reports. This suggested that having more audit committee members will increase the time spent in evaluating the firm's financial statements, increasing their productivity, and thus enhancing the quality of financial reporting which in turn decreases the probability of financial distress. In consistency, Felo et al. (2003) have examined the relationship between the size of the audit committee and the reporting quality of financial statements and concluded that his study found a positive correlation between the two variables, suggesting that having more members on the committee proves to be an asset to the organization. They further stated that a larger audit committee will contribute more time and resources into reviewing the information disclosed in the financial statements, ensuring their accuracy, and thus improving the reporting quality.

Siswanto & Fuad (2017) asserted that having a smaller audit committee would minimize the information asymmetry that exists in most organizations and found that there is a significant positive relationship between the audit committee size and financial distress. They stressed that when the audit committee is too large, the focus range of the members is significantly reduced, and thus lessens their ability to finalize decisions, as it makes dealing and interacting with one another more complicated. Nevertheless, the study also argued that if the size of the audit committee is too small, the members would lack the operational skill and knowledge to handle the given task, which will eventually result in the reduction of the financial reporting quality and prove unbeneficial to shareholders. Comprehensibly, there are multiple schools of thought regarding on how many members must be in an audit committee, where most believed that having more members in the audit committee is directly linked to the quality of the financial reporting, and others believed that there is a fine balance in terms of size to be taken into consideration in order to increase the functionality of the audit committee and enhance the efficiency of the CG structure. Based on the discussed literature, the following hypothesis is presented:

H4: Audit committee size has a significant negative impact on firms' insolvency risk.

3.3.2.2 Audit Committee Meetings

Audit committees conventionally bear a lot of responsibility. The audit committee also shoulders the reputation of the organization itself, for if the organization is suspected of producing fraudulent financial reports, not only would this be catastrophic for an organization's presentability in the shareholders domain but may also lead to corporate failure. Various studies

have argued a multitude of practices on what makes an audit committee more effective. One of these aspects that are heavily scrutinized by researchers, is the frequency that audit committees meet in each fiscal year. Norziaton & Hafizah (2019) believed that time is a crucial necessity that solidifies the audit committee's performance. They suggested that an organization would benefit if the audit committee would meet more frequently, as this would allow for better monitoring and performance evaluation.

Salloum et al. (2014) examined the impact of audit committee characteristics on financially distressed banks and found that the frequency of committee meetings has a negative relationship with financial distress, suggesting that the more the audit committee meets to discuss financial matters, the higher level of reporting quality can be achieved, efficient monitoring and subsequently, the more likely that they can avoid difficulties that may drive the firm towards insolvency. Moreover, Aryan (2015) found a positive relationship between the audit committee meetings and firm profitability. Additionally, McMullen & Raghunandan (1996) suggested that regular meetings create efficiency in monitoring the financial environment, reduce financial obstacles and increase profitability. Their findings proved that companies that meet less than four times a year tend to have more financial reporting problems.

Other recent studies on financial distress and insolvency have incorporated audit committee characteristics in their study (Gebrayel et al., 2018); Yakubu et al., 2020; Sakulpolphaisan & Hensawang, 2022; Nursiva & Widyaningsih, 2020). For instance, Gebrayel et al. (2018) stated that more frequent AC meetings would lead to higher financial reporting quality given the additional time that would be spent investigating and solving financial

problems faced by the firm. Subsequently, Yakubu et al. (2020) performed a study on the effectiveness of audit committees in relation to financial distress and concluded a significant negative relationship between the audit committee meetings and financial distress. They stated that the frequency of meetings would enhance the committee's ability to make effective decisions due to the time spent on analyzing the company's financials which in turn will have a positive effect on the firm's financial status. In contrast, Sakulpolphaisan & Hensawang (2022) found that audit committee meeting frequency has a positive impact on financial distress of firms and state that this could be due to the repetitive tasks that are performed in those meetings which prove to be unproductive and reduces the committee's efficiency.

There is a general perception that audit committees are more active if they increase the number of meetings that they have, and this leads to a decline of monitoring errors as reported by Xie et al. (2003). Abbott et al. (2004) followed through by stating that the more an audit committee is active the lower the probability that a financial restatement is required. These studies further presumed the fact that having a higher frequency does indeed enhance the perceptibly and precision of the audit committee, so that they may be more accurate with the financial reporting duties which in turn ensures the integrity of financial reporting, keeping the shareholders satisfied and reduce the risk of insolvency. As previously mentioned, time is a key asset to any audit committee. Therefore, Lin & Hwang (2010) recommended that audit committees must be given sufficient time to perform their duties and meet as required without the fear of time being a constraint to ensure that correct financial results are obtained. Karamanou & Vafeas (2005) have also iterated that if an audit committee were to meet more frequently, the more precise the

monitoring function becomes, thus more mistakes can be caught before finalizing the financial reports. Moreover, Abbott et al. (2003) also declared that if the meetings held by an audit committee were to be more frequent, this in turn would influence the financial accounting process positively which by proxy would increase the firm's performance.

Among other duties, the audit committee is responsible for ensuring that the company follows specific regulations and guidelines when it comes to dealing with corporate finances. In this standpoint, frequent meetings could help the committee members in overseeing and monitoring the financial operations that are executed on a regular basis, in addition to communicating any discrepancies found or non-compliance to company guidelines (Nursiva & Widyaningsih, 2020). This results in an effective monitoring function of the audit committee and ultimately averts the firm from facing an insolvency risk. Studies believed that the frequency of meetings held by an audit committee could be used as an indication of its activity, and that an active audit committee dedicates adequate time to repairing any immediate misrepresentations that arise in the firm's financial records and thus ensuring financial reports that are free of error and misstatements (Yakubu et al., 2020). This improves the audit committee's oversight and the firm's financial representation and allows them to instantly clarify any issues that the company might be facing, which essentially assists in avoiding financial difficulties. Based on the previous literature discussed above, the following hypothesis is proposed:

H5: The frequency of audit committee meetings has a significant negative impact on firms' insolvency risk.

3.3.2.3 Audit Committee Independence

One of the most important characteristics of an audit committee is its segregation and independence from company management, but many may be opinionated on what exactly this independence brings about. The Blue Ribbon Committee (1999) declared that an audit committee's independence is when the members of the committee have no relationship with the organization. This means that for the audit committee to be considered independent, the members should not be associated with the organization's operations and must be unaffiliated with any interest with the company. This is to ensure that the audit committee's decisions and conclusions of the financial reporting of the company remain impartial and unbiased. Accordingly, this study defines and measures the audit committee independence by the percentage of independent members on the committee.

Independence is needed to prevent insiders from influencing the oversight of the audit committee and the work of the external auditors. By exercising this independence, the financial statements will not be tarnished by internal factors. Goodwin & Seow (2002) also shared the same mindset of which an audit committee's independence is represented by not having top management sway their decision making in a way that could further influence the financial reports. Following the agency theory, Bradbury (1990) iterated that in order to have the best interest of the shareholders and stakeholders, an audit committee will be able to maintain higher levels of integrity if the members would discard any personal interests that may cloud their judgment. As a result, an audit committee with members that operate independently are more suited to sustain the integrity of a firm's financial statements (Klien, 2002). Moreover, Klien (2002) found a negative relationship between audit

committee independence and earnings management, indicating that an independent audit committee enhances the monitoring function of the committee in overseeing the financial accounting process and detecting fraudulent reporting.

Haji-Abdullah et al. (2016) argued that there is a high level of contrast between the independence of audit committees in poor versus high performing companies. Some countries' follow certain CG codes which mandate that all members in the audit committee must be independent directors (Norziaton & Hafizah, 2019). For instance, The Securities and Exchange Commission (SEC) issued guidelines implementing Section 301 of the Sarbanes-Oxley Act of 2002 (SOX), which stated that all listed companies must comprise solely of independent directors and those companies which do not comply with this requirement shall be prohibited from being publicly listed. They affirmed that independence is a key factor of adequate and objective financial reporting and monitoring. In the GCC, the audit committee must compose itself with a minimum of three members, and regardless of the number of members, most of the audit committee must be independent which also includes the chairman of the committee (Norziaton & Hafizah, 2019).

Mohid Rahmat et al. (2009) studied the composition of the audit committee in financially distressed and non-distressed firms and stated that outside directors are perceived as less biased or subjective and therefore have the capability to provide non-preferential critique regarding protocol and regulations that management is responsible for. Their study also stated that having a higher ratio of independent members shall cause the audit committee to assert itself as a credible and efficient monitoring mechanism, as opposed to having more executive directors on the audit committee (Mohid Rahmat et

al., 2009). Carcello & Neal (2000) found a negative relationship between audit committee independence and the going concern of financially distressed firms, which implies that the greater the number of independent members on the audit committee, the lower the probability of receiving a going concern opinion, which indicates that the company, although financially distressed, has a lower risk of bankruptcy. Their research agrees with the regulations that the audit committee should consist solely of non-executive members.

An audit committee that has a ratio of more non-executive directors is considered as more independent (Norziaton & Hafizah, 2019). Norziaton & Hafizah (2019) have concluded that fewer objective decisions are caused when executive directors force their influence on top management. They suggested that should an audit committee display a lack of independence; it will inevitably draw undesired occurrences to the shareholders. Moreover, the shareholder's satisfaction is paramount, which means that anything that can even remotely jeopardize the shareholders' trust, should be extinguished immediately, therefore, the audit committee is solely responsible to ensure that they keep top-level management in check. They further iterated that if management were to abuse their power, many unwanted issues will arise that may cause the shareholder to become uneasy or less trustful and that the only way that can prevent this power crush, is to separate the management of the firm from the audit committee and force them to operate independently, which stipulates those independent members are key players in the structure of CG. Furthermore, they concluded that, if an audit committee lacks its own independence, it will cause a negative influence on a firm that is already going through financial distress (Norziaton & Hafizah, 2019). Klien (2002) was also among the researchers which thoroughly stood by the notion that having an

independent audit committee has a direct influence on the effectiveness in the monitoring stage. The researcher studied the impact of audit committee characteristics on earnings management and found that when a company has fewer outside directors, there is a large increase in abnormal accruals, which indicates earnings management. This proves that the independent members on the audit committee can better oversee the financials of the company and identify discrepancies made by management.

