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FIRM SIZE AS A MODERATOR IN THE RELATIONSHIP BETWEEN BOARD CHARACTERISTICS AND FINANCIAL PERFORMANCE IN SRI LANKA

Tharsika, K[a]*, Thaneshan, G[a], Varanitha, S[b]
[a]Department of Accounting, Faculty of Management Studies & Commerce, University of Jaffna, Sri Lanka
[b]Numerix Private Limited, Jaffna, Sri Lanka
tharsik@univ.jfn.ac.lk*, gthanesh08@gmail.com, varaniramakrishna95@gmail.com

*Corresponding author

ABSTRACT

Despite extensive scholarly work on the association between board characteristics and financial performance, the moderating effect of firm size on this link remains unexplored. Thus, this study aims to determine the moderating role of firm size in the relationship between board characteristics and financial performance in a developing nation, Sri Lanka. The study uses the panel data from 100 non-financial listed companies in the Colombo Stock Exchange from 2019 to 2023, and financial performance as assessed via Return on Assets (ROA) and board characteristics, including board size, independence, and board meetings. The Hausman and Breusch-Pagan Lagrangian multiplier tests indicate that the random effects model is more suitable than the fixed effects or pooled ordinary least squares models. Findings reveal that firm size, as a moderating variable, negatively impacts the relationship between board size and ROA, while it does not significantly influence the links between board independence or board meetings and ROA. The limitations is that it focuses on a five-year period and considers only specific board characteristics variables, while using ROA as the sole measure of performance. This scope may restrict the generalizability of findings to broader governance frameworks or performance indicators. Nevertheless, the study contributes empirical evidence to the limited research on the role of firm size in board characteristics and performance dynamics in Sri Lanka. The findings provide practical insights for managers, legislators, and regulators to design board structure that incorporates firm size considerations. By addressing this research gap, the study enhances understanding of board governance in emerging economies.

Keywords: Board Characteristics, Colombo Stock Exchange, Financial Performance, Non-financial Listed Companies

1. Introduction

The area of Corporate Governance (CG) is experiencing a surge in interest due to the governance compliance has been made mandatory (Bhasin & Shaikh, 2013; Siddiqui, 2010). The demand for CG has also increased following a number of high-profile scandals,

such as Enron, WorldCom, etc (Prasad & James, 2018). Several research have examined the connection between CG elements and financial performance; nonetheless, according to Hermuningsih et al. (2020) CG significantly affects an economy's ability to grow. In addition to inadequate institutional and regulatory frameworks, rising inflation, overpriced oil, and depreciating exchange rates have contributed to macroeconomic issues in Sri Lanka (Nandalal, 2021) that have impacted business performance (Gunawardhane et al., 2022). In light of this situation, it is essential to comprehend why the corporate sector has remained resilient amid challenges in the business environment; thus, an examination of its CG is necessary.

The current research study has included CG variables such as Board Size (BDS), which means the total number of directors on the board (Yameen et al., 2019), and Board Independence (BDI), which depicts the degree to which a company's board of directors is made up of people free from external influence and conflicts of interest, especially from the company's management or key shareholders, is referred to as BDI (Erena et al., 2022) and finally the board meetings (BDM) which depicts the official meetings held by a company's or organization's board of directors to deliberate and make decisions about issues pertaining to the management, operations, and long-term goals of the entity (Schwartz-Ziv & Weisbach, 2013). While the existing literature on board attributes and firm performance is extensive (Al-Matari, 2024; De Villiers et al., 2011), the potential moderating role of firm size has received limited attention (Obaje & Abdullahi, 2021). Firm size is a fundamental organizational characteristic that affects resource availability, operational complexity, and governance structures (Lawal & Yahaya, 2024). Large corporations generally possess superior resources, allowing for the establishment of more comprehensive governance frameworks, whereas smaller enterprises may depend on streamlined structures and informal methodologies. These disparities can profoundly influence the extent to which board characteristics, including size, independence, and meeting frequency, affect financial success. Due to structural and resource limitations, smaller firms may feel a weaker impact from board characteristics on financial performance, whereas larger firms tend to have more complex governance frameworks, better access to resources, and increased regulatory scrutiny (Peng et al., 2021).

Moreover, the moderating influence of firm size is especially pertinent in the Sri Lankan context, as non-financial firms display a range of sizes and functions within a developing economy marked by fluctuating regulatory and market conditions. Evaluating size of company as a moderator facilitates a more profound comprehension of how its presence can enhance or diminish the effectiveness of board governance in driving financial outcomes. Firm size as a moderator guarantees that the study takes these contextual differences into consideration, enhancing its contribution to the governance literature and providing information that policymakers and practitioners in emerging markets may use (Puni et al., 2022). A number of theoretical stances and methods can be used to explain how CG impacts the performance of a corporation (Wanyama & Olweny, 2013; Zubeltzu-Jaka et al., 2018). According to agency theory, divergent objectives and risk appetites may give rise to conflicts of interest between the principle, and the agent

(Hermuningsih et al., 2020; Naz et al., 2022). According to agency theory, an unbiased and well-organized board can lower agency expenses, boost oversight, and improve decision-making, all of which will eventually improve financial performance. Given that larger companies may have more intricate governance systems, which could reduce the efficacy of board supervision, the moderating influence of firm size is especially pertinent.

