

# Corporate Governance as a Tool to overcome Financial Distress

Vikneswaran Manual and Afrah H. Khalfan Al Tawqi

*School of Accounting and Finance, Asia Pacific University of Technology and Innovation*

## **Article Info**

**Volume 82**

**Page Number: 1005 - 1027**

**Publication Issue:**

**January-February 2020**

## **Abstract**

Over the history of the corporate world, many corporations have faced financial difficulties and collapses. To today's date, this problem still occur among firms. Corporate governance is a structure which determine the relationship between corporate direction and performance. Hence, corporate governance studies how a firm can be directed and controlled to enhance its performance and thus avoid financial distress and business failure. Therefore, this project investigates the relationship between corporate governance attributes and financial characteristics to the prediction and resolution of financial distress. A sample of 57 financially distressed firms and 57 healthy firms is examined for 10 countries using logistic regression model. Results from logistic regression suggested that segregation of duty, board composition, ownership structure, and institutional investors were significant determinants to financial distress, while board size, managerial incentive schemes, capital structure, and CEO duality were insignificant predictor variables to financial distress.

**Keywords:** *Corporate governance, Financial distress, Logistic regression model, Ownership structure, Board of directors.*

## **Article History**

**Article Received:** 14 March 2019

**Revised:** 27 May 2019

**Accepted:** 16 October 2019

**Publication:** 06 January 2020

## **Introduction**

Corporate governance has become a topic that many researches has been conducted upon in the last few years. Corporate governance is defined differently depending on one's opinion of the world. Zingales (1997) defines corporate governance as the complex set of constraints that shape the ex-post bargaining over the quasi-rents generated by a firm. Gillan and Starks (1998) suggests that corporate governance is the rules, laws, and factors that controls operations at a company. The Cadbury Committee (1992) refers to corporate governance as the structure by which companies are directed and controlled. While Shleiffer and Vishny (1997) describes corporate governance as the methods used by suppliers of finance to corporations to assure themselves of attaining a return on their investment. All in all, corporate governance can be explained as how

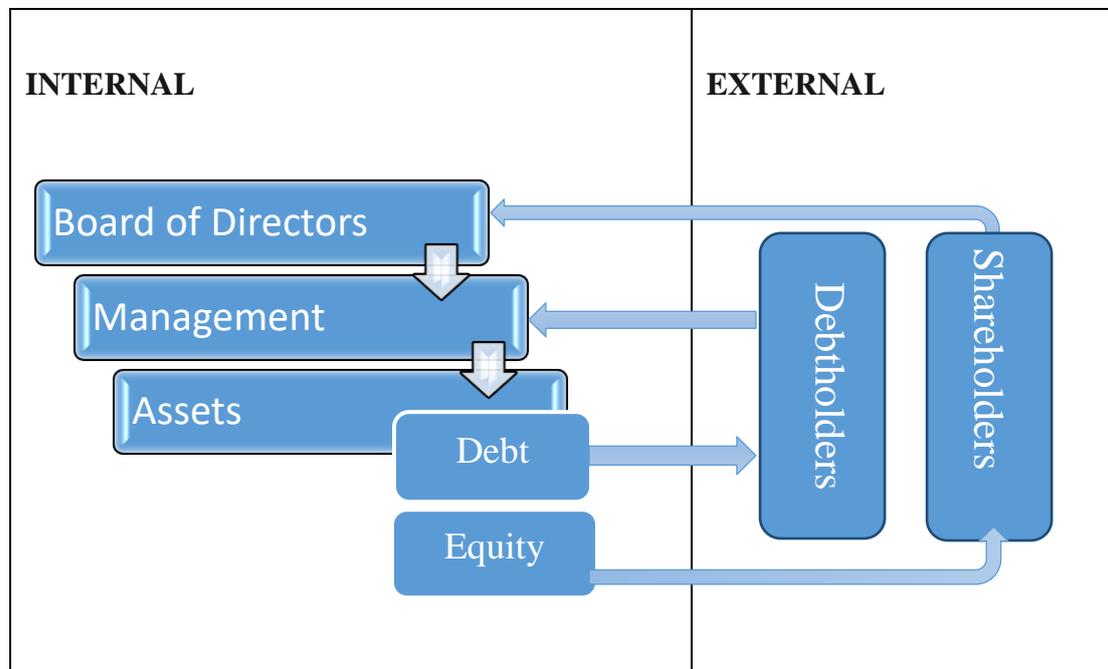
power is exercised in a corporation to determine the rules, laws, strategies, procedures, and ways in which a company is directed and controlled in an effective way to generate income to bring return on its investors (shareholders) and run successfully the operations of the company. These strategies and procedures are then used by the management to lead the company in the direction stated by the board of directors, and are then in charge to plan, control, organize, apply policies and change if necessary, and make an action plan to pursue and achieve the goals of the entity.

Regardless the particular meaning of the word, corporate governance is viewed and divided into two categories: internal and external to the firm. From a simple corporate structure of the firm, shown in Fig 1, we can understand the nature of this relationship. In the internal governance at the left side of the diagram, the management who acts

as the shareholder's agents is responsible for running the enterprise and make decisions such as what assets to invest in and how to finance this investment. The board of directors, which is elected by shareholders, owe fiduciary obligations to shareholders as established by the state law. The board of directors is at the top of internal control systems, ensures that the enterprise is being run well by advising and monitoring the management. On the right-hand side, the external governance includes the capital suppliers which

emerge from the firm's need to raise capital. A firm can raise capital in two ways. By equity, which is issuing shares and by debt, such as issuing bonds. Thus, the external governance comprises of equity holders (shareholders) and debtholders (bondholders). Here exist a separation between the providers of capital and the managers of the capital. This separation is the main source of all corporate governance problems and thus creates a need for corporate governance structures.

**Figure 1:** Corporate governance and balance sheet model of the firm. (Stuart L. Gillan (2005))



Beyond the balance sheet model of the firm represented above, corporate governance is also influenced by other parties who are additional contributors in the corporate structure. The latter include employees, customers and suppliers, in the nexus of contracts as enunciated by Jensen and Meckling (1976). Furthermore, adding to the governance environment, are the communities where the firm operates, politics including laws and regulations, culture, and the markets in which the firm is involved. Moreover, the internal and external governance is also divided each into five categories (Gillan (2005)).

The problem that arises from the separation between the providers and managers of capital is called the agency problem. In the corporate world, this problem is often viewed to be between managers and shareholders. However, an agency relationship also exists between shareholders and bondholders. This difference of interest of the company's stakeholders gives an important role to the board of directors which is central to corporate governance. The board of directors is there to monitor and ensure management is acting at the best interest of the shareholders. However, so many things can go wrong, and this agency problem among other issues, can

drive a firm into financial distress whereby it has difficulty to pay back its debts to its creditors. Once a firm faces financial distress, it can go into liquidation if it is insolvent or find a solution to its financial situation and continue its operations.

In the recent previous years, there has been a dramatically number of corporations faced with financial distress, bankruptcy and complete corporate collapses. Researchers have discussed a number of reasons which may lead to corporate collapse; some of which includes: Mardjono (2005) who links corporate collapse with failing to implement good corporate governance principles and best practice: integrity, efficiency, accountability, and transparency. Finkelstein (2005) points corporate mortality to: arrogance together with hatred and disrespect of competitor's landscape, misreading competitor's landscape, failing to understand corporate strategy, blinded by own successes, and desperation management. Fisher (2002) links corporate failure to the leadership of its firm. In his view, the institution tends to take the character of its leadership: if its leaders are precarious and lack focus, the institution too will struggle and hang itself. Sheth (2007) discusses that successful companies frequently get self-destructive behaviors that eventually challenge their success, i.e.: arrogance, denial, competency, complacency, dependence, competitive myopia, volume obsession, and territorial impulse. Consequently, the abuse of corporate strategy is formed by self-destructive behaviors, if unrestrained, leads a firm to its own failure. Sheth's claim is interesting because it shows that even the organizations get corrupted and induce self-destructive habits which brings it down, this is particularly true as for the popular Enron. The example of the fall of Enron also supports Fisher's assertion as Enron's fatal flaws was reflected in its management's hubris that was supported by its board members, stock analysts, regulators and politicians. Montuori (2000) attributes corporate mortality to uncertainty and turbulence, and the inability to adapt to

change. Likewise, Elenkov and Fileva (2006) associate business failure to absence of adequate knowledge of the main economic ideology and cultural value operations. Similarly, O'Brien (2006) refer to a discrepancy between strategy and risk management, while Brooks (2007) attributes corporate collapse to management greed.

We can therefore see that corporate collapses are caused by several reasons which may include false accounting and frauds, and other widespread failings. As a matter of fact, corporate collapse will bring with it both financial and non-financial strains and difficulties which will affect all the firm's stakeholders, including employees, shareholders, customers, suppliers etc., but also local communities, society, government, and other institutions. The fall of major corporations like Enron, Aldephia, and Worldcom has served as a wake-up call to the necessity for enhanced corporate governance systems and transparency. As a reaction to this, shareholders and other interested parties, and governments want measures to be taken in the hope to avoid further collapses. This of which gave rise and sustainability to corporate governance.

