
Board Characteristics and Financial Distress: Empirical Evidence from Sri Lanka

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A B S T R A C T

This paper examines the impact of board characteristics on the financial distress of listed companies in Sri Lanka from 2019 to 2021. Panel regression analysis was employed, and 36 listed companies representing the consumer service sector in Sri Lanka were selected as the sample. This research focuses on five aspects of board characteristics consisting of board size, board composition, CEO duality, board meetings, and directors' ownership while financial distress was measured using Altman's Z score model. Firm size, firm age, leverage, and profitability are considered as control variables. The results reveal that board size, board composition, and directors' ownership have a significant positive impact on financial distress whereas CEO duality has a significant negative impact on financial distress. Control variables, firm size, and leverage have significant positive impact on financial distress while it is negative for firm age. The findings may be of interest to academic scholars, practitioners, and regulators interested in learning about the quality of corporate governance procedures in a developing market and their influence on financial distress. It also encourages listed companies in Sri Lanka to implement corporate governance practices that would lead to increased investor confidence.

Keywords: Board characteristics, Board composition, Board size, Directors' ownership, Financial distress

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1. Introduction

The prediction of financial distress in recent years has been a major problem for businesses all over the world. Due to the COVID-19 pandemic as well as an increasing number of default companies, companies face a serious threat to their operations. Corporate governance is used as one of the turnaround strategies. The relation between corporate governance and financial distress has extensively been examined in the literature. In recent years, financial distress has piqued the interest of investors, policymakers, and researchers, prompting them to conduct extensive research on the implementation of corporate governance practices. Moreover, there is a conflict in current corporate governance implementation on whether it is an effective mechanism to prevent organizations from financial distress (Alabede, 2016). According to Bilal et al., (2013), the probabilistic perspective defines financial distress. The possibility of financial distress is determined due to the inadequate liquidity of assets and the higher level of debt of the organization. Financially distressed companies need to face difficulties in paying their financial obligations to creditors. Several situations cause financial distress to companies, such as the inability to forecast the development of operations, predict the company's cash flows, and make effective financial decisions.

Numerous studies where early systems of financial distress prediction were developed based on the information from financial statements. According to Lee & Yeh (2004), financial statements are ex-post in nature and if we look at ex-ante information sources, corporate governance is the source that is worth considering. Authors assume that poor corporate governance was one of the reasons for the Asian crisis in 1997. There were many studies dedicated to corporate governance from the management area and more than enough could be found about financial distress from the perspective of finance and accounting. In turn, this study would like to conduct with equal interest in the point of views of finance and corporate governance. Also, the researchers agree with other researchers who argue that the health of a company depends not only on ex-post information (financial statements) but also on ex-ante information, where board characteristics are considered the one.

Companies prefer insider-controlled boards if the costs of secret information about a company prevail over the agency costs. The high number of outsiders tends to increase the value of a company. However, in case the number of outsiders is too big, the free-rider problem might occur and thus the effort each outsider puts into a company decreases with an extra outsider. Still, the outsiders are considered a guarantor of fair information disclosure (Harris & Raviv, 2008). The large number of insiders is significant and positively related to the probability of financial distress (Rauterkus et al., 2013). In most cases, the number of outsiders or insiders has not been considered to have significance (Salloum et al., 2013).

Some studies found that corporate governance significantly increased the strength of bankruptcy forecasts (Lajili & Zéghal, 2010; Platt & Platt, 2012). Wruck (1990) stated that economic distress, poor management, and a decline in a performance led companies to fall into a financial distress situation. In addition, in the OECD, poor corporate governance mechanisms plunge companies into financial distress situations. At present, problems with corporate governance are a growing field within management, especially among listed firms on the stock exchange (Cadbury, 2000). The determinants of optimal financial resources and their influence on firms' decisions remain unsolved, giving scope for additional research. There are no globally accepted corporate governance principles that can be applied to board structures

as they depend on countries' business practices and economic environment. Developing countries take issue with comparisons to developed countries in a wide variety of ways.