As discussed previously, it is the consensus that an independent audit committee is more effective at monitoring and providing more accurate yet also credible financial statements. Anderson et al. (2003) acknowledged this by stating that an audit committee serves as a pillar of reinforcement to an external auditor, thus it is expected from the audit committee to be more precise in their oversight of reporting, while being independent from executive management. Xie et al. (2003) followed suit by saying that the governance provided by an audit committee that is more independent is more valuable than a less independent audit committee. These statements provide reference to the Sarbanes-Oxley Act (2002) in requiring the audit committee to be a necessary precaution to combat low precision of the financial reporting, and to also mitigate fraud from within the company, and more specifically, by top-level management. Based on the above arguments, the following hypothesis is proposed:

H6: Audit committee independence has a significant negative impact on firms' insolvency risk.

3.3.3 Ownership Structure

Jensen & Warner (1988) referred to ownership structure as a direction for research in the future. The question of public corporation types that have a probability of having high levels of managerial ownership was addressed in a past research by Demsetz and Lehn (1985). Additionally, the level of impact or lack thereof on firm value of different managerial stock ownership levels was also addressed (Morck et al., 1988). Meanwhile, in the study by Holderness & Sheehan (1988), they tackled the topic of whether or not the presence of a large-percentage shareholder in a corporation result in different important corporate decisions.

The most cited CG identifier was ownership structure (Morck et al., 1988; Mangena et al., 2020; Li et al., 2020; Younas et al., 2021). Using a sample of companies that have filed for bankruptcy, Shetty & Vincent (2021) conducted a study that aimed to improve the financial distress prediction model by incorporating ownership structure variables as non-financial measures along with other financial indicators. They stated that the ownership structure is a valuable addition to the model and adds to the model's predictive efficacy. Consequently, ownership structure is proven to be a particularly essential contributing factor to a firm's failure or success.

Moreover, the primary issue that needs to be resolved by the CG model in this kind of framework is the conflict of interest between shareholders (Acero & Alcalde, 2013; La Porta et al., 1999). In this situation, the board of directors play a critical part in preserving the interests and wellbeing of all the shareholders and dodging decisions regarding enhancing shareholder wealth. Furthermore, past research surrounding the topic of CG and financial distress in the framework of concentrated ownership has made a note that, within these

circumstances, ownership structure is straightforwardly connected to the probability of business failure (Donker et al., 2009; Lajili & Zeghal, 2010). This section of the chapter discusses arguments and suggestions made by prior studies on the ownership structure variables selected for the study and further presents each hypothesis developed.

3.3.3.1 Blockholder Ownership

Kao et al. (2019) stated that ownership concentration is one of the main factors of CG and concluded in their study that there was a positive relationship and connection between blockholder ownership and firm value. Based on the agency theory, shareholders who have smaller stakes in the company are less likely to have control over management behavior in comparison to shareholders who own a larger block of shares, thus indicating that blockholders have a stronger monitoring function which helps to reduce agency costs and increases firm performance (Kao et al., 2019). Parker et al. (2005) had similar views regarding this theory in which they stated that auditors perceive blockholders as an external monitoring system which renders them capable of regulating the operations of a firm which will in turn result in the firm avoiding financial distress. Consequently, Chen et al. (2020) suggested that ownership concentration may be beneficial in terms of their influence to propose an improvement in the corporate strategy or management system of the firms that they invest in. Blockholders can make a collective unanimous decision opposing management. This is due to their high level of ownership in the firm, which in turn qualifies them to have more control over the firm's management - as stated by Holderness (2001). Whereas, when it comes to shareholders who own a smaller number of shares, they have less capacity to exercise that level of control. However, if the blockholders have a

larger number of shares, using this power, they could overtake benefits that are beyond their share value, which will inevitably cause them to drain the wealth of the minority shareholders (Holderness, 2001). Additionally, a study has revealed proof that blockholders gain wealth and personal benefits at the cost of the interest of smaller shareholders (Reddy et al., 2015).

Block ownership or blockholder ownership is defined as when a single individual or institutional shareholder is in possession of a large number of shares in one firm. This study follows SEC guidelines, and in doing so has determined blockholders as any shareholder that owns the equivalent of or more than 5% of a firm's outstanding shares. Owning a huge percentage of shares permits blockholders to have the voting rights on certain operational aspects of the firm and specific activities. This is why blockholders have a big influence. What could result in a monumental change in the company's share price is the blockholders' decision to sell their shares, which in turn has a significant impact on the firm's direction. However, Parker et al. (2005) concluded that there is a negative relationship between the going concern assessment of companies and blockholder ownership. Additionally, Younas et al. (2021) found that blockholder ownership has a significant negative influence on financial distress and state that, in order for them to protect their wealth and interests, owners of a large block of shares tend to make more dominant and influential decisions in relation to the company's operations and activities. This demonstrates that the firm's CG structure is stronger due to the large shareholders, and that it contributes to the firm's survival.

In a study by Ernawati et al. (2018), it is shown that blockholder ownership has a positive impact on the company's financial distress and raises the insolvency risk, thus iterating that the higher the blockholder ownership,

the higher the likelihood of financial distress. They also reported that there is a likelihood of blockholders' draining minority shareholders' wealth (Ernawati et al., 2018). Similarly, Chen et al. (2020) found that companies facing financial distress have a higher proportion of blockholder ownership which could indicate that block shareholders are not advantageous to a company. However, in the study by Grassa (2016), it was reported that the company is persuaded by the large shareholders to put higher consideration into minimizing insolvency risk as opposed to zoning in on only profit maximization. Additionally, Jensen (1993) debated that many company issues occur due to the fact that board members usually lack big shareholdings in the company that they work in. This study hypothesizes that:

H7: Blockholder Ownership has a significant negative impact on firms' insolvency risk.

3.3.3.2 Institutional Ownership

The term institutional ownership was referred to as the percentage of shares owned by institutional investors (Moradi et al., 2012). For instance, this could be in firms like insurance companies, investment companies and banks. When it comes to tracking the company management's performance, individual investors are less impactful than institutional investors, due to the fact that institutional investors have a higher number of shares, more variety in information, in addition to applying their skills and prior investment expertise (Al-Najjar, 2010).

Institutional equity owners decrease the probability of bankruptcy and advance the company's financial performance (Iskandar et al., 2011).

However, as argued in a study by Garba & Mohamed (2018), regulators should decrease the power of institutional shareholders to preserve the interests of the minority shareholders. Coincidingly, as found in a study by Zureigat et al. (2014), there is a negative correlation between institutional ownership and going concern evaluation. Udin et al. (2017) conducted a study that centered around the impacts of ownership structure on the probability of financial distress, in which institutional shareholders strongly persuade the actions of top management as opposed to the influence insider shareholders have on top management. In order to put the best interests of shareholders and act upon it, institutional shareholders observe and monitor management. This also results in a decrease in agency disputes and aids in improving the company's performance. In conclusion, prior studies proved that institutional ownership has a positive effect on company performance (Mishra & Kapil, 2017; McConnell & Servaes, 1990), which in turn decreases the likelihood of default. This determined that institutional shareholders have a substantially strong impact on the CG structure. Widhiadnyana & Ratnadi (2019) utilized a multinomial regression analysis to study the impact of institutional ownership on financial distress and found that institutional ownership has a negative relationship with financial distress. They stated that institutional investors can monitor the company performance more effectively than individual investors, and that an increase in the proportion of institutional investors will help the company to better utilize its assets which in turn reduces the probability of financial distress (Widhiadnyana & Ratnadi, 2019).

Based on the expanding literature on CG (Andreas et al., 2010; Al-Najjar, 2010), institutional ownership could line up their interests alongside other shareholders, which will allow the board of directors to become more active

in averting company failure, specifically when it comes to concentrated ownership (Manzaneque et al., 2016). Keeping in mind CG literature, the results added to the discussion regarding the role of institutional shareholders in exercising control over the company, aiding in the calculated process of making decisions and measuring the company's policies or putting managers under pressurized working environments in order to make them work more efficiently (Almazan et al., 2005; Manzaneque et al., 2016).

Some researchers debated that the institutional shareholders have not only got the power but also the incentives to convince or encourage managers to work more efficiently (Manzaneque et al., 2016). In scattered ownership frameworks, current research reported that institutional shareholders resulted in effective monitoring of managers. Their existence inadvertently has a relationship to business failure. On the other hand, in concentrated ownership frameworks, there is no huge or undeniable impact on business failure probability, due to big blocks of shares owned by institutional shareholders (Fich & Slezak, 2008). As a matter of fact, there were multiple arguments describing the absence of the influence of institutional shareholders over decisions made by management within the contexts of concentrated ownership. For instance, the voting influence of institutional shareholders could be restricted by the assertive non-institutional shareholders (Manzaneque et al., 2016). This is to control and regulate corporate insiders (Yafeh & Hamdani, 2011). Another example would be institutional shareholders might not have that take-charge attitude or initiative in governance of companies. This is due to the fact that their tactic was not to worry about the future or longevity of the company. They had a strategy to acquire and take advantage of short-term gains (Fich & Slezak, 2008).

Significantly, when family or non-institutional shareholders are accustomed to the ownership structure, institutional shareholders behave as miniscule or insignificantly small shareholders and their authority over disciplining corporate insiders is restricted (Yafeh & Hamdani, 2011). Hence, non-institutional shareholders may add to the generation of a different list of issues with various types of owners, concluding that this is the principal-principal issue between non-institutional and other institutional shareholders.

In line with these disagreements, researchers organized and divided institutional shareholders into two subgroups (Kochhar & David, 1996). These two smaller divisions were called pressure-resistant shareholders and pressure-sensitive shareholders. Pressure-resistant institutional shareholders refer to the shareholders that are less likely prone to become under the management's influence. This is due to the fact that these investors do not have a commercial connection or relationship with the company. Whether that is investment funds, pension funds, venture capital or holding companies. On the other hand, pressure-sensitive institutional shareholders are quite sensitive and more likely to succumb to the influence of management, with the reasoning being that they are likely to take or accept benefits from the firm's business activities in which they are owners (Manzaneque et al., 2016). When it comes to institutional ownership, specifically by banks and other financial institutions, they are meant to have a value increasing effect on companies. This is due to the fact that they have technical abilities and tracking capabilities (McConnel & Servaes, 1990). Furthermore, studies found a negative relationship between institutional ownership and financial distress, where they claim that institutional investors are more active in detecting the risks associated with the companies in which they invest in for them to protect

themselves from a decline in share value and more importantly, to secure their wealth (Li et al., 2020; Udin et al., 2017). Subsequently, Handriani et al. (2021) examined CG variables in relation to financial distress and found that institutional ownership has a positive impact in avoiding financial distress. According to the assumptions and suggestions discussed above, the below hypothesis was developed:

H8: Institutional Ownership has a significant negative impact on firms' insolvency risk.