A good corporate governance is seen a key to avoid instances of problems as discussed above that fatally affect a firm operations, and plays an important role to the production of economic return it gives to its owners and stakeholders. Part of the production of economic return includes its ability and adapt to and handle phases of financial distress.

The objective in this empirical research is to study the framework of corporate governance, determine the main issues and main pawns that lead to a bad corporate governance. This paper will proceed by showing how a bad corporate governance may lead to corporate financial distress. We will look at methods to predict and resolve financial distress. After a clear study of the topic, I will conclude this research by giving a scope of how the discussed factors can contribute together to make a deliberate system of principles to

guide decisions and achieve rational outcomes for the avoidance of financial distress by an achievement of a good corporate governance.

Moreover, corporate governance is affected differently based on where the firm is located and the factors affecting it may be of different degree (such as the law and regulation, and market standards). Even if comparing firms have similar evaluation rates, but located in different countries, they will show different level of risk (Standard & Poor's (2002); Lazarides and Drimpetas (2011). Nelson (2014) also states the need of different corporate governance arrangements due to the difference of factors affecting developed and developing countries, such as political, economic, and cultural differences (see also: Adegbite (2012); Mc Gee (2009); and Baydoun et al. (2013). Rabelo and Vasconcelos (2002) also argue that the model of corporate governance will differ in the case of developing countries with factors such as structural characteristics and economic trends towards globalization compared to developed counties of Europe and North America. This context of argument will not be presented in this paper, we will look generally on a structure that can be applied worldwide as we will discuss the evidence of common factors affecting corporate governance wherever the firm is located. Furthermore, while exploring reasons of corporate failures, Razi *et al.* (2004) recognized two broad causes of failures: controllable and uncontrollable. This research will focus on the controllable factors that may leads to financial distress.

### **Problem statement**

Many major companies that were multi-millionaires and top on the industry with big sales and extraordinary profits have faced bad collapses in a matter of a day the company is brought down to ash. This can seem strange at the first glance but as an accountant, we are quite aware of the manipulation of figures and false statement. This problem often arises with the difference of interest in an agency relationship whereby the management is the agent and the shareholder the principle. Such

differences of interest will push people to act unethically and cover their mistakes and debts while always showing the wrong portfolio of a high profit company. Eventually, the company will not be able to cover the previous financial holes made and so it will fall bad in a bigger hole, unable to rescue itself, and result in the entire corporate collapse.

However, there are many more reasons to corporate failures than this. It is argued that the main common reasons are: inability to adopt to change and uncertainty, mismatch of strategy and risk management, false accounting and frauds, failure to implement good corporate values and best practice: , integrity, efficiency, accountability and transparency; management greed and blinded by own successes. Managers will develop self-destructive habits that eventually challenge their success. CEOs are arrogant and proud of it, they believe they have the power to do whatsoever pleases them because of their positions in the market place, they tend to make decisions even though they may seem inappropriate and become more concerned with public relations over strategy consideration. Leaders have a high influence and exertion on corporate culture. Therefore a bad leadership is detrimental to a corporation (Marwa (2008). Additional to lack of financial control, exchange rate and currency issues, overtrading, and diversification, poor management is discussed to be the critical cause of corporate failure in Ireland (Kelly (2005). According to Smith (2006), reflecting to South Africa, says the principal causes of corporate collapse are: diversification away from core proficiency, inadequate management planning and control, deadly flaws in fatal contracts, uncontrolled expansion, lenders are too generous and client borrowers too much which results in highly leveraged organizations. Other problems include lack of transparency, ineffective board of directors and audit committee, and inadequate information disclosure.

There is much that can be done to face these problems. Corporate governance mechanisms are viewed as a problem-solving tool by all market participants, but they cannot agree on what the processes or mechanisms should be (Lazarides and Drimpetas (2011)). It needs control and discipline to shape individual habits and characters. Many countries have set rules and regulations that serve as a guideline of best practice to face some of these problems. For example, the Anglo-Saxon in United Kingdom, United States, Australia, New Zealand, Canada and Ireland; Sarbanes Oxley in United States, Cadbury Report and Turnbull Report in the United Kingdom. However, researchers still argue on the effectiveness of these corporate governance systems. The United States, United Kingdom, Japan, and Germany have the best corporate governance systems in the world. But it is discussed that in Italy and Russia, the corporate governance systems are undeveloped and weak, and in other less developed countries they are even nonexistent (Shleifer and Vishny (2010)).

Existing studies has been conducted to find the relation of corporate governance and the firm's value in healthy firms without a distressed condition (see: Yermack (1996), Walker and Fox (2002), Gompers et al. (2003), Brown and Caylor (2004), Fich and Shivdasani (2006). Researche has also been made on distressed firms relating to the efficacy of its governance characteristics to the firm's value. (See: Fich, Eliezer M. (2008)).It is discussed that the efficiency of certain governance characteristics may differ within a firm's health (Yermack (1996); Fich, Eliezer M. (2008)). A simple example of this is the size and composition of the board. In a healthy period, independent boards may be better monitors but when distressed, inside directors will have more incentives to turn a distressed firm around than outside directors, because of the fear of losing their jobs. Likewise, smaller boards are viewed to be better for healthy firms in regards of reduced coordination, but larger boards may have more business contact to find easily strategic

partners that can emerge the firm from distress. Therefore, it is not clear that corporate structures that may be effective for a healthy firm would also be effective for a distressed firm. Researches has been made on methods of predicting financial distress and bankruptcy but most of them rely merely on the accounting and financial data while ignoring governance characteristics of the firm which may be of an importance. However, studies related to an analytical research of both healthy and distressed firms and prediction methods of financial distress taking into account governance characteristics to come to an effective corporate tool that will prevent and save both healthy and distressed firms from financial distress are, to our knowledge, non-existent.

Thus, this quantitative study will discuss more about the relationship between corporate governance and financial distress, and analyze an effective corporate governance framework to solve the problem of financial distress, and abstain from it. The research will be conducted using eight proxy variables of the independent variable corporate governance namely: size of BOD, composition of BOD, ownership structure, capital structure, CEO Duality, segregation of duty , institutional ownership, managerial incentive schemes, and a dependent variable: Financial distress. The theories tested will be the organizational and agency theories while the model used will be the logistic regression.

## Literature Review

### Corporate Governance

Since the greatest financial distress situations in history has happened (Enron 2001, Lehman Brothers 2008, amongst others), corporate governance was taken more seriously. As a matter of fact, many analytical robust and models of the prediction of financial distress was developed from the base work of Altman (1968, 1982), Beaver (1966, 1968), and Ohlson (1980) together with others. Many researchers argue that accounting, economic

and financial data alone do not provide enough predictive power to determine future insolvency. Therefore, to improve the predictive power of models, it was found necessary to include factors of corporate governance and ownership (Wang & Deng, 2006; Fich & Slezak, 2008; Chang, 2009).

Several researchers have taken different corporate governance factors into account in their researches (Zingales, 1997; Gillan, 2005; Tsipouri and Xanthakis, 2004; Lazarides and Drimpetas, 2011; Nelson, 2014; Shahwan, 2015). However, it was found that some factors were agreed to be common, mainly the board of directors, ownership and capital structure, market competitions, and managerial incentives.

In this study, I will use the factors that can affect both the corporate governance and the financial position of the company. This includes: Size and composition of the board of directors, ownership structure, capital structure, and segregation of duty, managerial incentives schemes, institutional investors and CEO duality.

Ehikioya (2009) discusses that, a distinct and effective corporate governance can assist companies in attracting investments, raise funds, and strengthen the basis for corporate performance. Ehikioya (2009), and Mangena & Chamissa (2008) also states that, a good corporate governance protects a company from vulnerability of imminent financial distress. Okeahalam (2004) says that corporate governance has implications for growth and economic development.

Ehikioya (2009) also found that a good corporate governance structure induce higher performance, higher valuation, and lower risk of bankruptcy. Further studies on corporate governance and firm performance and valuation include Walker and Fox (2002), Gompers et al. (2003), Brown and Caylor (2004), Beiner and al. (2006) who argues the same point of view.

Lazarides and Drimpetas (2011) also argue that a strong corporate governance system is important to attract more investors. Investors will evaluate the country where the firm is, then the firm. Therefore most capital is invested in countries with strong corporate governance systems. But a firm with a strong corporate governance system may as well attract investors, even though it operates in a country that is not. It all differs on the evaluated risk of investing in a firm. Further studies on risk management include Bradley (2004).

On the other hand, poor corporate governance bring about poor performance among entities and dissatisfaction amongst shareholders (Baydoun et al, 2013).