Agency theory serves as the core framework for this study since its underlying presumptions closely match the goals of the investigation. According to agency theory, variations in goals and risk tolerance lead to conflicts of interest between principals (shareholders) and agents (managers) (Hermuningsih et al., 2020; Naz et al., 2022). An impartial and well-organized board of directors is essential for keeping an eye on management operations, cutting agency expenses, and guaranteeing responsibility in order to lessen these conflicts. By monitoring managerial choices, a powerful, independent board improves governance and promotes strategic decision-making and effective resource allocation. Businesses are therefore more likely to see an improvement in their financial performance. Since this study looks at the connection between board attributes (size, independence, and meetings) and financial performance, agency theory offers a theoretical framework for understanding how board governance practices affect business results.

Furthermore, this study acknowledges that governance efficiency may change throughout organizations of varying sizes by introducing company size as a moderating variable. Bigger companies frequently deal with more bureaucratic obstacles and complexity, which could lessen the board's ability to supervise. Therefore, agency theory aids in the explanation of both the direct effects of board composition on company performance and the ways in which firm size influences these governance processes. This study adds to the body of knowledge on corporate governance by incorporating agency theory into the conceptual framework. It also provides useful information for regulators, legislators, and business executives in developing nations such as Sri Lanka. Interms of policy implications, the results of the study may affect Sri Lankan corporate governance laws and practices. Policymakers may take into consideration implementing findings into governance rules or legislation if specific board traits are consistently linked to higher financial performance across enterprises of varying sizes. This has the potential to enhance the nation's corporate governance norms generally.

Despite the extensive research undertaken on the impact of board attributes on financial performance, this nexus has yielded mixed results (Nur-Al-Ahad et al., 2019; Shahbaz et al., 2020; Uyar et al., 2020). While these studies look at the relationship between board attribute and financial performance, there is lack of scholars works investigated the moderating influence of the firm size of the non-financial listed companies. In light of this, this study investigates the moderating effect of firm size on the relationship between board characteristic and the performance of listed non financial companies in Sri Lanka.

2. Literature Review

One of the fundamental concerns of corporate governance is board structure. Numerous empirical investigations have endeavored to examine the influence of board structure on the performance of firms. The empirical results, however, on this connection have been conflicting and equivocal. Board structure inturn is influenced by factors such as BDS, BDI and BDM etc. Lefort and Urzúa (2008) assert that the board of directors is the main governing body in a company's internal governance and go ahead to say that, in addition to providing strategic direction, the board of directors plays a critical monitoring role in addressing agency concerns within the organization. Alabdullah et al. (2019) concluded a positive correlation between BDS and ROA while Graf and Lueg (2019) found out that there is a significant negative Management BDS effect both on ROA and return on equity. In conclusion, that the lack of rigorous methodology and the changing function of the board of directors over time serve as the reasons for the studies' inconsistent findings.

The Sri Lankan Code of Corporate Governance (2023) recommends Board should meet regularly. In order to efficiently carry out the board's duties and give the board regular, organized information, BDM should take place at least once every quarter of the fiscal year. According to a study on insurance in Thailand, having more BDM resulted in higher management expenses and a lower financial performance (Petchsakulwong & Jansakul, 2018). However, a recent study discovered a positive relationship between BDM and firm performance. For example, an increase in BDM has been shown to improve the performance in 15 banks in Nigeria between 2011 and 2016 (Eluyela et al., 2018). We will investigate the impact in greater detail, motivated by the findings of earlier study as well as the need to conduct confirmation research on Sri Lanka in an emerging market. Non-Executive Directors of a caliber and number suitable for their opinions to be seriously considered when making decisions ought to serve on the board. Positively, research by Noor and Fadzil (2013) indicates that BDI and ROA are positively correlated. On the down side, Hui Liang James (2020) research indicates that firm performance is inversely related to BDI in high-discretion firms. In summary, we believe that the inconsistent findings across these research are caused by misspecifications of the models and the omission of variables that impacted business performance, such as market-driven managerial behaviors and variations in institutional characteristics.