Several studies have been conducted in foreign countries, but in the Sri Lankan context, insufficient studies have been carried out on board characteristics and financial distress. Hence, this paper examines the impact of board characteristics on the financial distress of the listed consumer service sector. This research is mainly focused on consumer services of companies to obtain a deeper understanding of the hotel industry regarding financial distress. Although COVID-19 has affected every sector across the globe, and the hotel industry is among the hardest hit.

In Sri Lanka, some companies have failed due to a lack of consistency in policies, control procedures, guidelines, and mechanisms to ensure accountability and fiduciary duty. Moreover, in recent years, some listed companies faced difficulties in earning a profit as well as bankruptcy situations due to the COVID-19 pandemic and new policies and regulations implemented by the government. According to the Sri Lankan literature context, Senaratne & Gunaratne (2012) stated that compliance with corporate governance practices is closely associated with ownership structure and better governance seems to associate with the higher financial performance of Sri Lankan firms. Likewise, Sameera & Senaratne (2015) stated that board independence, board procedures, relation with shareholders, and internal control procedures have significantly affected the probability and resolution of the financial distress of the Sri Lankan firms. The existing literature in the Sri Lankan context, observed generally focusing on the structure of the corporate governance and its impact over the financial performance of the company. Therefore, there is an indecisive finding on board characteristics and financial distress. Hence, the issue remains unsolved, giving scope for additional research.

2. Literature review

2.1. Theoretical review

2.1.1. Corporate governance

Corporate governance is defined as “the gadget with the aid of which commercial enterprise groups are directed and controlled” (OECD, 1999). Caramanolis Côtelli (1995) stated that corporate governance is being determined by the equity allocation among insiders (including executives, CEOs, directors, or other individual corporate or institutional investors who are affiliated with management) and outside investors. Corporate governance studies have inconclusive evidence on the impact between corporate governance practices and the financial distress of the firms. After many businesses have collapsed, the relationship between corporate governance and financial distress has been the most researched topic in both developed and developing countries (Udin, et al., 2017).

2.1.2. Agency theory

Many studies on corporate governance are based on the agency theory proposed by Jensen and Meckling in 1976, which focuses on the relationship between directors and agents. According to agency theory, managers are more prone to self-interest than the interests of the owners. This concludes that ownership and managerial interests may not be aligned, and that will ultimately lead to agency costs and internal inefficiencies. Therefore, it suggests corporate governance as a mechanism to reduce these agency conflicts. In that case, corporate governance becomes a very important factor for public companies. Principals are the owners

of a company, and their investments in a company will decide its capital structure and its profitability.

2.1.3. Resource dependency theory

The resource dependency theory takes a more materialist and less organization-centered approach. It is mainly concerned with the availability of services such as skills and capital to businesses. According to resource dependency theory, corporate governance systems such as the board of directors have an effect on firms' access to resources that are critical to their success (Pfeffer, 1973). According to resource dependency theory, a company's board composition reflects the operational environment. This means the directors are chosen based on their abilities to support the acquisition of necessary capital. As a result, it should be possible to deduce company dependencies from board composition; for example, the participation of financiers on the board of directors means that companies are looking for low-cost funding, implying that they are planning major investments or are in the process of doing so (Hillman et al., 2000).

2.1.4. Financial distress

Altman has investigated the economic and financial ratios in the context of bankruptcy prediction ability with the help of multiple discriminate statistical methodologies (Altman, 1968). Wesa & Otinga (2018) noted that financially distressed firms are generally faced with two possible major problems, experiencing cash shortage on the asset side or overdue obligations on the liability's sides of the statement of financial position. The adverse effect of financial distress in an organization threatens the survival of firms.

2.1.5. Upper echelon theory

According to the Upper echelon theory (1984) top executives view their risks, opportunities, and alternatives through their own highly customized lenses. Age, tenure in the organization, functional background, and socioeconomic roots are obvious features of the top board. As a result, the organizations become reflections of their top executives (Hambrick & Mason, 1984). Accordingly, the top management team is the primary resource for organizational decision-making and development, and their background and characteristics extensively affect corporate competitiveness and performance (Xu et al., 2019).