Lee and Yeh (2004) also argues that weak corporate governance encouraged by certain type of board composition and ownership structure arise as a consequence to minority interest expropriation and reduces corporation value.

Hence, a good corporate governance is an important factor to the aspect of business success, such as the ease to raise capital by attracting investors, to maintain a good performance, to keep value of share prices, to reach shareholder's satisfaction, to maintain strong internal control that will encourage transparency and adequate information disclosure, to manage risk faced by the firm, and to abstain from financial distress and bankruptcy. All these are important factors for the success of a corporation and we will further discuss how to keep a good corporate as a tool to determine a successful financial health.

### **Financial distress**

Similarly to corporate governance, financial distress is also viewed differently by different researchers. As stated by Baldwin and Scott (1983, p. 505) "when a firm's business deteriorates to the point where it cannot meet its financial obligations, the firm is said to have entered a state of distress". They also add in that, the primary signals of distress are

typically violations of debt agreements together with the omission or reduction of dividends. Whitaker (1999) describes entrance into financial distress as the first year whereby cash flows are lower than the current maturities of long-term debt. As much as a firm has higher cash flows than its current debt obligations, it has enough funds its creditors. Elloumi and Guiyé (2001) identifies the key factor to determine whether a firm is in financial distress is its inability to fulfill its contractual debt obligations. However, from previous studies, we also learn that financial distress symptoms are not limited to default of debt obligations. Wruck (1990) argues that the entrance into financial distress of firms is an impact of economic distress, performance declines and poor management. Lee and Yeh (2004) views financial distress as when the net worth of a company drops below half of its capital stock.

Nevertheless, for the purpose of this research, financial distress is considered as firm's difficulty or inability to pay its debts and having trouble to obtain enough cash to fund its operations effectively or lacking enough cash to continue its operations as a going concern. Thus, in this perspective, financial distress occurs when a company is suffering from a shortage in its finances and its obligations to creditors are not met or are met with difficulty.

If financial distress is not resolved it may result in the firm's bankruptcy, liquidation or change in control. Corporate governance is viewed as the main factor that initiated the Asian financial crisis in 1997. Johnson et al. (2000) discusses that poor corporate governance affected macroeconomics variables and gave poor economic prospects, which worsens agency problems and caused currency depreciation and stock market crash.

Lee and Yeh (2004) on their research about the link between corporate governance characteristics and corporate financial distress found that there was positive relationship between corporate governance characteristics and risk of financial distress, and concluded

that companies with weak corporate governance have a high risk of falling into financial distress as they are vulnerable to economic downturns.

Another research conducted to study the liaison between corporate governance characteristics and financial distress status is that of Elloumi and Guiyé (2001). They concluded that the board composition explained financial distress beyond financial indicators, and external director's ownership and directorship also affect the chances of financial distress.

On the other hand, Lakshan and Wijekoon (2012) researched the extent to which corporate failure is related with corporate governance characteristics. They concluded that CEO duality is positively related to likelihood of corporate failure. The presence of an audit committee, the outside director ratio, and remuneration of the board members is negatively associated with the probability of corporate failure, while outside ownership, the board size, and outside opinion do not seem to be significant determinants.

Previous studies have shown that corporate governance characteristics can be used as a method for better prediction and resolution of financial distress. A study by Parker, Peters, and Turetsky (2002) investigates the association of numerous corporate governance characteristics and financial characteristics with the survival chances of distressed firms. They found that, corporate governance attributes influenced likelihood of survival. Companies that switched their CEO with an outsider, were two times more likely to experience bankruptcy; likewise, larger levels of block holder and insider ownership were found to be positively related with firm's survival. A further study by Fich and Slezak (2007) examines if corporate governance can save distressed firms from bankruptcy. They found that the corporate governance characteristics of a distressed firm significantly affect its probability of bankruptcy.

We can therefore conclude with evidence of previous researches that corporate governance factors can affect both, a firm falling into distress, or saving itself from bankruptcy once distressed; and effectively predicting financial distress for healthy firms and predicting likelihood of bankruptcy for distressed firms.

### **Theory and Hypothesis development**

#### **➤ Board size and composition, and CEO Duality**

The theoretical link between corporate governance and financial distress initiates from the organizational behavior theory literature. In declining periods, or under threat or in crisis, organizations are inclined to become more hierarchical and centralized in terms of management control (Staw et al., 1981). Daily and Dalton (1994a) argues that a centralized structure characterized by a combination of the CEO and board chairman with a large number of affiliated directors has some application to the relationship between governance structure and corporate bankruptcy. Centralization of authority is related to the agency problem (Brahm & Tarzijan, 2015).

Judge and Zeithaml (1992) argue that board involvement is positively related to firm's financial performance. The involvement itself may not be the cause but it does undeniably influence performance. Furthermore, they find that board size is negatively related to board involvement. As a number of researchers suggests that when a group gets too large, effective discussion and debate may be limited, and the interaction between individual members is lower. Thus, resulting in less involvement of board members and in a dysfunctional aspect of large boards (Harrison, 1987, Judge and Zeithaml, 1992). They also found that organizational age is positively related to board involvement as an organization experiences a varied range of circumstances overtime and organization members learn and develop a wide repertoire of skills. This is a factor that can be taken into account. Fich and Slezak (2007) suggests that a smaller board with a higher ratio of external

directors is more effective to avoid bankruptcy. Widening this reasoning to financial distress, we can assume that financially distressed firms have large boards and fewer outside directors. Hence, it is hypothesized that:

**H a.** Other things being equal, a board with less directors is negatively related to financial distress.

Based on this, we can argue that a smaller board composed of a large proportion of outside directors is effective in terms of monitoring and control of the firm and has improved discussions and debate between board members that leads to strategic decision making which is of big influence to the financial performance of the firm and to its distress status.

On the board composition insight, further researchers have denoted the same impact. Baysinger and Butler (1985) finds that firms above average performance have a higher proportion of outside directors than firms below average performance; thus the results indicate that financial performance is affected by the board composition. Gilson (1990) finds a change in the board composition following the start of financial distress. Hambrick and d'Aveni (1992) finds that firms approaching a bankruptcy filing have less outside directors in their boards. Judge and Zeithaml (1992) finds that insider representation on boards is negatively related to board involvement which in turn affects financial performance. Daily and Dalton (1994a) finds that firms with board of directors constituted by a lower ratio of independent directors and having the chief executive officer (CEO) acting as chairman of the board are more likely to go bankrupt. Elloumi and Gueyié (2001) finds that healthy firms have high proportion of outside directors on their boards, and audit committees composed entirely by outsiders. They concluded their research that the board composition explains financial distress. Additionally, Fich and Slezak (2007) concluded their research that a minor and more independent board with a high ratio of

external directors are more effective at avoiding bankruptcy once distressed is shown.

Thus, the findings of the board's association to financial performance, financial distress and bankruptcy just seem to be strengthened over time with different researchers on different population samples. An insider dominated board may be seen as a possible explanation to distress. Adding to the fact that the composition of a group affect the group's behavior on the strategic choice framework, we hypothesize that:

**H b.** Other things being equal, a board composed of a higher ratio of independent directors is negatively related to financial distress.

Based on the reasoning of previous researches, we can argue that a board composed of a higher ratio of outside directors aligns best the interest of shareholders which help to fight the agency problem and is effective to perform their fiduciary duties. Additionally, outside directors can contribute more to strategic decision making as they are not directly impacted by the company, which I can call: 'they can think straight on the matter'. Interestingly, a study conducted by Judge and Zeithaml (1992) supports this opposite involvement of inside directors by a stimulating comment from one of the CEO of a firm received from their interviews saying: "Inside directors are eunuchs. They contribute nothing to the board's strategic role because they are too worried about challenging my authority" (CEO of a textile company, Judge & Zeithaml, 1992). This comment is quite old but I find it very interesting in the sense that it can still be relevant in today's corporate world that I had to cite it again.

Adding to Daily and Dalton (1994a) findings, Fizzel and Louie (1990), and Millstein (1992), also adds up to the idea that when the board chairman is also the CEO, there is a lack of independence and there may be conflicts of interests as the board

concentration to monitor management will be reduced. The separation of CEO and chairman is seen as a balance of power and authority. No one individual has the unregulated power of decision. The chairman is responsible for the orderly conduct and working of the board, while the CEO is in charge of the overall operations of the company and implementations of the board's strategies and policies. As Dayton (1984) states that the board is in charge to push the company towards achieving shareholder's opportunities and meeting their obligations, and the CEO enables the board in their primary responsibility. Furthermore, Rechner (1989) specified that the weakest corporate governance is one whereby the board is dominated by inside directors and where the CEO is also the Chairman of the board. The Cadbury Committee (1992) recommends separation of board chairman and CEO duty.