According to Omar Taouab (2019) Assessing and measuring business performance is of significant importance. It is therefore in the best interests of the company to assess its performance. While there are numerous performance metrics connected to various domains, we attempted to implement one specifically relevant to corporate governance which is ROA as per authors Al (Al-Manaseer et al. (2012) and Uwalomwa et al. (2015). As per Mehrotra (2016), Board Structure has a positive impact on ROA while Arslon (2010) suggests vice versa.One of the most widely accepted factors influencing a company's performance is firm size (Kuncová et al., 2016). Bhayani (2010) argues that reiterating the significance of size in corporate discourse, one intriguing feature of economic growth is the proportionate increase in the size of already-existing firms.

Researchers view size as a key factor in explaining how profitable companies are in this setting, and several studies examine the impact of firm size on firm performance (Serrasqueiro & Maçãs Nunes, 2008; Wu, 2011).

Different theories have been used by previous researchers to underpin studies in this area. The basic tenet of agency theory is that managers put their personal interests ahead of shareholders' interests because they are self-serving and self-centered. According to agency theory, a board comprising a high number of outside directors is independent and may independently oversee and counsel management who can advance the interests of shareholders (Brickley & Zimmerman, 2010). In this context, this work adds something fresh to the body of knowledge regarding the moderating role played by the firm size on the relationship between board structure and ROA in terms of a developing nation Sri Lanka.

3. Methodology

This study used quantitative techniques to assess the moderating effect of firm size on the link between board characteristics and financial performance of Sri Lankan non-financial listed companies from 2019 to 2023. The population of interest for this study comprises 290 listed companies on the Colombo Stock Exchange (CSE) as of December 31, 2023. The research sample comprises 100 randomly selected listed companies based on convenience sampling method. The data was collected from secondary sources such as by reviewing the annual financial reports of companies published on CSE website. Three distinct measures BDS, BDI, and BDM are utilized as proxies for the independent variables in this study. BDS, indicating the Board of Directors, is quantified by the aggregate number of directors on the board (Fernández-Gago et al., 2016; Martín & Herrero, 2018). BDI, indicating independent directors, is measured by dividing the total number of independent directors by the the total number of directors (Wang et al., 2015). BDM, are assessed by the number of BDM held per year (Ji et al., 2020). Firm performance is evaluated through Return on Assets (ROA) as the dependent variable. Consistent with prior research, ROA is determined by dividing earnings before interest and taxes by total assets (Moore & Simpson, 2023). Firm size, indicating total assets, is quantified by the natural logarithm of total assets (Hasangapon et al., 2021). Empirical data for analysis are collected from the selected companies' annual reports, accessible through the CSE and the companies' websites. Stata software is employed for generating pearson correlation, and pannel regression analysis for the quantitative data.

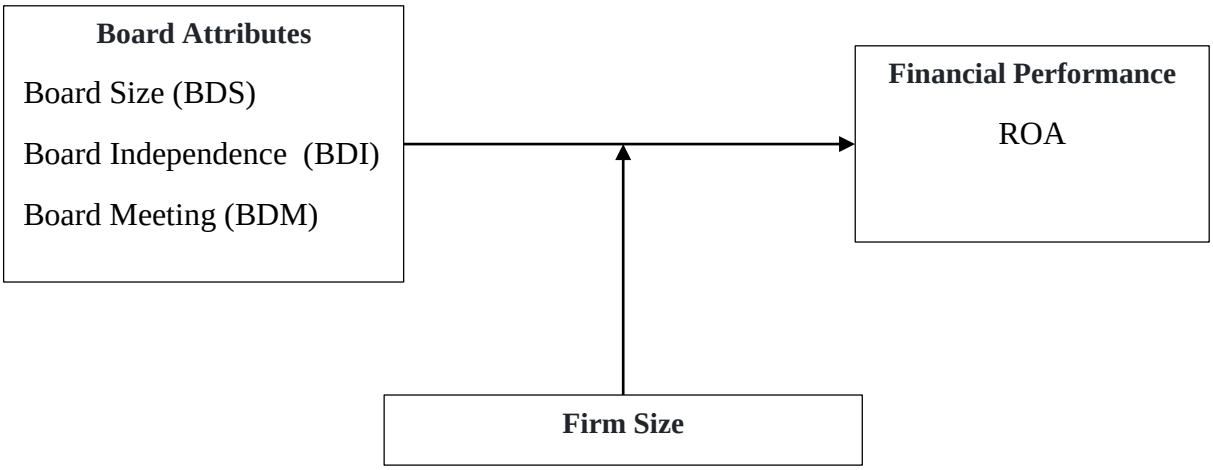

Figure 01: Conceptual Framework

The regression model 01 without the moderating variable is represented as:

$$ROA_{it} = \beta 0 + \beta 1 BDS_{it} + \beta 2 BDI_{it} + \beta 3 BDM_{it} + \varepsilon_{it}$$