3.3.3.3 Executive Ownership

Executive ownership is the percentage of shares held by top management of a company compared to the total outstanding shares. This is inclusive of the board of directors and commissioners. As declared by the agency theory, in order to motivate managers into acting in line with the interest of the shareholders, they should be provided with incentives (Fadhilah & Syafruddin, 2013). These incentives could be in the form of stocks offered to executive management. Managers tend to be more cautious when it comes to the process of making decisions, in the case that executive ownership is present in the company because the repercussions of the decision will be shared. Also, in line with the stakeholder theory, allowing executives to have a stake in the company in the form of shareholding will further influence their decision-making strategies to be directed to the primary goal of achieving the highest level of value to the firm, because in doing so, they increase their own value including those of other stakeholders. When it comes to ownership identity, greater ownership by management causes interests of managers and shareholders to align, which causes a decrease in the agency cost and an

increase in the value of the company (Morck et al., 1988), as well as provide an incentive for managers to further invest in firm-specific human capital (Denis et al., 1997). Although, higher executive ownership could support uneven levels of power to managers to act discretely or silently when making use of the produced surplus, and instead of giving back the surplus to shareholders, managers could continue raising the company size by investing in value decreasing projects (Udin et al., 2017). Studies also found that managerial ownership has a significant impact in the prevention of financial distress (Hatane et al. 2019). As suggested in the study by Jensen & Meckling (1976) regarding the issues connected to separation of ownership and control, it was forecasted that the higher directors' ownership will raise their incentive to track managers (Mehran, 1995) and make them act accordingly and efficiently to straining circumstances that may threaten the survival of the company.

Several other studies have been conducted revolving around the ownership structure and its impact on financial distress (Udin, Khan and Javid, 2017; Herlambang, Murhadi & Andriani, 2020). Their studies have recommended that insider shareholders look for opportunistic behavior and maximizing their own wealth, as opposed to looking out for the interest of the firm along with other shareholders. This insinuates that executive ownership can result in a decrease in the overall performance of the company, as it does not aid in the best interest of the firm. It can also cause the company to reach bankruptcy. On the other hand, as recommended by the stakeholder theory and agency theory, supplying enticements or incentives directed towards management will boost their motivation. This motivation will help them work towards a common objective and line up their own interest alongside the

interests of the firm. For the wellbeing of the company, managers could be more empowered and motivated to establish the firm's development, working towards the survival of the firm. A firm requires a benefits system to motivate managers into acting accordingly and fairly when it comes to the stakeholders' interest. If they are not a shareholder, managers will not act like one. The position between managers and shareholders are in line by the presence of executive ownership (Fadhila and Syafruddin, 2013). Furthermore, there was a negative relationship found by Md-Rus et al. (2013) between financial distress and executive ownership, which proposes that if the number of executive shareholders increases, the likelihood of corporate insolvency will decrease. Additionally, Mishra & Kapil (2017) have reported a compelling positive relationship between insider ownership and the probability of corporate financial distress. This demonstrates that executive ownership is in pursuit of their own interests as opposed to increasing the wealth of external shareholders.

A recent study on financial distress prediction reported opposing views regarding executive ownership. On one hand insider shareholding positively correlates with corporate performance and value, where on the other hand, insider shareholders could cause a threat to the company as they tend to act against hostile takeovers and in turn decrease the firm value and steer the company towards financial distress (Chen et al., 2020). Moreover, Agustina & Anwar (2021) stated that by owning company shares, management would be immediately impacted by the losses and benefits resulting from their decisions, furthermore, the results of their study concluded that executive ownership has a significant negative impact on financial distress conditions.

Based on the findings discussed in the above literature, the final hypothesis states that:

H9: Executive Ownership has a significant negative impact on firms' insolvency risk.

Chapter Four

Research Methodology

4.1 Introduction

This study's main objective is to examine the relationship between CG mechanisms and insolvency risk. In order to achieve this objective, I selected CG mechanisms that act as a proxy of CG and are sectioned into three groups, the first group is represented by the board of directors' characteristics which include the size of the board, the independence of its members and the frequency of the board's meetings. The second group is represented by the audit committee characteristics which include the audit committee's size, the audit committee independence, and the frequency of audit committee meetings. The third group of the selected CG mechanisms is represented by the ownership structure of the firm which includes the blockholder ownership, executive ownership, and institutional ownership. The definition and the measurement used for each of the mentioned variables are presented and discussed further in this chapter. This study then utilizes these variables in a logistic regression analysis to determine the impact they have on the insolvency risk of the non-financial companies listed in the GCC stock exchanges.

This chapter introduces the research methodology used which covers the study sample selection, the means of data collection, the variables used in the study and their respective measures, and the research model developed.

4.2 Study Sample and Study Period

The designated period of this study is five years, from 2015 to 2019. The initial sample included all listed non-financial companies in the GCC stock exchanges; however, firms without the five-year data for all the variables were removed from the sample. Some companies were excluded due to various reasons, one of those being the unavailability of annual reports for the selected study period. For instance, some companies launched their Initial Public Offering (IPO) and were listed only after the selected study period of 2015, thus have only published their annual reports from that year onwards, which resulted in the exclusion of those companies with missing annual reports throughout the period of 2015 to 2019. This was also due to the fact that multiple companies were delisted before 2019 and therefore have also been omitted from the study sample.

For numerous listed companies, although their annual reports and financial statements were available, most of them have either published their CG reports for a few years that do not meet our study period or have not published these reports on their official websites, but instead have only published articles of their governance code or governance structure which had insufficient information on their board of directors, audit committee and ownership structure, hence, had to be excluded from the sample.

Besides the fact that excluding financial industries in research is the general practice, we have excluded this sector from this study's sample because these firms have extremely high leverage as compared to firms in other industries. Additionally, the high leverage that is considered normal for financial firms is contemplated as an indication of financial distress in other industries (Fama & French, 1992). Specifically considering that this study

aims to identify the factors affecting the insolvency risk of the sample companies, including the financial industry would only misrepresent the overall result and impact the interpretation of those results in terms of the companies' financial stability.

There are a total of 444 non-financial companies listed in the GCC stock exchanges, namely, Bahrain, Kuwait, Oman, Qatar, KSA and the United Arab Emirates (UAE). Due to the reasons mentioned above, 199 companies were excluded from the initial sample. Therefore, the final sample of this study is comprised of 245 publicly listed companies which makes a total of 1225 firm-year observations. Table 4.1 exhibits the companies' classification according to the sector, in addition to the number of firm-year observations per company.

Table (4.1): The classification of study sample by sector and number of observations

Industry Sector	Bahrain	KSA*	Kuwait	Oman	Qatar	UAE*	Total Observations
Energy	0	20	15	25	10	20	**90**
Materials	5	205	25	20	15	10	**280**
Industrials	15	80	40	20	35	40	**230**
Consumer Discretionary	25	70	20	10	0	15	**140**
Consumer Staples	15	75	5	35	15	25	**170**
Health Care	0	35	5	0	5	0	**45**
Information Technology	0	10	0	0	0	0	**10**
Communication Services	10	15	20	5	10	10	**70**
Utilities	0	5	0	35	5	0	**45**
Real Estate	10	40	40	5	25	25	**145**
Total	**80**	**555**	**170**	**155**	**120**	**145**	**1225**

(*) KSA: Kingdom of Saudi Arabia, UAE: United Arab Emirates

4.3 Data Collection

The list of companies, the industries they belong to, and financial information was extracted year-wise from the Thomson Reuters Eikon Database (Refinitiv). Any missing financial information was collected from the annual reports published on the companies' official websites. The board characteristics, audit committee characteristics, and ownership structure details were also collected from the CG reports or annual reports published on the companies' official websites. Certain information which was not available on the companies' websites was obtained from the websites of the stock exchange on which the company was listed.

4.4 Study Variables and their Measurement

This section of the chapter introduces the study variables that have been selected and their respective measures. In this study, the dependent variable is the insolvency risk, and eight independent variables have been chosen, namely, the board size, board meeting frequency, board independence, audit committee size, audit committee meeting frequency, audit committee independence, blockholder ownership, executive ownership, and institutional ownership, all of which are presented and discussed in the following sections.

4.4.1 The Dependent Variable - Insolvency Risk

This study aims to study the impact of CG factors on the insolvency risk of companies. The insolvency risk could reveal a company's going concern or sustainability. It is impartial that a firm is aware of their financial stability over the years, and especially given the external issues that impact the

economy on a regular basis, having this kind of knowledge would assist the companies in identifying the elements which directly influence their ability to perform well and avoid financial distress or bankruptcy. This study has used the Altman Z-Score model (Altman, 1968) to predict the insolvency risk of the sample firms.

Altman (1967) studied the characteristics of bankrupt firms in order to develop a model that could accurately predict bankruptcy. Using the Multiple Discriminant Analysis (MDA), he selected five financial ratios that served as the predictive variables, and the results of the model proved the possibility of grouping firms into bankrupt and non-bankrupt. Altman's initial analysis was restricted to only manufacturing firms. He also revised his Z-score calculations in 1993, however, this revised version was directed toward predicting the bankruptcy of manufacturing firms and retail firms. However, the current study focuses on all non-financial companies listed on the GCC stock exchanges, including energy, real estate, and other industries, which is why the first formulation of the Altman Z-score (Altman, 1968) is utilized in this study.

The Altman Z-Score Model is the outcome of the financial ratios and the multiple discriminant analysis utilized by Edward Altman. The paper was published by Altman in 1968 to assess the ratio analysis and compare the MDA approach to the traditional ratio analysis. MDA combines the financial ratios and analyzes them together, removing the chance of uncertainties and misclassifications. The Altman Z-score is a formula used for the purpose of forecasting the financial health of companies and predicting the probability of firms headed towards bankruptcy. Altman classified three zones of discrimination, namely, the safe zone, the grey zone, and the distress zone.