However, even though the literature seem this to support this board structure, Nahar Abdullah (2004) argues that combining the chairman and CEO role gives a clear emphasis of the objectives and operations while enabling decisions to be reached faster as the person has the picture of the entire situation. Brickley et al. (1997) has shown that separation of CEO duality has both costs and benefits, and that for large corporations costs were seen to be higher due to inadequate transfer of company information and confusion to whom runs the company. This could affect the performance of a firm. However, we will proceed with reasoning of Daly and Dalton (1994), Rechner (1989), and others.

From this perspective, we propose the following hypothesis:

**H c.** Other things being equal, a CEO duality structured board has is significantly related to the financial distress status of a firm.

Based on the reasoning that independent directors are viewed to be effective for strategic decision making as supported by previous researchers discussed above, and

agreeing to Rechner's (1989) view of weak corporate governance where the CEO is also the chairman, I introduced another variable called segregation of duty. Segregation of duty is seen as the amount of duty an executive has and the freedom of information and action on both duties. Based on the reasoning of the above discussions and the fact that a lack of segregation of duties can increase the probabilities of fraud (rationality from case studies such as Enron, Perwaja Steel, etc.), it is hypothesized that:

**H d.** Other things being equal, a low level of segregation of duties is positively associated with financial distress.

#### ➤ **Ownership Structure**

Ownership structure studies the main shareholders of a firm. Shares of a firm can be owned by institutions, management, and private shareholders. It also addresses the concentration of shareholders ownership to a firm's total outstanding shares. A firm with concentrated ownership will have large shareholders that own considerable amount of shares. This large shareholders form an important financial investment in the company and would like to increase the value of their holdings. Shareholders with large ownership stakes can use their voting power to influence strategic decision making (Wright et al., 1996). Similarly, large shareholders can monitor management behavior and firm performance so to protect their investments (Alchain & Demetz, 1972). Shleifer and Vishny (1986) also suggests that only large shareholders have the power to closely examine the management or performance of a firm. Typically, concentrated ownership firms are composed of those large shareholders that are active in the role of quality monitoring. This will decrease the opportunistically behavior of management and add constraints to their self-driving behavior that may be unprofitable for the company as they will fear being discovered and the possibility of loss of employment (Kroll et al., 1993; Li, Wang & Deng, 2008).

Thus, large shareholders are seen to influence and increase a firm's value. Based on this reasoning and the above arguments from past researchers, it is hypothesized that:

**H e.** Other things being equal, ownership concentration is negatively related to financial distress.

For the purpose of this research, ownership concentration will be measured in two ways: first by the ratio of the largest ownership to the total shareholdings, and by the the top ten largest shareholders as a ratio to total shareholdings.

#### ➤ **Capital structure**

The capital structure relate the type of financing a firm uses. Agency costs can affect the type of financing a firm choses as demonstrated by many theories. The Pecking Order Hypothesis (POH) suggests that there is an information asymmetry between managers and outside investors, whereby managers are more informed about a firm prospect while outside markets tend to undervalue stock offerings (Myers & Majluf, 1984). This information asymmetry will create problems whereby managers are at liberty to pursue their own interests at the cost of external investors. Investors, as a predictive measure will reduce the firm's stock price (Myers & Majluf, 1984). It is argued that debt financing is not significantly affected by information asymmetry and thus the discount on firm's stock price (Mande, Park and Son, 2012). The POH theory suggests that equity financing will be used as a last option after internal funding and debt financing. This arguments shape our thoughts that a firm with high agency costs will tend to use more debt financing.

However, debt financing has major obligations such as paying periodically interest rates. A slight diminution in firm's value can lead to default on debt financing obligations of highly leveraged firms. Several past researchers have hypothesized that a highly leveraged firm, that is comprised a higher levels of debt than equity is more

likely to being distressed or going into financial distress (Altman, 1968; Platt & Platt, 1990; Elloumi & Gueyié, 2001; Lee & Yeh, 2004, Polsiri & Sookhanaphibarn, 2009). Additionally, Gilson (1990) investigated the few years of firms prior to the onset of financial distress and found that they had many directors who were credit block holders. An organization financed by a high level of debts tends to have or create more agency costs and potential risk of manipulation of figures. It is also argued that equity financing is effective to reduce agency costs between investors and managers and thus reduces the likelihood of financial distress (Vivek, Young, and Myungsoo, 2012) Thus, based on the reasoning of the above arguments, it is hypothesized that:

**H f.** Other things being equal, highly debt financed firms tend to increase the likelihood of financial distress.

➤ **Managerial incentives schemes**

For this research, managerial incentives are described as the total compensation management receives to the earnings achieved and to the equity incentives to directors and executives to reward and improve their performance. Managerial incentives are important to align interests of owners and managers. Some mechanisms has been argued to work best such as giving the option to managers to own shares from the firm. This will motivate managers to be transparent and to feel part of the company therefore having common interests as shareholders to the success of the firm and higher returns which as a results decreases agency costs. Based on the agency theory, it argues that a firm with high shareholdings by management would reduce agency costs (Jensen & Meckling, 1976). This would reduce the likelihood of financial distress on such firms. Judge and Zeithaml (1992) recognizes that stock ownership by directors is a significant determinant to the strategic involvement of the board of directors and has influence on the board behavior. Donker, Santen and Zahir (2009), also argues that managers with

shareholdings tend to align their interest with those of their shareholders to reduce agency costs. In fact, Parker et al. (2002), finds that insider ownership is more effective to align the interests of management to see through and recover from periods of distress. Additionally, Elloumi and Gueyié (2001) researched on both healthy and distressed firms and found that healthy firm's boards and audit committee appear to have more external block holders, implying the lower ratio of internal block holders in distressed firms. Likewise, Parker, Peters, and Turetsky (2002) found that larger levels of block holder and insider ownership were found to be positively related with firm's survival once distressed. Fich and Slezak (2007) also concluded their research that a board with larger ownership stakes of inside directors is more effective at avoiding bankruptcy once distressed is shown. A company having a larger ownership stakes of inside directors is more effective at avoiding financial distress or has higher chances of saving itself from bankruptcy when distressed. This is because owners of the business will be directly affected if the firm was to collapse, they will lose their jobs but also their investments, therefore they will have more motive to fight against financial distress and assure to get back its smooth performance. Based on the above arguments, it is hypothesized that: **H g.** Other things being equal, managerial share ownership is negatively associated with probability of financial distress.

➤ **Institutional Ownership**

Institutional ownership relate to the firm's ownership and financing that is from institutions such as banks and institutional funds. Donker, Santen and Zahir (2009) suggest that institutional shareholdings are not interested in the short term performance of a firm, but rather it focuses on its long term performance and helps management to achieve it. Daily and Dalton (1994) found that institutional ownership reduces bankruptcy risk. However, researchers such as Gillan and Starks (2000), do not support this view and

instead suggests that institutional investors do not have the expertise to advise managers. Romano (2001) also suggests that the influence of institutional investors on firm performance is doubtful. Firth et al. (2005) found that large institutional ownerships prevent managers to manage earnings. However, institutional shareholders are seen to keep good relationship with the firms they invest in. Donker, Santen and Zahir (2009) suggest that institutional shareholders tend not to vote against current management as they fear to lose their business relationship. Larger block holders also tend to receive private corporate benefit that do not ensue to other shareholders as is suggested by Barclay and Holderness (1989). Thus, passive investors are rewarded for helping to establish current management. On the reasoning that institutional ownership are far more interested in the long term performance of a firm and actively supports management to achieve high performance supported by various previous studies, it is hypothesized that:

**H<sub>h</sub>.** Other things being equal, larger institutional ownership is negatively associated to financial distress.

#### **a. Data and Methodology**

##### **Sample selection and data collection**

The sample used in this research consist of a matched sample of 57 distressed and 57 healthy firms of a total of 114 public listed companies from 10 countries as shown in figure 2. The company name lists of distressed firms was taken from financial news websites such as The Street, The Middle Market, Business Insider, further were taken from SEC filings, and for Malaysia on the PN 17 company list from Bursa Malaysia website. The distressed firms available from the lists had to match to following criteria in order to be selected:

1. **Condition:** a company is considered 'distressed' when its earnings before interests and taxes (EBIT) is negative or lower than its financial expenses for the years 2013, 2014, 2015.