Numerous studies including Beaver (1966) and Altman (1968), show that the prediction of corporate failure is theoretically explainable and empirically feasible. Failure prediction has been a crucial topic among researchers, and they have recognized varieties of mechanisms via the firms are inclined to fail. Traditional ratio analysis was initially considered in the failure prediction. However, it has been stated that ratio analysis is no longer a useful approach in the academic environment because of its unsophisticated presentation styles. As a result, in order to fully measure the potential, a series of financial ratios were integrated into a discriminated analysis technique known as the "Altman Z score". According to the theory, analyzing ratios in a multivariate framework gives improved statistical significance than the sequential ratio comparison approach (Altman, 1968).

In Sri Lanka, Samarakoon & Hasan (2003) tests the Altman's Z-score models and concludes the third version of the score model (Z'' -score model) gives the highest overall success rate. Z-score models have a good potential in predicting the financial distress of companies in emerging markets, but with a declining overall accuracy in the two consecutive

years prior to distress. This study provides evidence that Altman's Z-score model is a suitable analytical tool for Sri Lankan companies in predicting financial distress.

2.2. Empirical review

2.2.1. Board size

According to resource dependency theory, board size is influenced by relationships with the environment: the more dependency there is on different organizations, the larger the board will be. Consequently, the size of the supervisory board tends to increase with the size of the company (Pfeffer, 1972). Dalton et al. (1999) performed a meta-analysis of the empirical studies related to board size and financial hardship. The authors concluded that there is consistent evidence of a positive and significant association between board size and financial performance. In addition, the relationship is stronger for small companies than for large ones. According to Lipton & Lorsch (1992), small boards are more effective than large boards. They argue that a large board size leads to a lack of coordination, which precludes strategic decision-making. It has been observed that there is an inverse relationship between a company's financial performance and board size (Yermack, 1996).

H1: Board size has a significant positive impact on financial distress

2.2.2. Board composition

Distressed firms have a high proportion of insider directors (Baysinger & Butler, 1985; Salancik & Pfeffer, 1980). According to Khan et al., (2016), corporate governance practices such as board independence contribute to implementing an enterprise risk management (ERM) program to manage organizational risk. Fuzi et al., (2016) stated that the presence of independent directors on board should be monitored to achieve positive shareholder values. Liu et al., (2015) examined the relationship between board independence and enterprise performance in China and found that board independence was positively related to enterprise operational performance in China. In addition, they argued that the degree of board independence is positively related to company performance, particularly in government-controlled companies and those with lower costs for information gathering and monitoring. Companies with a high proportion of independent directors have a low probability of filing for bankruptcy (Elloumi, Gueyie, 2001; Daily et al., 2003; Hambrick & DAveni, 1992).

H2: Board composition has a significant positive impact on financial distress

2.2.3. CEO duality

In agency theory, CEO duality can reduce the supervisory role of the board of directors over executives, thus having a negative impact on company performance (Elsayed, 2007). CEO-dominated companies have a high probability of business failure due to dual roles and self-interested behavior (Hambrick & DAveni, 1992). Mallette and Fowler (1992) claimed that the separation of the CEO and chairman positions resulted in a more powerful board, reflecting an improved ability to oversee management. Daily & Dalton (1994) argued that the separate independent position of the CEO reduces the opportunistic behavior of the CEO to put him at the expense of the owners. Similarly, Chen et al., (2007) argued that entrenching management in the form of a CEO-Chairman duality makes the CEO more powerful within the organization and less likely to be replaced or challenged by the board. Tahir et al. (2020) find a significant positive association between board attributes (such as board size, the average age of board members and board tenure) and dividend policy. Nakano & Nguyen (2012) find a significant negative association between board structure, the likelihood of business failure, and volatility.

The presence of a high percentage of external directors on the audit committee and the remuneration committee of the board will reduce the likelihood of corporate failure (Lakshan & Wijekoon, 2012).

H3: CEO Duality has a significant negative impact on financial distress

2.2.4. Board Meeting

Board activity is an essential element of board work (Vafeas, 1999; Adams, 2003). Jensen (1993) also suggested that board activities are reactive rather than proactive since the board meets more frequently after a poor performance. This is supported by Vafeas (1999) who found that when a company performs poorly, the board increases board activity. The same article suggests that panels that meet more frequently are less valued by the market. As part of this study, more meetings are held when a company is in financial distress. Board activity is closely associated with financially troubled companies (Ali and Nasir, 2018). Board activity suggests a positive relationship between board activity and Z score (Somathilake et al., 2018; Muhammad et al., 2018).