His equation provides a benchmark that helps in identifying the firms that appear to be in financial distress, those that are safe from bankruptcy, and the in-between grey area. This model could be used by firms that are currently under financial distress to avoid filing for bankruptcy. In addition, it could also be used by investment and wealth managers to assess their investment strategies and strengthen their investment portfolios. The measurement of the insolvency risk (i.e., the dependent variable) and financial ratios used to calculate the Z-score is shown in Table 4.2.

Table (4.2): The Dependent Variable and its Measurement

Variable	**Proxy**	**Measurement**
Z-Score of Insolvency Risk	IR_Z	$Z = 1.2x_1 + 1.4x_2 + 3.3x_3 + 0.6x_4 + 1.0x_5$ Where: x_1 = (Current Assets – Current Liabilities) / Total Assets x_2 = Retained Earnings / Total Assets x_3 = EBIT / Total Assets x_4 = Market Value Equity / Total Liabilities x_5 = Sales / Total Assets
Dependent Variable		
Insolvency Risk	IR	Dummy variable categorized based on the Z-Score: • Z < 1.81 = High Insolvency Risk (Distress Zone) = 1 • 1.81 < Z < 2.99 = Moderate risk (Grey Zone) = 1 • Z > 2.99 = Low Insolvency Risk (Safe Zone) = 0

4.4.2 The Independent Variables:

The main objective of this study is to examine the impact of the insolvency risk, which is the dependent variable discussed above, and CG. The nine mechanisms that were chosen to represent CG in the current study are three board of director characteristics, three audit committee characteristics, and three ownership structure variables. The board features selected are the board size, board independence and the frequency of board meetings. The audit committee features are namely audit committee size, audit committee independence and the frequency of audit committee meetings. Lastly, the ownership structure variables chosen for this study are the blockholder ownership, executive ownership, and institutional ownership. The independent variables and their respective proxies and measurements are exhibited in Table 4.3.

Table (4.3): The Independent Variables and their Measurements

Independent Variable	**Proxy**	**Measurement**
Board of Directors' Characteristics		
Board Size	BSIZE	Number of members on the board of directors
Board Independence	BI	Ratio of independent (non-executive) directors on the board
Board Meetings	BM	Number of board meetings per year
Audit Committee Characteristics		
Audit Committee Size	ACSIZE	Total number of audit committee members
Audit Committee Independence	ACI	Ratio of independent members on the audit committee
Audit Committee Meetings	ACM	Number of audit committee meetings per year
Ownership Structure Variables		
Blockholder Ownership	BLOCKOWN	Ratio of outstanding shares held by blockholders (holding at least 5%) compared to total outstanding shares
Institutional Ownership	INSTOWN	Ratio of outstanding shares held by institutions
Executive Ownership	EXECOWN	Ratio of outstanding shares held by executive management

4.5 The Research Model

This study considers the 245 companies, and by using the Altman Z-score, predict each of the companies' probability of having a high insolvency risk. After each of the companies' risk is identified, I then utilize the Multinomial Logistic Regression (MLR) analysis in order to examine the effect of each CG mechanism (i.e., the independent variables) on the chances of the company having a low or high insolvency risk. If the objective of the study was only to identify and predict distressed firms, I would have used the MDA in this study. However, given the fact that I wanted to incorporate the CG mechanisms into the study, and examine the impact they have on the insolvency risk of the sampled firms, I had to utilize the logistic regression.

This study does not attempt to determine the accuracy of the financial ratios for bankruptcy prediction but uses the Altman Z-score model to group the sample companies into insolvent and non-insolvent. Thereafter, the study examines the factors that could cause a company to have a higher insolvency risk than the others. Thus technically, after identifying the firms which have a high, moderate, and low insolvency risk, I examined whether the CG mechanisms have a role in affecting the overall insolvency risk of the firms. For instance, what is the possibility of a company having a moderate insolvency risk if the board size is larger? Or if the board is composed of more independent directors?

The MLR analysis was chosen to study the relationship between the previously determined independent variables and the dependent variable, which is a categorical variable. Logistic regression is typically used when the dependent variable in the study is dichotomous, meaning that the outcome variable consists of two categories, which is where a Binomial Logistic

Regression (BLR) is applied. However, in the current study, the dependent variable used, insolvency risk, is trichotomous in nature which means that it consists of three categories: high, low, and moderate insolvency risk. Therefore, to achieve the objectives of this study, the following model was utilized in a MLR analysis:

$$IR_{it} = \alpha + \beta_1 BSIZE_{1i} + \beta_2 BI_{2i} + \beta_3 BM_{3i} + \beta_4 ACSIZE_{4i} + \beta_5 ACI_{5i} + \beta_6 ACM_{6i} + \beta_7 BLOCKOWN_{7i} + \beta_8 INSTOWN_{8i} + \beta_9 EXECOWN_{9i} + \varepsilon_{it}$$

Where:

BSIZE = Board Size

BI = Board Independence

BM = Board Meetings

ACSIZE = Audit Committee Size

ACI = Audit Committee Independence

ACM = Audit Committee Meetings

BLOCKOWN = Blockholders Ownership

INSTOWN = Institutional Ownership

EXECOWN = Executive Ownership

Chapter Five

Data Analysis, Results and Discussion

5.1 Introduction

This chapter presents the statistical analysis that was carried out to obtain the results of the study. Using the five-year data collected from a total of 444 non-financial companies listed on the GCC countries stock exchanges, an MLR analysis was performed to examine the impact of firms' CG structure on their insolvency risk.

In this study, the insolvency risk, is measured using the Altman Z-Score, which is calculated for each company using the financial data shown in Table 4.2. Several researchers stated that financial data is not sufficient to predict potential bankruptcy, therefore, this study has incorporated other factors such as the board characteristics, audit committee characteristics, and ownership structure, which could prove to be more helpful to understand the non-financial variables that could impact a firm's chance of progression or survival. Based on the Altman Z-Score, the study was able to detect the companies having high, low, and moderate insolvency risk throughout the period of five years. The results show that, out of the 1225 valid observations, 556 observations have a low insolvency risk, 243 observations have a moderate insolvency risk, and 426 observations appeared to have a high insolvency risk. The results indicate that 45.4 percent of the companies in the sample are in the safe zone, 19.8 percent are in the grey zone, and the remaining 34.8 percent are in the distress zone.

The chapter is sectioned as follows: Section 5.2 presents the model fitness which presents whether the model that was used significantly fits the data, section 5.3 discusses the likelihood ratio tests, and section 5.4 provides the main findings of the estimated models.

5.2 Fitness of the Model

This part of the findings presents the model fitting information which evaluates the overall fit of the model and shows whether the model utilized fits the collected data that was used in this study. Table 5.1 contains the Likelihood ratio chi-square tests, which compares the full model, that contains all the predictor variables, against the null (intercept only) model, which has no predictors. The results of the model show statistical significance which indicates that the full model represents a significant improvement in fit over the null model. The model fitness was assessed using the Chi-square statistic, where the Chi-square value is 197.467 and the p-value is less than 0.05. The results of the test also show that the model is highly statistically significant. This proves that there is a significant relationship between the dependent variable and the independent variables in the final model.

Table (5.1): Model Fitting Information

	Model Fitting Criteria	**Likelihood Ratio Tests**		
Model	**-2 Log Likelihood**	**Chi-Square**	**df**	***p*-value**
Intercept Only	2520.738			
Final	2323.271	197.467	18	<.001

5.3 Likelihood Ratio Tests

Table 5.2 exhibits the likelihood ratio tests which test the overall contribution of each independent variable to the model, in other words, shows the effect of the independent variables on the overall model. The independent variables are displayed as follows: board size (BSIZE), board meetings (BM), board independence (BI), blockholder ownership (BLOCKOWN), institutional ownership (INSTOWN), executive ownership (EXECOWN), audit committee size (ACSIZE), audit committee meetings (ACM), and audit committee independence (ACI). The results show that all but one of the independent variables selected for the study are significant at either the 90, 95 or 99 percent confidence level, which proves that these predictors contribute significantly to the final model. Table 5.2 shows that board size is significant at the 99 percent level of confidence with a p-value of 0.005. The results also show that board meetings are highly statistically significant (p-value < 0.001). Executive ownership, with a p-value of 0.002, also show statistical significance. It is also exhibited that blockholder ownership and audit committee size are both highly statistically significant. Furthermore, Audit committee meetings and audit committee independence are also significant at the 95 percent confidence level with p-values of 0.013 and 0.028, respectively. Institutional ownership shows a p-value of 0.065. Nevertheless, the results show that one of the independent variables, namely board independence, has no significant impact on firms' insolvency risk.

Table (5.2): Likelihood Ratio Tests

Effect	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood of Reduced Model	Chi-Square	df	*p*-value
Intercept**	2331.978	8.707	2	0.013
BSIZE*	2333.687	10.416	2	0.005
BM*	2340.302	17.031	2	<.001
BI	2325.759	2.488	2	0.288
BLOCKOWN*	2379.655	56.384	2	<.001
INSTOWN***	2328.732	5.462	2	0.065
EXECOWN*	2335.552	12.281	2	0.002
ACSIZE*	2389.45	66.179	2	<.001
ACM**	2331.934	8.664	2	0.013
ACI**	2330.411	7.14	2	0.028

Note: *, ** and *** indicate that the variable is significant respectively at 99%, 95% and 90% level of confidence

5.4 Main Findings – Parameter Estimates

The parameter estimates evaluate the contributions of each of the independent variables of the model to discriminate between the baseline category and the comparison group and provide information on the independent variables effect on the dependent variable by comparing each insolvency risk group against the reference category. The statistical software that was used to analyze the data in an MLR analysis was SPSS. Using the low insolvency risk (group 0) as a reference category, SPSS estimated two models: the first model for moderate insolvency risk (group 1) relative to low insolvency risk, and the second for high insolvency risk (group 2) relative to low insolvency risk. This means that after the sampled companies were categorized based on their insolvency risk (Z-score), the model attempts to test the likelihood of the independent variables affecting the companies that

are experiencing moderate insolvency risk. Similarly, the model examines the impact of the independent variables on firms with high insolvency risk. Specifically, these results will show the probability of a company having low, moderate or high insolvency risk based on the CG mechanisms, and whether increasing or decreasing a certain variable will cause the company to have a higher or lower insolvency risk. The Beta values shown in Tables 5.3 and 5.4 are the estimated MLR coefficients for the models, they represent the degree to which the insolvency risk will increase or decrease when the independent variable is increased by one unit. This means that for a unit change in the independent variable, the logit of the dependent variable, insolvency risk either in the first group (moderate insolvency risk) or second group (high insolvency risk), relative to the referent group (low insolvency risk) is expected to change by its respective parameter estimate.