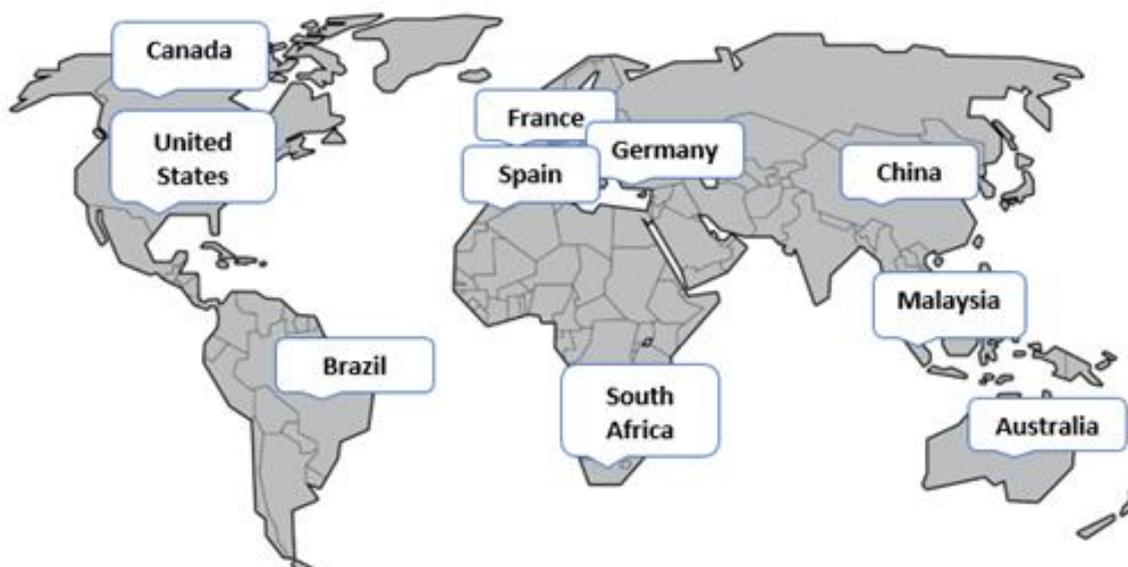
After selecting the 57 distressed firms from the 10 countries, a matched sample of healthy firms was also selected. The matching criteria as below had to be realized for the selection.

1. **Condition:** a company is considered 'healthy' when it has positive earnings before interests and taxes (EBIT) and it is higher than its financial expenses for the years 2013, 2014, 2015.
2. **Industry:** The healthy firms selected had to be in the same industry as the distressed firms.
3. **Country and Time horizon:** a healthy firm that has fulfilled the criteria in (1) and (2) will finally be selected if it is found to be in the same country as its matched distressed pair and if its financial statement and proxy data are available in the time frame of this research (2013-2015).
4. In total, 114 public listed companies consisted our final sample where all selected companies had to have available information for data collection for this research time frame: 2013, 2014, and 2015. Data were collected from annual reports specifically, financial data were collected from financial statements, while corporate governance data from proxy statements. The annual reports were collected from the selected companies' official websites. In the case where annual reports were not available in their official websites, relevant data to this research scope were then collected from Morningstar and Nasdaq.

Only public listed companies were considered in this research because their information is easily and publicly available as they have to disclose detailed financial conditions, management compensation, operating results, and other parts of their business as per the SEC and Sarbanes Oxley Act disclosure laws. Additionally, they must comply to the minimum corporate governance requirements to be listed. This will enable our research to also have a viewpoint to the effectiveness of corporate governance requirements by

Security Commissions of the selected countries and determine whether the Acts that came in place to enforce corporate governance, such as the Sarbanes Oxley Act, were effective. Additionally, for the healthy

firms chosen, most were taken from the fortune 500 companies to study the corporate governance structures that could have influenced their high success.



**Figure 2:** Selected sample

### Test Specification

For this study, logistic regression model is used to determine the influence of corporate governance on financial distress. The reason why logistic regression is chosen is due to its ability to predict a discrete outcome from a dichotomous set of variables and its flexibility as it gives no assumptions about the distributions of the predictor variables (Robert Ho, 2014). Furthermore, it is a model commonly used in various previous researches on the same topics (Elloumi and Gueyié, 2001; Manzanque, 2015). This appropriate for this research because our dependent, Financial Distress, is dichotomous as it takes the value of either Distressed or Healthy. The independent variable may not be

normally distributed due to its complexity and wide spread context. Additionally, logistic regression will enable us to identify the relationship and strength between variables under study and to predict the outcome that can affect the probability of a condition occurring (Healthy/Distressed). Likewise, Maddada (1991) suggests that logistic regression is the appropriate model to use when the research consist of disproportionate sampling from two populations (healthy and financially distressed populations).

The following logistic regression model is used to test the hypothesized relations between corporate governance attributes and financial distress:

$$\text{Financial Distress}_{it} = \alpha + b1 \text{ Financial leverage} + b2 \text{ Liquidity} + b3 \text{ Total Assets} + b4 \text{ Times Interest Earned} + b5 \text{ Return on Sales} + b6 \text{ Leverage} + b7 \text{ BOD size \& composition} + b8 \text{ Ownership structure} + b9 \text{ Capital structure} + b10 \text{ CEO Duality} + b11 \text{ Managerial incentive schemes} + b12 \text{ Institutional Ownership} + b13 \text{ Segregation of duty} + \epsilon_{it}$$

change in the dependent variable (financial distress) for one unit change in each independent variable.

### Dependent Variables

The dependent variable of this research is Financial distress which has two possible values of the 'distress state' marked as 'Distressed/Healthy' and coded as '1' for Distressed and '0' for Healthy. The independent variables discussed below will analyse the difference in the characteristics of the two values and test its accordance to the hypothesis formed.

### Independent variables

There are eight variables of interests in this research including, BOD size which represents the number of directors of the board of directors in a corporation, independence ratio represents the composition of the directors of the board, whether dependent or independent / executive or non-executive directors. CEO Duality is a dummy variable which takes the value Dual/Separate recorded as '1' for Separate and '0' for Dual. Segregation of Duty represents the separation of tasks executives are in charge of calculated by the number of duty of each executives. The ownership structure measures the concentration of ownership, how the equity of a firm is structured. It is measured by two variables: Largest shareholder measured as a percentage of the largest shareholder ownership to total shareholdings of a firm, and Top 10 SHAR which represents the top 10 shareholders measured as a percentage of the top 10 shareholders to total shareholdings of a firm. Capital Structure represents the separation of debt and equity financing measured by the debt to equity ratio (Total liabilities/equity). Managerial incentives schemes represents schemes to encourage managers to act ethically and in the best interest of the company and its shareholders. It measured by the total executive compensations EX COMP which includes remuneration+bonus+ other compensations, and equity incentives to

management (Equity INC MGNT) measured by the percentage of shares held by my executives and management to total shareholdings. Lastly, is the institutional ownership (INST OWN) which represents the percentage of institutional investors in a firm. This includes banks, mutual funds, investments companies, insurance companies, and every entity that falls within the definition. It is measured by the percentage of total institutional shareholdings to total outstanding shares of a firm.

### Accounting indicators

Previous researchers have recognized accounting indicators that relate to the probability of financial distress (Turetsky, 2002). Six of these indicators will be reexamined in our research while taking into account the corporate governance influences. The financial indicators included in this research are as below:

1. **Firm size:** larger firms indicate low likelihood of bankruptcy thus, financial distress. This is because larger firms can utilize its assets to endure periods of poor performance. It has also been discussed from previous researches that larger firms are able to come through periods of adversity (Turetsky, 2002). The firm size is measured by the firm's total assets.
2. **Financial risk:** the financial risk measure the ability of a firm to obtain financing in time of distress. It is calculated by dividing leverage which is referred as the debt ratio (total liabilities/total assets) by the interest, referred as the Times Interest earned (EBIT/ Interest expense). A high rate will indicate that the firm is incapable to recover from financial distress.
3. **Liquidity:** previous researches suggest that liquidity is a direct determinant to the firm's ability to endure periods of reduced cash flows. It is measured by computing current assets and current liabilities (current

ratio). Thus, a higher rate is preferable as it is seen to be negatively related with financial distress.

4. **Profitability:** previous researches also posit that profitability measures the ability of a firm to recover from financial distress. It is measured by the return on sales (ROS) computed by dividing EBIT (earnings before interests and taxes) over Sales. Thus, a higher ROS rate is positively associated with recovering from financial distress.
5. **Solvency:** the solvency of a firm is measured by the ability of a firm to pay its financial costs. This is measured as the Times Interest Earned (TIE) calculated by dividing EBIT over Interest expenses or financial costs. A low or negative value will indicate the difficulty of a firm to settle the interest payments on its debts funding.
6. **Leverage:** leverage is also considered as a solvency ratio that is measured by the debt ratio (total liability/total assets). The reason why the TIE and Leverage are considered as solvency ratios, is because when a firm is unable to pay the interests on its debt financing and unable to pay its liabilities it can be considered as bankrupt and will have to go in liquidity to pay its debtors and remaining to its shareholders. Thus, a highly leveraged firm is most probable to be financially distressed.