H4: Board Meeting has a significant positive impact on financial distress

2.2.5. Director's ownership

According to agency theory, if the owner of a company is the manager, he will only make operating decisions that will maximize his equity. Respectively, if he decides to reduce his ownership stake in a company, that will generate agency costs, meaning that his interest will deviate from the ones that major shareholders have (Jensen & Meckling, 1976). According to Donaldson (1990), proponents of Stewardship theory that view agents in a company as good stewards, by logic board directors would also act in a good faith and conscientiously implement their responsibilities. A larger ownership stake of directors lowers the bankruptcy hazard (Fich & Slezak, 2007). Thus, we can assume that larger ownership will enhance the monitoring and control functions of the board and minimize agency costs. Accordingly, Elloumi & Gueyie's (2001) study showed that the increase in outside directors' ownership would strengthen the incentives for monitoring management in order to prevent FD probability. Overall, insider ownership will positively influence financial performance and decrease the probability of bankruptcy (Salloum et al., 2013).

H5: Directors' Ownership has a significant positive impact on financial distress

3. Methodology

This study is focused on listed consumer service companies in Sri Lanka. They play a vital role in the monetary system and contribute to economic stability. This study uses 36 consumer service companies listed on the Colombo stock exchange as a sample for the period from 2019 to 2021. To analyze the impact of the above hypothesis, the data related to the dependent variable (financial distress) and the independent variable (board characteristics) has been collected from a secondary source, which includes published annual reports of the listed consumer service companies. Variables have been measured based on the following measurement.

Table 1: Measurement of Variables

Concepts	Variables	Measurement
Board Characteristics	Board size	Number of directors on the board
	Board composition	Proportion of independent non-executive directors on the board
	CEO Duality	A dummy variable, it equals one if the same person holds both chairman and CEO positions
Financial Distress	Board meeting	Number of board meetings per year
	Director's ownership	Equity ownership of the directors
	Altman z score	$1.2 * (\text{Net Working Capital}) / (\text{Total Assets}) + 1.4 * \text{RetainEarnings} / \text{TotalAssets} + 3.3 * \text{EBIT} / \text{TotalAssets} + 0.6 * \text{BookvalueofEquity} / \text{BookvalueofDebt} + 1 * \text{Sales} / \text{TotalAssets}$
Control variable	Firm's size	Natural logarithm of total asset
	Leverage	Long term debt to total assets
	Profitability	Operating profit margin
	Firm's age	Natural logarithm of firm age since incorporation

To examine the impact of board characteristics on financial distress, the following empirical model is used:

$$\begin{aligned}
 & \text{Fin. Dis.} \\
 & = \beta_0 + \beta_1 \text{Board size} \\
 & + \beta_2 \text{Board Com.} + \beta_3 \text{CEO Dual.} + \beta_4 \text{Board Meet.} + \beta_5 \text{Direct. Own.} + \beta_6 \text{Size} \\
 & + \beta_7 \text{Leverage} + \beta_8 \text{Prof.} + \beta_9 \text{age} + \varepsilon
 \end{aligned}$$

4. Results and discussion

Table 2: Descriptive Statistics

	Observation	Mean	Standard Deviation	Minimum	Median	Maximum
Board size	108	8.1944	2.0619	4.0000	8.0000	14.000
Board composition	108	0.4019	0.0979	0.2220	0.4000	0.6670
Board meeting	108	4.0556	1.9181	1.0000	4.0000	13.0000
CEO Duality	108	0.3889	0.4897	0.0000	0.0000	1.0000
Director's ownership	108	2.7964	4.4358	0.0000	0.2615	15.1374
Firm age	108	1.4722	0.2161	0.0000	2.0000	2.0000