5.4.1 Moderate Insolvency Risk

Table 5.3 exhibits the results of the first estimated model for moderate insolvency risk relative to low insolvency risk. Specifically, the regression coefficients indicate which of the independent variables significantly discriminate between the companies which have moderate insolvency risk (categorized as group 1 in the model) and companies which have a low insolvency risk (categorized as group 0). The results show that five of the nine independent variables are significant at the 90, 95 and 99 percent level of confidence, out of which two of the board characteristics variables are significant while one variable shows no significance, two of the audit committee variables are significant and one is not significant, and finally, only one of the ownership structure variables shows significance. To begin the

discussion of these findings, the results show that the board size (BSIZE) is significant at the 90 percent level of confidence with a p-value of 0.066. For board size, the coefficient is negative, indicating that when board size increases, the likelihood of the company falling into moderate insolvency risk relative to the outcome of falling into low insolvency risk decreases. The odds ratio value indicates that for every one unit increase in the board size, the odds of a company having moderate insolvency risk decreases by a factor of 0.919. This implies that companies which have larger boards are less likely to have a moderate insolvency risk and more likely to have a low insolvency risk. This result also indicates that there is a negative relationship between the board size and the insolvency risk which means that when the firm has more members on the board of directors, it is more likely that they will have a lower insolvency risk. The result is consistent with the resource dependency theory which proposes that larger boards offer more resources to the firm in terms of experience and counsel (Manzaneque et al. 2016), which assists the company in achieving their goals and increasing their financial performance through strategic planning and implementation. The resource dependency theory also contends that larger boards can expand the company's access to vital external resources which will add more value to the firm. The results are also conformable to the prior literature on corporate boards and bankruptcy which found that firms with a large board size are more likely to have a lower risk of bankruptcy (Darrat et al. 2014). The negative relationship between board size and insolvency risk is also in line with the studies which suggest that larger boards can maintain better control on the actions of executive management which makes them more capable of directing them to work towards the shareholders' best interests and in turn increase performance and

decrease the firm's financial distress (Oyerinde, 2014; Manzaneque et al. 2016).

The results also show that board meeting frequency (BM) is significant at the 95 percent level of confidence with a p-value of 0.017, and an odds ratio value which is greater than 1. This signifies that for every one unit increase in the frequency of board meetings, the probability of moderate insolvency risk increase is 1.088. This means that when the frequency of board meetings increases, the company is more likely to have a moderate insolvency risk relative to a low insolvency risk. This shows a positive relationship between the frequency of board meetings and insolvency risk of firms which suggests that the more meetings are held, the more likely that the firm will experience a higher insolvency risk. The findings conflict with the previous studies which found that increasing the board meetings will increase the board's activity and enhance their ability to closely monitor and discipline management (Eluyela et al., 2018; Ntim & Osei, 2011). However, these results suggest that an increased meeting frequency will cause the company to waste time and resources including travel costs and sitting fees, which will in turn reduce their financial capacity (Vafeas, 1999; Oyerinde, 2014). Studies also suggest that reducing the number of board meetings will minimize costs and increase efficiency and performance (Musleh Alsartawi, 2019). Furthermore, Board independence (BI) shows no significance and thus proves to have no significant impact on the insolvency risk of the sample firms.

Subsequently, the findings show that the blockholder ownership (BLOCKOWN) is highly statistically significant at the 99 percent level of confidence with a p-value of less than 0.001. The coefficient is positive, and the odds ratio is 3.962, which indicates that an increase in the ratio of

blockholder ownership will cause the chance of moderate insolvency risk to increase by 3.962, further indicating a positive relationship between the insolvency risk and blockholder ownership. This implies that an increase in the percentage of blockholder ownership is not an advantage to the company as prior literature suggests, on the contrary, when a company has less blockholder ownership, the insolvency risk will decrease. This finding is consistent with Chen et al. (2020) who found a higher proportion of blockholder ownership in companies facing financial distress, in addition to the study by Ernawati et al. (2018) which also concluded that concentrated ownership has a positive impact on the likelihood of financial distress. This indicates that the owners of large blocks of shares drain the wealth and interests of minority shareholders (Holderness, 2001; Reddy et al., 2015). Furthermore, in the case that the blockholders decide to sell their shares, the share price of the firm would significantly drop due to the large amount of shares that they hold which will ultimately weaken the company's financial stability. The results in group 1 for moderate insolvency risk show no significant impact of institutional ownership (INSTOWN) and executive ownership (EXECOWN) on the insolvency risk of non-financial firms listed in the GCC stock exchanges.

Also, the table shows the results of the audit committee characteristics variables and proves significance in two of the three variables. The audit committee size (ACSIZE) is statistically significant at the 99 percent level of confidence with a p-value of less than 0.001. Given that the coefficient is positive with a value of 0.276, and the odds ratio is greater than 1, this means that an increase in the audit committee size will increase the odds of the company having a moderate insolvency risk relative to a low insolvency risk.

The results show that for every one unit increase in the audit committee size, the outcome of moderate insolvency risk will increase is by a factor of 1.318. This shows a positive relationship between audit committee size and the insolvency risk and suggests that the greater the audit committee size, the higher the insolvency risk will be. These results are in line with previous studies which contend that having more members on the audit committee would increase the information asymmetry between the members and reduces their focus and ability to finalize decisions due to conflicts that will arise from the diversity of opinions in addition to miscommunication (Siswanto & Fuad; 2017).

Moreover, the results show that the frequency of Audit committee meetings (ACM) has a negative relationship with insolvency risk, where audit committee meetings is significant at the 95 percent level of confidence with a p-value of 0.041. The coefficient is negative with a value of -0.08, which means that an increase in the audit committee meeting frequency will decrease the risk of moderate insolvency and increase the likelihood of low insolvency by a factor of 0.923, suggesting that a higher frequency of audit committee meetings will decrease the insolvency risk of the firm. This indicates that if the audit committee increases the number of meetings held throughout the year, it would enhance their monitoring function and allow for a better performance outcome (Norziaton & Hafizah, 2019). The results are consistent with recent studies that examined the effectiveness of audit committees in relation to the prevention of financial distress (Yakubu et al., 2020; Nursiva & Widyaningsih, 2020). This also suggests that increasing the frequency of meetings would render the audit committee more active and grants them to devote more time in overseeing the financial processes of the firm, and further

strategize in preventing any financial difficulties that could result in corporate insolvency. Furthermore, the results show that audit committee independence (ACI) has no significant influence on the insolvency risk.

Table (5.3): Parameter Estimates - Group 1: Moderate Insolvency Risk

Insolvency Risk (IR)		Beta	*p*-value	Exp (Beta)	95% Confidence Interval for Exp (Beta) Lower Bound	Upper Bound
Group 1 Moderate IR	Intercept**	-1.223	0.02			
	BSIZE***	-0.085	0.066	0.919	0.84	1.006
	BM**	0.084	0.017	1.088	1.015	1.166
	BI	0.252	0.407	1.286	0.709	2.334
	BLOCKOWN*	1.377	<.001	3.962	2.524	6.222
	INSTOWN	0	0.993	1	1	1
	EXECOWN	-0.308	0.275	0.735	0.423	1.278
	ACSIZE*	0.276	<.001	1.318	1.14	1.525
	ACM**	-0.08	0.041	0.923	0.855	0.997
	ACI	-0.623	0.177	0.536	0.217	1.326

Note: *, ** and *** indicate that the variable is significant respectively at 99%, 95% and 90% level of confidence

5.4.2 High Insolvency Risk

Table 5.4 demonstrates the results of the second estimated model for high insolvency risk relative to low insolvency risk. The results show that six of the independent variables are highly statistically significant indicating that they have a significant impact on insolvency risk. The regression coefficients explain which of the independent variables significantly discriminate between the companies which have high insolvency risk (coded as group 2 in the model) and companies which have a low insolvency risk (coded as group 0). Board size is highly significant at the 99 percent level of confidence with a p-

value of 0.002. The coefficient is negative, with a value of -0.127, which indicates that companies having a larger board size are less likely to have a high insolvency risk relative to low insolvency risk. Specifically, the odds ratio value indicates that for every one unit increase in the board size, the odds of the company experiencing high insolvency risk decreases by a factor of 0.881, in other words, the odds decrease when the members of the board of directors increase. This result indicates that there is a negative relationship between board size and the insolvency risk and is consistent with the prior literature which found that a larger board size reduces the likelihood of corporate insolvency (Tahir, 2018). The findings contradict with studies which stated that more members on the board will cause a lack of coordination and miscommunication (Yermack, 1996). Opposing views also stated that larger boards do not have the same monitoring efficiency as smaller boards which could result in poor financial management and increase the likelihood of financial distress (Jensen, 1993). Nevertheless, this study's results are in line with the theory that suggests having more members increases the monitoring function of the boards which offers better oversight on top management and thus decreasing the agency conflicts (Mishra & Kapil, 2017).

As shown in the results, board meetings frequency is also highly statistically significant at the 99 percent level of confidence with a p-value of less than 0.001. Since the coefficient is positive, with a value of 0.123, it is proven that there is a positive relationship between the frequency of board meetings and the insolvency risk. The odds ratio of 1.13 indicates that for every one unit increase in the frequency of board meetings, the likelihood of high insolvency risk increase is 1.13. This result is consistent with Musleh Alsartawi (2019), who found a negative relationship between board meetings

and firm performance. Additionally, this suggests that abnormal board activity should be discouraged as it will decrease the monitoring efficiency of the board and the company would incur additional costs which will negatively affect their financial performance (Oyerinde, 2014). Moreover, previous literature also stated that arranging the board meetings when it is necessary rather than merely assembling the board members frequently would decrease the board's efficiency and functionality (Ntim & Osei, 2011). Furthermore, it should be noted that, in consistency with the first group for moderate insolvency risk, the board independence shows no significant impact on the insolvency risk.