### Empirical Findings

Descriptive statistics from paired T Test and results from mean differences on variables are shown in Table 1. The results indicate that the board size of distressed firms is slightly smaller (8.13) than that of a healthy firm (9.68). The independence ratio in healthy firms is higher than distressed firms showing a result of 72.9% in healthy firms compared to 60.4% in distressed firms. The CEO duality is most common in distressed firms representing a mean of 82% compared to 68% in healthy firms. Segregation of duty is higher in healthy firms with a lower value of 1.4 which depicts most executives had less responsibilities on their tasks, compared to 1.9 for distressed firms. The executive compensation for distressed firms was very low compared to healthy firms with a value of -0.3 for distressed firms, compared to 39.6 for healthy firms. It is seen that managers in healthy firms were awarded with more equity with a value of 7.9% compared to 5.3% in distressed firms indicating larger inside ownership in healthy firms. However, the largest shareholder is slightly bigger in distressed firms with a value of 22.2% compared to 21.4%. The top 10 shareholders were bigger in healthy firms indicating a value of 56% compared to 51.6% in distressed firms. Institutional ownerships were higher in healthy firms indicating a result of 53.6% compared to 38.7%.

**Table 1:** Paired T Test statistics

**Paired Samples Statistics**

Variables	Mean	N	Std. Deviation	Std. Error Mean
Pair 1				
BOD Size Distressed	8.132	57	3.2794	.4344
BOD Size Healthy	9.68	57	3.007	.398
Pair 2				
Independence ratio Distressed	60.3921%	57	24.63896%	3.26351%
Independence ratio Healthy	72.8714%	57	19.09316%	2.52895%
Pair 3				
CEO Duality Distressed	.82	57	.384	.051
CEO Duality Healthy	.68	57	.469	.062
Pair 4				
Segregation of Duty Distressed	1.872	57	.9254	.1226

	Segregation of Duty Healthy	1.367	57	.4465	.0591
Pair 5	EX COMP Distressed	-318704086163	57	1.469821881672	.1946826641398
				6	
	EX COMP Healthy	39.5507844276	57	296.0611301042	39.2142546492332
		84		566	
Pair 6	Equity INC MGNT Distressed	5.3267%	57	12.08490%	1.60068%
	Equity INC MGNT Healthy	7.9222%	57	11.76970%	1.55893%
Pair 7	Largest Shareholder Distressed	22.1049%	57	19.56352%	2.59125%
	Largest Shareholder Healthy	21.3623%	57	19.01551%	2.51867%
Pair 8	Top 10 SHAR Distressed	51.5595%	57	24.32795%	3.22232%
	Top 10 SHAR Healthy	55.9563%	57	19.47840%	2.57998%
Pair 9	INST OWN Distressed	38.6875%	57	27.55366%	3.64957%
	INST OWN Healthy	53.6374%	57	33.94664%	4.49634%
Pair 10	Total Assets Distressed	24364619.5541	57	64185717.54181	8501605.97455737400
		2281300		6790000	0
	Total Assets Healthy	34286528.9122	57	53411170.70639	7074482.38293467000
		80700000		64460000	00
Pair 11	TIE Distressed	686.775422342	57	5252.087482778	695.65598130769
		1		84	
	TIE Healthy	117.968609992	57	737.2081949845	97.645610815061
		25		96	
Pair 12	Debt Ratio Distressed	.8067300551	57	.84683493520	.11216602728
	Debt Ratio Healthy	.5177166044	57	.23917685297	.03167974808
Pair 13	Current Ratio Distressed	1.9577285468	57	3.24536468442	.42985905350
	Current Ratio Healthy	2.2469081784	57	1.52789863268	.20237511773
Pair 14	ROS Distressed	-	57	38.90499554592	5.1530925452052
		6.55334203186		74	
		1			
	ROS Healthy	.096839580730	57	.6068494220748	.0803791695404
Pair 15	Financial Risk Distressed	.102828154363	57	1.348614305117	.1786283284329
				8	
	Financial Risk Healthy	1.96621922118	57	13.58264866138	1.7990657646646
		3		16	
Pair 16	Debt to Equity Ratio Distressed	.87888135977	57	13.17491606920	1.745060263528
				7	
	Debt to Equity Ratio Healthy	1.7214845054	57	2.11406739836	.28001506741

Going into the financial indicators, total assets were higher for healthy firms indicating a value of 34 million compared to 24 million in distressed firms. The TIE value is way higher in distressed firms (686.7) showing its

inability to pay interest with its EBIT, compared to a value of 118 for healthy firms. The debt ratio is also higher for distressed firms showing a value of 80.7% compared to 51.8% for healthy firms, indicating that

distressed firms were comprised of higher liabilities than assets. The current ratio is higher for healthy firms with a value of 224.6 % compared to 195.7% for distressed firms, indicating that healthy firms were more liquid. The return on sales (ROS) was also higher for healthy firms with a result of 9.7% compared to -655% for distressed firms, indicating that healthy firms could generate more earnings from its sales. The financial risk value is lower for distressed firms (10.3%) compared to 196.6% for healthy firms, indicating the increased ability to obtain financing in periods of distress for healthy firms. Finally, the debt to equity ratio is higher for healthy firms with a value of 172% compared to 87.9% for distressed firms, indicating healthy firms used more debt to finance its assets relative to equity than distressed firms.

Table 2 shows results from logistic regressions conducted in SPSS Statistics version 19 to test hypothesis H1 to H8 at a 1% significance level.

**Dependent Variable Encoding**

Original Value	Internal Value
Distress	1
Healthy	0

**Case Processing Summary**

Unweighted Cases <sup>a</sup>		N	Percent
Selected Cases	Included in Analysis	114	100
Missing Cases		0	0
Total		114	100
Unselected Cases		0	0
Total		114	100

a. If weight is in effect, see classification table for the total

number of cases.

**Omnibus Tests of Model Coefficients**

		Chi-square	df	Sig.
Step 1	Step	78.205	15	0
	Block	78.205	15	0
	Model	78.205	15	0

The omnibus test of model coefficient table aboveshow the inclusion of the fifteen predictor variables and generated a chi-square of 78.2, df of 15, and  $p < 0.001$ . This indicates that our model is statistically significant, implying that the addition of the fifteen predictor variables into our model has increased the ability to predict whether a firm is distressed or healthy.

**Model Summary**

	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
Step 1	79.833 <sup>a</sup>	0.496	0.662

a. Estimation terminated at iteration number 14 because parameter estimates changed by less than .001.

The model summary above represents the -2 log likelihood statistic, which measures how defective the model is in predicting the variations in the desirable outcome (distressed/ healthy). The -2 log likelihood was decreased after adding the 15 predictive variables from a base rate of 158.038 (79.833 + 78.205) from achi-squared distribution, to 78.2, with a df of 15 which indicates better model fit and is exceedingly significant as:  $p < 0.001$ . The goodness of fit for logistic models can also be assessed through the pseudo R square which includes the cox & snell  $R^2$  (0.496) and the negelkerke  $R^2$ (0.662) showing higher values indicating better model fit.

Variables in the Equation

	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							Lower	Upper
Step 1 <sup>a</sup>								
BODsize	.209	.112	3.482	1	.062	1.232	.990	1.535
Independenceratio	.027	.020	7.830	1	.002	1.027	.988	1.068
CEODuality	-1.802	.764	5.563	1	.018	.165	.037	.737
SegregationofD	-3.165	.878	13.001	1	.000	.042	.008	.236
EXCOMPtoEBIT	5.098	2.466	4.272	1	.039	163.679	1.302	20580.090
EquityincentivetoMG	.025	.030	.653	1	.419	1.025	.966	1.088
LargestSHARratio	.031	.030	6.084	1	.003	1.032	.973	1.094
Top10OWN	-.018	.025	5.499	1	.005	.982	.935	1.032
INSTOWN	.030	.014	4.234	1	.004	1.030	1.001	1.060
TIE	.000	.000	.034	1	.853	1.000	.999	1.000
DebtRatio	-3.186	1.545	4.249	1	.039	.041	.002	.855
Currentratio	-.033	.183	.033	1	.855	.967	.676	1.384
ROS	.875	.532	2.709	1	.100	2.399	.846	6.801
Financialrisk	-.054	.570	.009	1	.924	.947	.310	2.893
Debttoequityratio	.001	.037	4.008	1	.098	1.001	.930	1.077
Constant	2.901	2.443	1.410	1	.235	18.196		

a. Variable(s) entered on step 1: BODsize, Independenceratio, CEODuality, SegregationofD, EXCOMPtoEBIT, EquityincentivetoMG, LargestSHARratio, Top10OWN, INSTOWN, TIE, DebtRatio, Currentratio, ROS, Financialrisk, Debttoequityratio.

**Table 2: Logistic Regression results**

The Wald statistics is used to test the statistical significance of each coefficient ( $\beta$ ) in our model. Precisely, the Wald chi-square statistics tests the unique influence of each predictor variable while keeping other predictors constant. The table above shows results for each predictor variable.