Firms size	108	9.000 0	1.1439	6.0000	9.0000	10.000 0
Leverage	108	0.1415	0.1575	0.0000	0.1033	0.8167
Profitability	108	- 0.0123	0.0655	-0.2782	-0.0009	0.1370
Financial Distress	108	1.9630	3.0054	-1.3400	1.1450	16.6500

Table 2 presents the summary of the descriptive statistics of the study. The value of financial distress of sample companies lies between 16.6500 and -1.3400, whereas the standard deviation is 3.0054. The average board size for the sampled companies in the particular industry is approximately 8.1944, with a range of 4 to 14. The average board composition is 0.4019, which lies within the range of 0.222 to 0.667 with a standard deviation of 0.0979. Board meetings have an average value of 4.0556 with a range from 1 to 13. CEO duality lies within the range of 0 to 1, with an average of 0.3889. The average director's ownership is 2.7964%, which lies within the range of 0 to 15.1374. Firm ages range from 1.7324 to 0, with a mean of 1.3402. The mean value of firm size is 9 with a minimum value of 6 and a maximum value of 10. Leverage lies within the range of 0 to 1.8167 with an average of 0.1508. The average profitability is -0.0123, which lies in the range of -0.2782 to 0.1370, with a median of -0.0009.

Table 3: Correlation Matrix

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Board size (1)	1.000								
Board composition (2)	-	1.000							
CEO duality (3)	0.030	0.757	1.000						
Board meetings (4)	0.168	0.236	0.236	1.000					
Director's ownership (5)	0.082	0.013	0.013	0.013	1.000				
Firm age (6)	0	0.011	0.011	0.011	0.011	1.000			
	0.078	0.3	0.1413	0.1413	0.1413	0.1413	1.000		
	0.420	0.907	0.1410	0.1410	0.1410	0.1410	0.1410	1.000	
	1	3							1.000
	0.331*	0.241*	0.047	-	0.187				
	0.000	0.012	0.630	0.05	0.05	0.05	0.05	0.05	0.05
	5	0	2	29					
	0.030	-	0.182	-	-0.084	1.000			
		0.210		0.138					
		**							
	0.756	0.029	0.059	0.155	0.3851	0.3851	0.3851	0.3851	0.3851
	7	4	9	4					

Leverage (7)	-	0.021	-0.118	-	-	0.068	1.000		
	6.970			0.020	0.199*				
	0.999	0.828	0.2244	0.8400	0.0387	0.4878	-----		
Firm size (8)	-	-	0.150	0.077	0.222*	-	-0.045	1.00	
	0.091	0.014			*	0.191**		0	
	0.348	0.882	0.1209	0.4303	0.0209	0.0480	0.6450	-----	
Profitability (9)	-0.142	0.1370	0.113	0.124	0.007	-0.134	-	0.156	1.00
							0.488*		
	0.141	0.157	0.2425	0.199	0.9419	0.1668	0.000	0.106	----
	2	3		8			0		-
Financial distress (FD)	0.311**	0.015	0.302*	0.042	0.394*	0.209*	-0.121	0.051	0.11
			*		*	*			2
	0.017	0.874	0.0015	0.66	0.034	0.029	0.2140	0.59	0.2
	6	0		22	3	9		86	45

** : indicate statistical significance at 0.05

Table 3 shows that the correlation between the variables does not violate the assumption of independence. The correlation coefficient between CEO duality and FD is -0.3023, which is significant at the 0.01 level. Hence, it represents a negative relationship between CEO duality and FD. Board size and FD have a positive relationship with a correlation coefficient of 0.311 at 0.05 significant levels. Furthermore, directors' ownership and FD have a correlation coefficient of -0.394, which is significant at the 0.05 level. It represents a significant negative relationship between directors' ownership and FD. Likewise, firm age has a significant negative relationship with FD with a correlation coefficient of -0.209 at 0.05 significant levels. But, board composition and board meetings have no significant relationship with financial distress at the significant level of 5%. The control variables of firm size, leverage, and profitability are also not correlated with financial distress.