With respect to the ownership structure variables, the results exhibit that two of the variables, namely institutional ownership and blockholder ownership, have no significant impact on the insolvency risk, and these results are also consistent with the results of the first group. However, it is shown that the blockholder ownership is highly statistically significant at the 99 percent level of confidence with a p-value that is less than 0.001. The coefficient value of 1.498 and odds ratio value of 4.471 indicate that an increase in the ratio of blockholder ownership will increase the outcome of high insolvency risk by a factor of 4.471, which proves a positive association between the insolvency risk and blockholder ownership. Accordingly, it is established that the higher the blockholder ownership of a company, the higher the insolvency risk will be. This result is in line with the first model and asserts that having a higher proportion of ownership concentration is unbeneficial to a firm.

Moreover, the results demonstrate that all three audit committee variables, namely audit committee size, audit committee meetings frequency and audit committee independence are highly significant at the 99 percent

level of confidence with p-values of <0.001, 0.006 and 0.009, respectively. Audit committee size is highly statistically significant and exhibits a coefficient value of 0.503 and an odds ratio value that is greater than 1, indicating that for every unit increase in the size of the audit committee, the odds of the company falling into the high insolvency risk category is 1.653, implying a positive association between the two variables. This indicates that an audit committee that is too large would not be able to focus on the important tasks that need to be handled (Norziaton & Hafizah, 2019).

Nevertheless, the audit committee meetings appear to have a negative influence on the insolvency risk with a coefficient of -0.993 and an odds ratio of 0.911. This means that an increase in the frequency of audit committee meetings, the probability of the company experiencing a high insolvency risk relative to a low insolvency risk decreases by 0.911. The result shows that the higher the frequency of audit committee meetings, the higher the level of reporting quality, therefore, a greater probability of avoiding financial difficulties which in turn reduces the likelihood of a high insolvency risk (Salloum et al., 2014). This also suggests that the additional time spent in the audit committee meetings will allow the member to ensure the company's compliance with financial regulations and guidelines, furthermore, they would have sufficient time in assessing the firm's financial position and ensuring that they can cover financial obligations in a timely manner to avoid resorting to liquidation.

Finally, the audit committee independence shows a negative coefficient having a value of -1.052, and an odds ratio that is less than 1, indicating that for every one unit increase in the audit committee independence, the probability of having a high insolvency risk, relative to a low insolvency risk,

decreases by a factor of 0.349. This shows a negative relationship between high insolvency risk and the audit committee independence which implies that the higher the ratio of independent members on the audit committee, the lower the risk of insolvency that a company would face. This result is consistent with Carcello & Neal (2000) who found a negative relationship between the audit committee independence and the going concern of financially distressed firms, which suggests that having more independent members on the board will lower the company's risk of declaring bankruptcy.

Table (5.4): Parameter Estimates - Group 2: High Insolvency Risk

Insolvency Risk (IR)		Beta	*p*-value	Exp (Beta)	95% Confidence Interval for Exp (Beta) Lower Bound	Upper Bound
Group 2 High IR	Intercept*	-1.219	0.008			
	BSIZE*	-0.127	0.002	0.881	0.814	0.953
	BM*	0.123	<.001	1.13	1.065	1.2
	BI	0.373	0.16	1.451	0.864	2.439
	BLOCKOWN*	1.498	<.001	4.471	2.902	6.886
	INSTOWN	0	0.991	1	1	1
	EXECOWN	-1.055	0.102	0.348	0.098	1.233
	ACSIZE*	0.503	<.001	1.653	1.456	1.877
	ACM*	-0.093	0.006	0.911	0.853	0.974
	ACI*	-1.052	0.009	0.349	0.159	0.765

Note: *, ** and *** indicate that the variable is significant respectively at 99%, 95% and 90% level of confidence

Table 5.5 summarizes the results for the two models relative to low insolvency risk. Furthermore, Table 5.6 presents the results of the hypotheses tested in this study.

Table (5.5): Summary Result Comparison of the Estimated Models

Independent Variable	Group 1 - Moderate IR	Group 2 - High IR
Board Size	Negative Impact	Negative Impact
Board Meetings	Positive Impact	Positive Impact
Board Independence	No impact	No impact
Blockholder Ownership	Positive Impact	Positive Impact
Institutional Ownership	No impact	No impact
Executive Ownership	No impact	No impact
Audit Committee Size	Positive Impact	Positive Impact
Audit Committee Meetings	Negative Impact	Negative Impact
Audit Committee Independence	No impact	Negative Impact

Table (5.6): The Results of the Hypotheses Developed and Tested

H-No.	Hypothesis	Result
H1	Board size has a significant negative impact on firms' insolvency risk	Accepted
H2	The frequency of board meetings has a significant negative impact on firms' insolvency risk	Rejected
H3	Board independence has a significant negative impact on firms' insolvency risk	Rejected
H4	Audit committee size has a significant negative impact on firms' insolvency risk	Rejected
H5	The frequency of audit committee meetings has a significant negative impact on firms' insolvency risk	Accepted
H6	Audit committee independence has a significant negative impact on firms' insolvency risk	Accepted
H7	Blockholder Ownership has a significant negative impact on firms' insolvency risk	Rejected
H8	Institutional Ownership has a significant negative impact on firms' insolvency risk	Rejected
H9	Executive Ownership has a significant negative impact on firms' insolvency risk	Rejected

5.5 Concluding Remarks

This chapter presents the results of the multivariate logistic regression analysis that was utilized to achieve the objectives of the study. Using the

Altman Z-score model, the total of 444 non-financial listed companies in the GCC stock exchanges were grouped into three categories of insolvency risk. These groups were then analyzed in SPSS to create two comparative models, the first to test the odds likelihood of moderate insolvency risk, and the second to test the odds of high insolvency risk. These models were aimed to evaluate the contribution of each CG mechanism and provide their effect on the insolvency risk of the sample firms by comparing each insolvency risk group against the reference group, low insolvency risk. Moreover, this chapter presents the results of the overall fit of the model, in addition to the results that show the effect of the independent variables on the overall model.

Chapter Six

Summary and Conclusions

6.1 Introduction

The current study contributes to existing literature by examining the relationship between CG mechanisms and the insolvency risk of listed companies in the GCC stock exchanges for the period of five years from 2015 to 2019. Based on several prior studies that have incorporated CG mechanisms in their research, this study identified eight elements to represent CG, which are the size of the board of directors, ratio of independent directors on the board, the frequency of board meetings, the size of the audit committee, the ratio of independent members on the audit committee, the frequency of audit committee meetings, in addition to the ratio of blockholder ownership, executive ownership and institutional ownership. Furthermore, as dictated by previous literature, the prediction of insolvency is vital for evaluating a corporation and the likelihood that a firm may undergo bankruptcy. In this study, the insolvency risk of the sampled companies is estimated by using the Altman Z-Score, which is proved to have an accuracy of between 80% and 90% for predicting bankruptcy. The financial ratios used in the Altman Z-score were previously mentioned in the chapter 3. These ratios were used to categorize the companies into three groups or levels of insolvency; Companies with low insolvency risk which were coded 0, moderate insolvency risk was coded 1, and high insolvency risk coded 2. Thereafter, these categories along with the CG variables were used to run the MLR analysis and obtain the results of the estimated models, which will be further discussed in this chapter.

This chapter concludes the current study by presenting a summary of the results of the analysis utilized and linking them to the hypotheses developed in chapter 3. The second section of this chapter will compare the results of the board characteristics, audit committee characteristics, and ownership structure variables in the two models estimated in the study. Finally, this chapter will discuss the recommendations and suggestions for further research, in addition to presenting the limitations of this study.

6.2 Conclusion of the Study

This study examined the relationship between CG mechanisms and the insolvency risk of publicly listed companies in the GCC stock exchanges. To do so, this study used the MLR analysis by running the data collected in the SPSS statistical software. The results show that the model utilized fits the collected data that was used and show that the model is highly statistically significant with a p-value < 0.001. This proves that there is a significant relationship between the dependent variable and the independent variables in the final model.

The analysis also tested the overall contribution of each independent variable to the model and concluded that board size is statistically significant at $p = 0.005$, board meetings is highly statistically significant at $p < 0.001$, blockholder ownership is also highly statistically significant at $p < 0.001$, institutional ownership is significant at $p = 0.065$, executive ownership is significant at $p = 0.002$, audit committee size is highly statistically significant at $p < 0.001$, audit committee meetings is significant at $p = 0.013$, and audit committee independence is also significant at $p = 0.028$. The results show that

board independence has no significant impact which indicates that this independent variable does not contribute to the final model.

The SPSS software used to run the logistic regression estimated two models using the grouped categories of the insolvency risk. The low insolvency risk (group 0) was used as the baseline category. The first estimated model was for moderate insolvency risk (group 1) relative to low insolvency risk, and the second estimated model was for high insolvency risk (group 2) relative to low insolvency risk. These two models make up the main results of the study. These results estimate the contributions of each of the independent variables to discriminate between the referent group and the comparison group. Basically, the models evaluate the impact of the independent variables on the likelihood of a company falling into either level of insolvency risk.

A total of nine hypotheses were tested in the analysis, once in each of the estimated models. Beginning the discussion with the board characteristics variables, for the first model, the study's results show that there is a significant negative association between board size and the insolvency risk, indicating that when the firm has more members on the board, it is more likely that it will have a low insolvency risk and will be in the safe zone ($Z = 0$) than having an outcome of moderate insolvency risk and being considered in the grey zone ($Z = 1$). Similarly, the results of the second model show a significant negative relationship between the board size and the insolvency risk, which indicates that when the members of the board of directors are increased, the likelihood of high insolvency risk ($Z = 2$) decreases, and the company becomes more likely to have a low insolvency risk. This results of the two models are

consistent with each other, which confirms that the greater the board size, the lower the insolvency risk.

Moving on to the results of board meeting frequency, the results of the first model show that there is a significant positive relationship between board meetings and the insolvency risk, indicating that when the meetings are more frequent, the firm has a higher probability of having moderate insolvency risk and would be in the grey zone, in comparison to having a low insolvency risk and being in the safe zone. Correspondingly, the results in the second model prove to be consistent with the first model, in which the board meetings show a significant positive association with the insolvency risk. This indicates that the higher the frequency of board meetings, the more likely that the firm will experience a higher insolvency risk and would be considered in the distress zone.