In the basis of the Wald test, five predictors are found to be significant predictors. The independence ratio,  $\beta=0.27$ , Wald  $x^2$  (df = 1) = 7.8,  $p < 0.01$ ; segregation of duty,  $\beta= -3.165$ , Wald  $x^2$  (df = 1) = 13,  $p < 0.01$ , largest shareholder  $\beta=0.31$ , Wald  $x^2$  (df = 1) = 6.08,  $p < 0.01$ , top 10 shareholders  $\beta= -0.18$ , Wald  $x^2$  (df = 1) = 5.49,  $p < 0.01$ , and the institutional ownership  $\beta=0.3$ , Wald  $x^2$  (df = 1) = 4.234,  $p < 0.01$ . These results imply that healthy firms have high tendency of having higher independent ratio on their board, executives are more segregated to their duties, having a higher concentration of ownership, and larger institutional owners. The opposite would imply for distressed firms.

Further results to the above table can be interpreted by the odds ratios. The odd ratio is a measure which indicates the risk of a subject

that is exposed to the predictor variable and its likelihood to develop the outcome compared to the subjects not exposed to it. The odds ratio are shown in the Exp(B) of the Variables in equation table above. The odd ratio for independence ratio is 1.027, given that the relationship between independence ratio and financial distress status is 0.027. This implies that higher independence ratio scores decreases the odd ratio of not being financially distressed. This supports our second hypothesis (hypothesis b).

For segregation of duty, the odd ratio 0.42 while the relationship between segregation of duty and financial distress is -3.165. This indicates that higher segregation of duty scores decreases the odd ratio of not being financially distressed which supports our third hypothesis (hypothesis c).

For the largest shareholder and top 10 shareholders, the odds ratio are 1.032 and 0.982, respectively, while their relationship to financial distress status are 0.31 and -0.18 respectively. This implies that higher concentration of ownership reduces the odds ratio of not being financially distressed. This

supports our hypothesis d that concentration of ownership is negatively related o financial distress.

For institutional ownership the odd ratio is 1.03 while its relation to financial distress status is 0.3. This implies that higher institutional ownerships tends to decrease likelihood to financial distress. This would support our hypothesis g.

The same interpretation of the odds ratio would apply for the rest of variables at different scales, however, the significance is not below 0.01. Thus, the rejection of the hypothesis.

### **BOD Size**

In this research, we found a significant difference between the board sizes of distressed firms and healthy firms from the Paired T test. However, in the logistic regression there was no significant influence of the board size to financial distress. Hypothesis (a) concerning BOD Size was therefore rejected as the p-value was above 0.01.

The results were similar to Lakshan and Wijekoon (2012) who found the board size not to be a significant determinant. However, results were different to Fich and Slezak (2007), Harrison, 1987, Jensen (1993), Yermack (1996). This may be due to difference of sample selection. However, I believe that the BOD size needs more research on it than the ones in place. This is because, in this research, distressed firms were found to have extremely small board size to a case of 1 director. This was not common in healthy firms. Furthermore, some distressed firms were also found with extremely big boards to 18 members. So, I believe the board size is important to its financial performance but the right size needs to be established than simply saying 'less' or 'more'. Thus, further research could be conducted to enlighten on this topic.

### **Composition of the BOD**

For the board composition, both the paired T test showed a significance difference between the distressed and healthy firm and the logistic regression. The p value was of 0.002 which is below 0.01. Thus, hypothesis (b) was accepted. Highly independent board were found to be more effective to a better performance of the firm and from abstaining from financial distress. Thus, maintaining independence in the boards is a good measure to overcome financial distress.

Our results are similar to many previous researchers including, Baysinger and Butler (1985), Gilson (1990), Hambrick and d'Aveni (1992), Judge and Zeithaml (1992), Daily and Dalton (1994a), Elloumi and Gueyié (2001), Salloum and Azoury (2011). All these researchers have concluded that the board composition affects firm performance and a board with a lower ratio of independent directors were most likely to face financial distress.

We have proved once again, that higher ratio of independent directors are effective to strategic decision making and to better performance of a firm thus abstaining from likelihood of financial distress.

### **CEO Duality**

Our results showed that this hypothesis did not hold true based on our sample. The p-value for CEO duality was of 0.18 which is above 0.01. Thus, hypothesis (c) was rejected.

The argument about CEO duality is big and different researchers have found difference of opinions about its relationship to financial distress. However, our results coincide with that of Nahar (2004), Brickley et al. (1997), among others, and differs from Daily and Dalton (1994), Rechner (1989), Fizzel and Louie (1990), and Miller (1997), among others.

However, through the knowledge gained from this research, many firms have employed CEO duality in the recent years. From firm's annual reports, many firms which employed

CEO duality found that it was more effective to run both their board and management and to increase its performance. Additionally, many large firms in our sample with a strong financial position did have a CEO duality structure. Thus, I find that this topic has a different effect in this new decade. More in depth research needs to be conducted for this purpose.

### **Segregation of duty**

Our results shows that this variable is a very strong determinant of financial distress. The p-value was of 0.00 which is lower than 0.01. Thus, hypothesis (d) was accepted.

The rationalization for this variable coincide with that of Rechner's (1989), and from case studies such as Enron, and Perwaja among others. However, this variable was not yet tested from previous researchers to my knowledge.

Our results indicates that segregation of duty was the most significant predictor of financial distress with it being was low in distressed firms. In most cases, the managers who followed their own interest has an opportunity. From the fraud triangle, opportunity is a factor that influences fraud. And fraud indicates a weakness in corporate governance. For one healthcare company in US in our sample, the CEO was also the CFO, principal accounting, director, and president. This firm was highly insolvent. Firm executives who were dutiful of less positions were found to be more effective in maintaining and improving the performance the organization. Furthermore, this is a positive measure to reduce possibilities of fraud and agency costs borne by the open opportunity of managers to enrich themselves through using the various methods they are entitled with by their different positions. Thus, segregation of duty is an important factor to abstain from financial distress.

### **Ownership Structure**

Hypothesis (e) was accepted as the p-value was lower than 0.01 indicating a significant relationship between ownership structure and

financial distress. It was found that highly ownership concentration in firms was negatively related to financial distress. A large with large ownership stakes by large shareholders were seen to have better performance. This high concentration of ownership was effective to keep firms from being financially distressed.

The results agree with that of Wright et al. (1996), Alchain & Demetz, (1972), Shleifer and Vishny (1986), Kroll et al., (1993) and Li, Wang & Deng, (2008), among others.

Thus, it is concluded that firms with high ownership concentration had low probability to face financial distress. This is because large shareholders tend to be active in the management of a firm and since they have high interests in the particular firm, they would also take any necessary measures to ensure the firm is performing well.

### **Capital Structure**

Hypothesis (f) was rejected due to its lower significance with a p-value above 0.01. From this research, it is found that capital structure is not a significant determinant of financial distress.

Our results differ from that of Altman(1968), Platt & Platt, (1990); Elloumi & Gueyié, (2001); Lee & Yeh, (2004), among others.

In some context, debt financing is seen to be cheaper than equity financing on the grounds that debt financing include payments of constant interest rate. On the other hand, for equity financing, shareholders of common shares receives dividends based on the earnings of a firms. Thus, some firms may prefer debt financing to equity financing. The Pecking Order Hypothesis (POH) also suggests this preference by managers (Mande, Park and Son, 2012).

This difference of context and difference in sample size could have resulted in the difference of results.

### **Managerial Incentive schemes**

Hypothesis (g) was rejected as it brought a p-value above our significance level of 0.01. Our results indicates that there is no significant relationship between managerial incentive schemes and the low likelihood of financial distress.

Our results do not agree with that Parker et al. (2002). Other researchers argued that managerial ownership tend to decrease agency costs (Jensen & Meckling, 1976; Donker, Santen and Zahir, 2009. Since our results does not show a significant relationship with financial distress, we conclude that it is not a strong determinant of financial distress.

### **Institutional Ownership**

Hypothesis (h) was accepted as its significance fell below 0.01. This depicts that firms with large institutional ownerships were less likely to go bankrupt.

Our results agree with that of Donker, Santen and Zahir (2009), Daily and Dalton (1994), and disagree with as Gillan and Starks (2000).

Firms with large institutional ownerships were seen as better performing. Gradually, this is because institutional investors would keep a close relation with the management while trying to influence better performance. Institutional investors would not just invest in any firm, rather it selects firms with high probability of success. Additionally, after they have invested in a firm, they will be more interested to its long term good performance. Institutional investors can also give advices and supports management to achieve high performance. This is now interpreted to be a good measure to abstain from financial distress.

### **Conclusion**

The current research was conducted to study the factors that could predict and affect financial distress with the aim to improve corporate governance as a tool to overcome financial distress. A more international view was taken into account by the use of samples

from 10 countries of which 114 firms. The sample constituted of 57 distressed firms and 57 healthy firms. The variables considered in this study totaled to eight and included: BOD size, composition of the board, segregation of duty, CEO duality, managerial incentive schemes, ownership structure, capital structure, and institutional ownership. Those were proxy variables from corporate governance, our independent variable, while the dependent variable was financial distress. From the results of the logistic regression, it was found that composition of the BOD, segregation of duty, ownership structure, and institutional ownership were significant variables to the prediction of financial distress. On the other hand, CEO duality, capital structure, size of the board, and managerial incentives were not significant factors for the same.