Table 4 represents the output of panel data regression analysis. To get unbiased results, panel data regression with both fixed and random effect models is employed. Hausman's test revealed that the fixed effect model is most suitable for the study, where probability is lower than the significant level of 5%. In the results, the adjusted R² shows a value of 0.8828 which means a 88.28% of variation in financial distress is explained by board size, board composition, CEO duality, board meeting, and directors' ownership. F statistics indicate that the model is fit (F = 19.74523, p<0.05) and produces statistically significant results when the explanatory variable is chosen, combined and evaluated as the report's substantial value.

Table 4: Regression Analysis

	Random effects	Fixed effects
Board size	0.3881** (0.0317)	0.9431** (0.0317)
Board composition	0.8367**	0.8679**

	(0.0379)	(0.0292)
CEO Duality	- 1.6539 (0.0914)	- 0.1077** (0.0274)
Board meeting	- 0.1446 (0.1100)	0.0226 (0.8404)
Director's ownership	- 0.0008 (0.9912)	5.7028** (0.0337)
Firm age	- 0.3667 (0.7486)	- 1.7829** (0.0035)
Firms size	- 0.5479 (0.1027)	2.5267 ** (0.0080)
Leverage	2.5737** (0.0024)	11.5332 ** (0.0000)
Profitability	9.2562** (0.0001)	0.8168 (0.8978)
Year dummies	0.000	0.000
Constant	3.2196 (0.4323)	0.8168 (0.8978)
R ²	0.1628	0.8828
Prob>F	0.0014	0.0000
Random-effect	Yes	No
Fixed-effect	No	Yes
Groups	36	36
Observations	108	108
Hausman test		26.7563 (0.0010)

Significant at a level of (**) 5%

In evaluating the model based on the results of the fixed effect regression model, the result shows that board size has a positive impact on financial distress at 5% significant levels. Therefore, H₁ is supported by findings. The findings indicate that having a small number of directors on board, the likelihood of financial distress is low. Contrary to the results of this study, Jensen (1993) finds that healthy firms have, on average, a larger number of directors than firms in financial distress. This is likely because a large number of directors means increased oversight of departments within a company to ensure performance that is more effective. Board composition has a significant positive influence on financial distress at a significant level. Companies with a larger proportion of independent directors can increase the incidence of financial distress. Independent directors are less informed about the company, although their oversight is more independent than the company's internal directors. Hence H₂ is supported by findings. CEO duality has a significant negative impact with a coefficient of - 0.1077 at the 5% significant level. A significant negative association between CEO duality and financial distress indicates that companies that practice CEO duality are likely to experience financial distress. The practice of CEO duality in firms can increase entrenchment risk and agency costs (Fama & Jensen, 1983; Jensen, 1993). So, H₃ is supported by findings. The board meeting has not shown any significant impact on financial distress. So, H₄ is not supported by findings. At a 5% significant level, directors' ownership has a significant positive impact. Management ownership is associated with long-term value creation. For example, in a sample

of Chinese companies, it was found that companies with greater management responsibility in difficult situations were more likely to survive Liu, Uchida & Yang (2012). These findings are similar to the findings of Dissanayke et al., (2017), Elloumi et al., (2001), Din et al., (2020), Handriani et al., (2021). So, H₅ is supported by findings.

Control variables, firm age have a significant negative impact with financial distress at a 5% significant level. Likewise, leverage has a significant positive impact on financial distress, with a coefficient of 11.5332 at 0.05 significant levels. Moreover, firm size has a positive impact on financial distress at 0.05 significant levels. The control variable of profitability does not influence the financial distress at 0.05 significant levels.

5. Conclusion

The present study examines the impact of board characteristics on the financial distress of listed consumer service companies from 2019 to 2021. The study covered 36 companies listed on the Colombo stock exchange in the consumer service sector. Based on panel data regression analysis, this study has found that board characteristic variables such as board size, board composition, and directors' ownership have a significant positive impact on financial distress. CEO duality has a significant negative impact on financial distress. Control variables, firm size, and leverage have a statistically significant positive impact on financial distress. Firm age has a statistically significant negative impact on financial distress. Furthermore, the results show that board characteristics are suitable to reduce financial distress when other factors are neglected. Thus, it is concluded that companies should position themselves by strengthening their governance structures to increase their attractiveness and, therefore, access to financial markets.

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