Concerning the ownership structure, in results of the first model, the blockholders ownership exhibits a significant positive association with insolvency risk, which is an indication that the higher the percentage of blockholder ownership in the firm, the more likely that the firm will have a moderate insolvency risk relative to a low insolvency risk. In consistency, the results of the second group also show a significant positive relationship between the percentage of blockholder ownership and insolvency risk, implying that when a company's shareholders own a larger block of shares, the likelihood of the company having high insolvency risk increases. Moreover, the results in the two models further show that institutional ownership as well as executive ownership have no significant impact on the firms' insolvency risk in both estimated models.

Regarding the audit committee characteristics, the results in the first model show that audit committee size has a positive impact on the insolvency risk. The results are consistent with the second model which also shows a positive relationship between the audit committee size and insolvency risk. For the audit committee meetings, the results in both models are consistent with each other in which they display a negative relationship between the frequency of audit committee meetings and the insolvency risk of the sampled firms.

Moving on to the audit committee independence, the results contradict with each other in the first and second model. In the first model it is shown that the audit committee independence has no significant impact on the insolvency risk. Whereas, in the second model, the audit committee independence is significant at the 99% level of confidence with a p-value of 0.009. This shows a negative relationship between the frequency of audit committee meetings and the insolvency risk in the second group, indicating that the higher the frequency of meetings, the less likely that the firm will experience a high insolvency risk and fall in the distress zone, and more likely that the firm will be in the safe zone.

6.3 Implications of the Study

This study provides several implications towards multiple stakeholders in the GCC countries. Firstly, the results of this study can help regulators and policymakers to identify and comprehend which CG mechanisms can impact the insolvency risk of non-financial firms, especially in developing markets. In addition to how these mechanisms can contribute to either the survival and

progression of the company, or the decrease in the firm value and company reputation. Secondly, it can also aid potential investors in identifying which companies are strong, stable, and secure enough to invest in. Also, this study implicates creditors as it helps them assess a firm's credit risk in order for them to understand the firms' risk of default. Finally, financial analysts are also impacted, as they can take into consideration the non-financial measures, specifically the CG mechanisms, in their overall analysis of the company, the company's health, and its progression.

6.4 Limitations of the Study

As with several studies, this study had its share of limitations. One of the limitations was the exclusion of some companies from the sample, due to the unavailability of data. Moreover, the study did not include the financial sector. This is because of the high leverage that exists in the financial industry, in comparison with other sectors. Consequently, the results of this study cannot be generalized or applicable to all the publicly listed companies within the GCC. Lastly, the sample period that was taken into consideration was five years. However, if the study period was broadened, it would have provided a more holistic understanding of the relationship between the variables.

6.5 Recommendations for Future Research

This section provides suggestions and recommendations for future research and studies. Future studies can include COVID-19 implications and the pandemic's impact on the prediction of insolvency risk. They can tackle and address the changes and shifts in the market as well to have a clearer and

better understanding of the current status of publicly listed firms post pandemic. Future research can widen the sample data duration and extend the period. In addition, future studies can include the creation of a bankruptcy or insolvency prediction model which incorporates non-financial measures such as CG. They can also include other CG mechanisms that were not the focus of this study. For instance, other variables that future studies can focus on are the board and audit committee meeting attendance, audit committee expertise, foreign ownership, and government ownership. Other CG mechanisms that can also be studied include director networks and political connections, director tenure, and managerial ability.

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Appendices

Appendix (1) List of Companies Included in the Final Sample

No. of Firms	Country	Company Name	Company Symbol
16	**Bahrain**	Aluminium Bahrain BSC	ALBH
		Bahrain Car Parks Co BSC	PARK
		Bahrain Cinema Co BSC	CNCO
		Bahrain Duty Free Shop Complex BSC	DUTY
		Bahrain Family Leisure Co BSC	FMLY
		Bahrain Ship Repairing and Engineering Co BSC	BSRC
		Bahrain Telecommunications Company BSC	BTEL
		Banader Hotels Co BSC	BANA
		BMMI BSC	BMMI
		Delmon Poultry Co BSC	DPCB
		Gulf Hotel Group BSC	GHG
		Nass Corporation BSC	NASS
		National Hotels Co BSC	NHTL
		Seef Properties BSC	SEEF
		Trafco Group BSC	GTFP
		Zain Bahrain BSC	ZAIN
34	**Kuwait**	AAN Digital Services Co KSCP	AAN
		Aayan Real Estate Company KSCP	AYRE
		Advanced Technology Co KSCP	ATCK
		Agility Public Warehousing Co KSCP	AGLT
		Ajial Real Estate Entertainment Co KSCP	AREC
		Al Argan International Real Estate Co KSCP	ARGK
		Al Kout Industrial Projects Company KPSC	ALKK
		Arkan Al Kuwait Real Estate Company KSCP	ARKK
		First Dubai for Real Estate Development Co KSCP	FIRST
		Future Kid Entertainement and Real Estate Company KSCP	KIDK
		Hayat Communications Co KSCP	HAYK
		Heavy Engineering Industries and Shipbuilding Company KSCP	SHIP
		Human Soft Holding Company KSCP	HUMN
		Independent Petroleum Group KSCP	IPGK
		KGL Logistics Company KPSC	LOGK
		Kuwait Cement Company KPSC	KCEM
		Kuwait Company for Process Plant Construction and Contracting KPSC	KCPC

		Kuwait Portland Cement Co KPSC	PCEM
		Kuwait Real Estate Company KPSC	KREK
		Kuwait Real Estate Holding Co KPSC	ALAQ
		Kuwait Resorts Company KPSC	MUNK
		Kuwait Telecommunications Company KSCP	STC
		Mabanee Company KPSC	MABK
		Mezzan Holding Company KSCP	MEZZ
		Mobile Telecommunications Company KSCP	ZAIN
		Mubarrad Holding Co KSCP	MBRD
		National Cleaning Co KSCP	CLEA
		National Industries Company KPSC	NIBM
		National Mobile Telecommunications Co KSCP	OORE
		National Petroleum Services Company KSCP	NAPS
		Oula Fuel Marketing Co KSCP	OULA
		Qurain Petrochemical Industries Company KSCP	ALQK
		Shuaiba Industrial Company KPSC	PAPE
		United Projects for Aviation Services Co KSCP	UPAC
31	**Oman**	ACWA Power Barka SAOG	APBS
		Al Anwar Ceramic Tiles SAOG Co	AACT
		Al Batinah Power Company SAOC	BATP
		Al Hassan Engineering Co SAOG	HECI
		Al Jazeera Steel Products Company SAOG	ATMI
		Al Maha Petroleum Products Marketing Company SAOG	MHAS
		Al Suwadi Power Company SAOC	SUWP
		ASaffa Foods SAOG	SPFI
		Gulf International Chemicals SAOG	GICI
		Gulf Mushroom Products SAOG Co	GMPI
		Majan College University College SAOG	BACS
		Muscat Gases Company SAOG	MGMC
		National Biscuit Industries SAOG Ltd	NBII
		National Detergent SAOG Co	NDTI
		National Gas Company SAOG	NGCI
		Oman Cables Industry SAOG	OCAI
		Oman Cement Company SAOG	OCOI
		Oman Education and Training Investment Company SAOG	OETI
		Oman Flour Mills Company SAOG	OFMI
		Oman National Engineering & Investment Co SAOG	ONES
		Oman Oil Marketing Co SAOG	OOMS
		Oman Refreshment Company SAOG	ORCI
		Oman Telecommunications Company SAOG	OTEL
		Omani Packaging Company SAOG	OPCI

		Phoenix Power Co SAOG	PHPC
		Sahara Hospitality Co SAOG	SAHS
		Salalah Mills Company SAOG	SFMI
		Sembcorp Salalah Power and Water Company SAOG	SSPW
		Sharqiyah Desalination Company SAOG	SHRQ
		Shell Omsan Marketing Company SAOG	SOMS
		SMN Power Holding SAOG	SMNP
24	**Qatar**	Aamal Company QPSC	AHCS
		Al Meera Consumer Goods Company QPSC	MERS
		Alijarah Holding Co QPSC	NLCS
		Barwa Real Estate Company QPSC	BRES
		Ezdan Holding Group QPSC	ERES
		Gulf Warehousing Co QPSC	GWCS
		Industries Qatar QPSC	IQCD
		Investment Holding Group QPSC	IGRD
		Mannai Corporation QPSC	MCCS
		Mazaya Real Estate Development QPSC	MRDS
		Medicare Group QPSC	MCGS
		Mesaieed Petrochemical Holding Co QSC	MPHC
		Ooredoo QPSC	ORDS
		Qatar Cinema and Film Distribution Co QPSC	QCFD
		Qatar Electricity and Water Company QPSC	QEWC
		Qatar Fuel Company QPSC	QFLS
		Qatar Gas Transport Nakilat Co Ltd QPSC	QGTS
		Qatar Industrial Manufacturing Company QPSC	QIMC
		Qatar National Cement Company QPSC	QANC
		Qatar Navigation QPSC	QNNC
		Qatari Investors Group QPSC	QIGD
		United Development Company QPSC	UDCD
		Widam Food Company QPSC	WDAM
		Zad Holding Company QPSC	ZHCD
111	**Saudi Arabia (KSA)**	Abdullah Al Othaim Markets CompanySJSC	4001
		Abdullah Saad Mohammed Abo Moati for Bookstores Co	4191
		Advanced Petrochemical Co SJSC	2330
		Al Andalus Property Company SJSC	4320
		Al Babtain Power and Telecommunication Company SJSC	2320
		Al Gassim Investment Holding Company SJSC	6020
		Al Hammadi Company for Development and Investment SJSC	4007
		Al Hassan Ghazi Ibrahim Shaker Company SJSC	1214