Segregation of duty was found to be an important factor to abstain from financial distress. Similarly, maintaining independence in the boards was found to be a good measure to overcome financial distress. High concentration of ownership was effective to keep firms from being financially distressed. Institutional ownership was seen as a good measure to abstain from financial distress.

Financial distress is a complex topic and different structures can be seen to be better in arriving at a high performance, and at abstaining from financial distress from different firms, better than others. This research has made us to conclude that many more variables come into consideration when predicting financial distress. Because this is an international research, it is concluded that different types of corporate governance factors worked differently in different countries. For example, the non-significant variables like the board size, CEO duality, managerial incentive schemes, and capital structure, worked differently for different firms. Some firms viewed a large board size better for their performance and other viewed smaller boards as effective. The question here on what size is better remain unanswered as

this differ total from firms, depending on its size, and structure. The CEO duality also works different for different firms, however, it is seen in today's age larger firms preferred the CEO duality. This is showed by the larger number of CEO duality in healthy firms of 18 out of a total of 28. From those 18 that had CEO duality include large and successful companies such as Amazon, Schlumberger, Boeing, Estee Lauder, and Orange, among others. The capital structure also differs as some companies prefer debt over equity for reasons as its lower costs and its ability to retain the excessive money after paying interests.

This study can benefit companies, company's stakeholders, and governments on the perspective that it innovates a corporate governance structure to resolve and abstain from the problem of financial distress which can help to strengthen corporate governance systems and improve performance. Furthermore, it will enable investors to enhance their knowledge on the evaluation of firms they want to invest in, while also benefit financial analysts and accounting professionals to improve their decision procedure, give sound financial advices to the persons seeking them, and improve their evaluation of distressed firms.

The limitations to this research includes limited sample size and limited corporate governance factors to the theory used. More factors could be taken into account such as federal regulators, adequate information, and transparency. Further researchers can pursue the attempt I tried to maneuver and further focus on the international perspective of corporate governance and financial distress as past researches have lack a more global view of this topic.

#### References

- [1] Agyei-Mensah, D. (2015). The Determinants of Financial Ratio Disclosures and Quality: Evidence from an Emerging market. *ijafr*, 5(1).
- [2] Baydoun, N., Maguire, W., Ryan, N. and Willett, R. (2012). Corporate governance in five Arabian Gulf countries. *Managerial Auditing Journal*, 28(1), pp.7-22.
- [3] Brahm, F. and Tarzijan, J. (2015). Toward an integrated theory of the firm: The interplay between internal organization and vertical integration. *Strategic Management Journal*, 37(12), pp.2481-2502.
- [4] Brédart, X. (2014). Financial Distress and Corporate Governance around Lehman Brothers Bankruptcy. *IBR*, 7(5).
- [5] DAILY, C. and DALTON, D. (1994). BANKRUPTCY AND CORPORATE GOVERNANCE: THE IMPACT OF BOARD COMPOSITION AND STRUCTURE. *Academy of Management Journal*, 37(6), pp.1603-1617.
- [6] Daily, C. and Dalton, D. (1994). Corporate governance and the bankrupt firm: An empirical assessment. *Strategic Management Journal*, 15(8), pp.643-654.
- [7] Donker, H., Santen, B. and Zahir, S. (2009). Ownership structure and the likelihood of financial distress in the Netherlands. *Applied Financial Economics*, 19(21), pp.1687-1696.
- [8] Ehikioya, B. (2009). Corporate governance structure and firm performance in developing economies: evidence from Nigeria. *Corporate Governance: The international journal of business in society*, 9(3), pp.231-243.
- [9] Eisenhardt, K. (1989). Agency Theory: An Assessment and Review. *The Academy of Management Review*, 14(1), p.57.
- [10] Elloumi, F. and Gueyiã©, J. (2001). Financial distress and corporate governance: an empirical analysis. *Corporate Governance: The international journal of business in society*, 1(1), pp.15-23.
- [11] Fich, E. and Slezak, S. (2007). Can corporate governance save distressed firms from bankruptcy? An empirical analysis. *Rev Quant Finan Acc*, 30(2), pp.225-251.
- [12] Gillan, S. (2006). Recent Developments in Corporate Governance: An Overview. *Journal of Corporate Finance*, 12(3), pp.381-402.
- [13] Hambrick, D. and D'Aveni, R. (1992). Top Team Deterioration as Part of the Downward Spiral of Large Corporate Bankruptcies. *Management Science*, 38(10), pp.1445-1466.

- [14] Hassan Al-Tamimi, H. (2012). The effects of corporate governance on performance and financial distress. *Journal of Financial Regulation and Compliance*, 20(2), pp.169-181.
- [15] International Journal of Management. (2017). *Relationship between Corporate Governance and Financial Distress: An Empirical Study of Distressed Companies in China*, Vol. 25 No. 3.
- [16] Journal of Economic and Management, 2009. (2017). *Corporate Distress Prediction Models Using Governance and Financial variables: Evidence from Thai Listed Firms during the East Asian Economic Crisis*, Vol. 5 No. 2(273-304).
- [17] Judge, W. and Zeithaml, C. (1992). INSTITUTIONAL AND STRATEGIC CHOICE PERSPECTIVES ON BOARD INVOLVEMENT IN THE STRATEGIC DECISION PROCESS. *Academy of Management Journal*, 35(4), pp.766-794.
- [18] Lakshan, A. and Wijekoon, W. (2012). Corporate Governance and Corporate Failure. *Procedia Economics and Finance*, 2, pp.191-198.
- [19] Lazarides, T. and Drimpetas, E. (2011). Evaluating corporate governance and identifying its formulating factors: the case of Greece. *Corporate Governance: The international journal of business in society*, 11(2), pp.136-148.
- [20] Lee, T. and Yeh, Y. (2004). Corporate Governance and Financial Distress: evidence from Taiwan. *Corporate Governance*, 12(3), pp.378-388.
- [21] Li, H., Wang, Z. and Deng, X. (2008). Ownership, independent directors, agency costs and financial distress: evidence from Chinese listed companies. *Corporate Governance: The international journal of business in society*, 8(5), pp.622-636.
- [22] Mande, V., Park, Y. and Son, M. (2011). Equity or Debt Financing: Does Good Corporate Governance Matter?. *Corporate Governance: An International Review*, 20(2), pp.195-211.
- [23] Mardjono, A. (2005). A tale of corporate governance: lessons why firms fail. *Managerial Auditing Journal*, 20(3), pp.272-283.
- [24] Nahar Abdullah, S. (2004). Board composition, CEO duality and performance among Malaysian listed companies. *Corporate Governance: The international journal of business in society*, 4(4), pp.47-61.
- [25] Parker, S., Peters, G. and Turetsky, H. (2002). Corporate governance and corporate failure: a survival analysis. *Corporate Governance: The international journal of business in society*, 2(2), pp.4-12.
- [26] Platt, H. and Platt, M. (2012). Corporate board attributes and bankruptcy. *Journal of Business Research*, 65(8), pp.1139-1143.
- [27] Salloum, C., Azoury, N. and Azzi, T. (2011). Board of directors' effects on financial distress evidence of family owned businesses in Lebanon. *International Entrepreneurship and Management Journal*, 9(1), pp.59-75.
- [28] Saunders, A., Cornett, M., Marcus, A. and Tehranian, H. (n.d.). The Impact of Institutional Ownership on Corporate Operating Performance. *SSRN Electronic Journal*.
- [29] Shahwan, T. (2015). The effects of corporate governance on financial performance and financial distress: evidence from Egypt. *Corporate Governance: The international journal of business in society*, 15(5), pp.641-662.
- [30] Shleifer, A. and Vishny, R. (1997). A Survey of Corporate Governance. *The Journal of Finance*, 52(2), p.737.
- [31] Staw, B., Sandelands, L. and Dutton, J. (1981). Threat Rigidity Effects in Organizational Behavior: A Multilevel Analysis. *Administrative Science Quarterly*, 26(4), p.501.
- [32] TOMMASI, M. and WEINSCHELBAUM, F. (2007). Centralization vs. Decentralization: A Principal-Agent Analysis. *Journal of Public Economic Theory*, 9(2), pp.369-389.
- [33] Wang, Z. and Deng, X. (2006). Corporate Governance and Financial Distress: Evidence from Chinese Listed Companies. *Chinese Economy*, 39(5), pp.5-27.
- [34] Yang, T. and Zhao, S. (n.d.). CEO Duality, Competition, and Firm Performance. *SSRN Electronic Journal*.
- [35] Zingales, L., 1997. Corporate governance. In: Newman, P. (Ed.), *The New Palgrave Dictionary*