		Al Jouf Agricultural Development Co SJSC	6070
		Al Jouf Cement Company SJSC	3091
		Al Kathiri Holding Company JSC	3008
		Al Khaleej Training and Education Company SJSC	4290
		Al Moammar Information Systems Co CJSC	7200
		Al Yamamah Steel Industries Company CJSC	1304
		Aldrees Petroleum and Transport Services Company SJSC	4200
		Almarai Company SJSC	2280
		Alujain Holding Corporation SJSC	2170
		Anaam International Holding Group Company SJSC	4061
		Arab Sea Information Systems Company SJSC	7201
		Arabian Cement Company SJSC	3010
		Arabian Pipes Company SJSC	2200
		Arriyadh Development Company SJSC	4150
		Ash-Sharqiyah Development Company SJSC	6060
		Astra Industrial Group SJSC	1212
		Baazeem Trading Company CJSC	4051
		Basic Chemical Industries Company SJSC	1210
		Batic Investments and Logistics Co	4110
		Bawan Company SJSC	1302
		City Cement Company CJSC	3003
		Dallah Healthcare Company SJSC	4004
		Dar Al Arkan Real Estate Development Company SJSC	4300
		Dur Hospitality Company SJSC	4010
		Eastern Province Cement Company SJSC	3080
		Electrical Industries Company JSC	1303
		Emaar The Economic City SJSC	4220
		Etihad Atheeb Telecommunication Company SJSC	7040
		Etihad Etisalat Company SJSC	7020
		Fawaz Abdulaziz Alhokair Company SJSC	4240
		Filing and Packing Materials Manufacturing Co SJSC	2180
		Fitaihi Holding Group SJSC	4180
		Hail Cement Co SJSC	3001
		Halwani Brothers Company JSC	6001
		Herfy Food Services Company SJSC	6002
		Jarir Marketing Company SJSC	4190
		Jazan Energy and Development Co	6090
		Knowledge Economic City Company SJSC	4310
		Lazurde Company for Jewelry SCJC	4011
		Makkah Construction and Development Co SJSC	4100
		Methanol Chemicals Company SJSC	2001
		Middle East Healthcare Company CJSC	4009

		Middle East Company for Manufacturing and Producing Paper SJSC	1202
		Middle East Specialized Cables Company SJSC	2370
		Mouwasat Medical Services Company SJSC	4002
		Najran Cement Company SJSC	3002
		Nama Chemicals Company SJSC	2210
		Naseej International Trading Co	1213
		National Agriculture Marketing Company SJSC	4160
		National Company for Glass Industries SJSC	2150
		National Gas and Industrialization Company SJSC	2080
		National Gypsum Company SJSC	2090
		National Industrialization Company JSC	2060
		National Medical Care Company JSC	4005
		National Metal Manufacturing and Casting Company SJSC	2220
		National Petrochemical Company SJSC	2002
		National Shipping Company of Saudi Arabia JSC	4030
		Northern Region Cement Company SJSC	3004
		Qassim Cement Company SJSC	3040
		Rabigh Refining and Petrochemical Company SJSC	2380
		Raydan Food Company	6012
		Red Sea International Company	4230
		Sahara International Petrochemical Company SJSC	2310
		Saudi Airlines Catering Company SJSC	6004
		Saudi Arabia Fertilizers Co SJSC	2020
		Saudi Arabian Amiantit Company SJSC	2160
		Saudi Arabian Mining Company SJSC	1211
		Saudi Arabian Refineries Company SJSC	2030
		Saudi Cable Company JSC	2110
		Saudi Cement Company SJSC	3030
		Saudi Ceramic Company SJSC	2040
		Saudi Chemical Company SJSC	2230
		Saudi Fisheries Company SJSC	6050
		Saudi Ground Services Co	4031
		Saudi Industrial Development Company SJSC	2130
		Saudi Industrial Export Company SJSC	4140
		Saudi Industrial Investment Group SJSC	2250
		Saudi Industrial Services Company SJSC	2190
		Saudi Kayan Petrochemical Company SJSC	2350
		Saudi Marketing Company SJSC	4006
		Saudi Paper Manufacturing Company SJSC	2300
		Saudi Pharmaceutical Industries & Medical Appliances Corporation SJSC	2070
		Saudi Printing and Packaging Company SJSC	4270

		Saudi Public Transport Company SJSC	4040
		Saudi Real Estate Company SJSC	4020
		Saudi Steel Pipe Company SJSC	1320
		Saudi Telecom Company SJSC	7010
		Saudi Vitrified Clay Pipe Company SJSC	2360
		Saudia Dairy and Foodstuff Company SJSC	2270
		Savola Group Company SJSC	2050
		Southern Province Cement Company SJSC	3050
		Tabuk Agricultural Development Co SJSC	6040
		Tabuk Cement Company SJSC	3090
		Tourism Enterprises Company SJSC	4170
		Umm Al Qura Cement Company SJSC	3005
		United International Transportation Company SJSC	4260
		United Wire Factories Company JSC	1301
		Wafrah for Industry and Development Company SJSC	2100
		Yamama Cement Company SJSC	3020
		Yanbu Cement Company SJSC	3060
		Yanbu National Petrochemicals Company SJSC	2290
		Zahrat Al Waha for Trading Company CJSC	3007
		Zamil Industrial Investment Co SJSC	2240
29	**United Arab Emirates (UAE)**	Abu Dhabi National Hotels Co PJSC	ADNH
		ADES International Holding PLC	ADES
		Agthia Group PJSC	AGTHIA
		Air Arabia PJSC	AIRA
		Arabtec Holding PJSC	ARTC
		Aramex PJSC	ARMX
		Damac Properties Dubai PJSC Co	DAMAC
		Dana Gas PJSC	DANA
		Depa Plc	DEPA
		Deyaar Development PJSC	DEYR
		DXB Entertainments PJSC	DXBE
		Emirates Integrated Telecommunications Company PJSC	DU
		Emirates Telecommunications Group Co PJSC	ETISALAT
		FOODCO Holding PJSC	FOODCO
		Fujairah Building Industries Co PSC	FBI
		Gulf Cement Co PSC	GCEM
		Gulf Navigation Holding PJSC	GNAV
		Gulfa Mineral Water and Processing Industries Co PLC	GULF
		International Holdings Company PJSC	IHC
		Lamprell Plc	LAM
		National Central Cooling Co PJSC	TABR
		National Corp for Tourism and Hotels	NCTH

		National Marine Dredging PSC	NMDC
		Orascom Construction PLC	OC
		Polarcus Ltd	PLCS
		RAK Properties PJSC	RAKPROP
		Ras Al Khaimah Poultry and Feeding Co	RAPCO
		Sharjah Group Company PSC	SG
		Union Properties PJSC	UPRO
Total No. of Firms			**245**

المُلخص

تهدف هذه الدراسة إلى التعرف على العلاقة بين آليات حوكمة الشركات ومخاطر الإعسار للشركات المدرجة في البورصات الخليجية. يتم إجراء هذا التحقيق باستخدام تحليل الانحدار اللوجستي متعدد الحدود، وقد تناولت هذه الدراسة تسع آليات لحوكمة الشركات، وتشمل التالي: حجم مجلس الإدارة، واجتماعات مجلس الإدارة، واستقلالية المجلس، وتمركزملكية المساهمين، والملكية المؤسسية، والملكية التنفيذية، ثمّ حجم لجنة التدقيق، وأخيرا اجتماعات لجنة التدقيق، واستقلالية هذه اللجنة. ولقد أظهرت هذه النتائج ما يلي:

يتبين من الدراسة، أن هناك ارتباطًا سلبيًا كبيرًا بين حجم مجلس الإدارة ومخاطر الإعسار، الأمر الذي نستنتجه من ذلك، أنه في حالة وجود عدد أكبر من أعضاء مجلس الإدارة للشركة، تكون لديها مخاطر إعسار منخفضة، كما أن هناك علاقة إيجابية كبيرة بين اجتماعات مجلس الإدارة ومخاطر الإعسار، مما يشير إلى أنه كلما زادت الاجتماعات وتكررت، زاد احتمال تعرض الشركة لمخاطر إعسار أعلى. كما تظهر النتائج أن استقلالية مجلس الإدارة ليس له تأثير كبير على مخاطر إعسار الشركة، فيما يتعلق بخصائص هيكل الملكية، فقد أظهرت النتائج أن تمركز ملكية المساهمين، لها علاقة إيجابية بمخاطر الإعسار، بمعنى أنه كلما ارتفعت نسبة ملكية الحاصرين في الشركة، زاد احتمال تعرض الشركة لمخاطر إعسار أعلى.

كما تظهر النتائج أن الملكية المؤسسية والملكية التنفيذية، ليس لهما تأثير كبير على مخاطر إعسار الشركات، أما النتائج المتعلقة بخصائص لجنة التدقيق فتظهر أن هناك علاقة إيجابية بين حجم لجنة التدقيق ومخاطر الإعسار، في حين أن تكرار اجتماعات لجنة التدقيق يحمل تأثيرا سلبيا على مخاطر إفلاس الشركات.

إضافة إلى ذلك، نجد أن نتائج المتغير المستقل النهائي، وهو استقلالية لجنة التدقيق، قد تناقضت مع بعضها البعض في النموذجين الأول والثاني. ففي النموذج الأول، خلصت النتائج إلى أن استقلالية لجنة التدقيق ليس لها تأثير كبير على مخاطر الإعسار، ومن ناحية أخرى، استنتجت النتائج من النموذج الثاني أن هناك علاقة سلبية بين استقلالية لجنة التدقيق وخطر الإعسار. مما يشير إلى أنه كلما زادت الاجتماعات، قلّ احتمال تعرض الشركة لمخاطر إعسار عالية.

وختاما، فإن نتائج هذه الدراسة تقدم مساهمة مفيدة لواضعي السياسات والمستثمرين وأصحاب المصلحة الآخرين في الشركة لاتباع التدابير الاحترازية الأساسية من أجل تجنب الضائقة المالية، ومخاطر الإعسار، وقد قدمت الباحثة مجموعة من التوصيات داخل هذه الدراسة.

الكلمات المفتاحية - حوكمة الشركات، مخاطر الإفلاس، ضائقة مالية، نموذج ألتمان ،دول مجلس التعاون الخليجي

جـامعة البحـرين

كلية إدارة الاعمال

قسم المحاسبة

آليات حوكمة الشركات ومخاطر الإعسار: أدلة من دول مجلس التعاون الخليجي

أطروحة مقدمة كجزء من متطلبات الحصول على درجة الماجستير في المحاسبة

إعـــداد

عُلا حسن الحداد

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إشـــراف

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جامعة البحرين

مملكـــة البحـــرين

مايو 2022م