Including the moderating variable, the regression model 02 is expressed as:

$$ROA_{it} = \beta 0 + \beta 1 BDS_{it} + \beta 2 BDI_{it} + \beta 3 BDM_{it} + \beta 4 FS_{it} + \beta 5(BDS_{it} * FS_{it}) + \beta 6(BDI_{it} * FS_{it}) + \beta 7(BDM_{it} * FS_{it}) + \varepsilon_{it}$$

4. Results and Discussions

This section focuses on analyzing the impact of board characteristics on firm performance. Pearson correlation analysis is first used to examine the strength and direction of the association between the study variables and to check for potential multicollinearity issues. This is followed by regression analysis, which is employed to measure the impact of board characteristics on firm performance and to formally test the study's hypotheses. Table 1 presents the results of the correlation analysis, while Table 2 reports the findings from the random effects regression models used in hypothesis testing.

Table 01: Pearson Correlation Analysis's Results

	BDS	BDI	BDM	LogFS	ROA	VIF	Tolerance (1/VIF)
BDS	1.00					1.37	0.73
BDI	0.29***	1.00				1.26	0.79
BDM	0.45***	0.08	1.00			1.10	0.91
LogFS	-0.05	-0.08	-0.02	1.00		1.01	0.99
ROA	0.35***	0.14*	0.51***	-0.09	1.00		

*Note: *, ** and *** indicate statistically significance at 10%, 5% and 1% level of significance*

The results of the Pearson correlation analysis, which are conducted to identify potential multicollinearity concerns, are displayed in Table 1. The results exhibit that ROA has a positive correlation with BDS ($r = 0.35$, $p < 0.01$), BDI ($r = 0.14$, $p < 0.1$), and BDM ($r = 0.51$, $p < 0.01$), While there is no significant correlation between firm size and ROA ($r = - 0.09$, $p > 0.1$). Multicollinearity occurs when one or more independent variables in the research model exhibit a significant correlation (coefficient value > 0.80) with an

independent variable (Akoglu, 2018). Significantly, the analysis reveals that there is no high correlation ($r < 0.8$) between any of the independent variables. Further, the variance inflation factor (VIF) and tolerance value are used to assess for multicollinearity (Oke et al., 2019; Shrestha, 2020; Thompson et al., 2017). Since the VIF value of less than 10 and the tolerance value is greater than 0.01 commonly disregards the existence of multicollinearity (Oke et al., 2019; Shrestha, 2020; Thompson et al., 2017), this indicates the absence of multicollinearity between the independent variables.

Table 02: Random Effect Regression Result

	Model – 01			**Model – 02**		
Variable	**Coefficient**	**Z-values**	**p-values**	**Coefficient**	**Z-values**	**p-values**
Constants	-1.17	-5.54	0.00	-1.14	-5.39	0.00
BDS	0.03	1.03	0.30	0.25	2.06	0.04
BDI	0.43	1.23	0.22	2.53	1.38	0.16
BDM	0.17	9.11	0.00	0.058	0.31	0.75
BDS* logFS				-0.02	-1.85	0.07
BDI* logFS				-0.22	-1.19	0.23
BDM* logFS				0.01	0.53	0.60
Overall R-Squared			27.40			31.78
Wald chi2			142.26			148.76
Prob>F			0.00			0.00
Hausman						
chi2			3.46			11.10
Prob > chi2			0.33			0.09
Breusch and Pagan Lagrangian multiplier test						
chibar2(01)			239.29			192.27
Prob > chibar2			0.00			0.00

This study utilizes the Hausman test to determine the relative efficacy of a fixed effects model compared to a random effects model. The Hausman test for both models indicates that the random effects model is preferable to the fixed effects model ((Model 01-Chi-Sq. Statistic = 3.46, P-Value >0.05) (Model 02-Chi-Sq. Statistic = 11.10, P-Value >0.05)). The Breusch and Pagan Lagrangian multiplier test (BPLMT) was employed to establish the superiority of a random effects model and a Pooled ordinary least squares regression model. The findings of the BPLMT for random effects indicate that both model 01 and model 02 support the alternative hypothesis that the inclusion of random effects is appropriate. The results of the random effect of regression for both research models are presented in Table 02.

Regression model 01 investigates the relationship between the board characteristics and financial performance, without considering any moderating variables. The regression analysis of model 01 reveals that BDM has a statistically significant favourable influence on ROA. This is supported by the research findings of Paul (2017), where it was concluded

that attendance at BDM is perceived to be an indicator of good monitoring activities of the board. Further, the size and independence of the board have no meaningful link with ROA. It is supported by the research findings of Jian-bo (2007), where the study concluded firms with higher BDI have lower variability of ROA. The results from Table 2 indicate that the overall coefficient of determination (Overall R-sq) is 0.274 (Wald chi2=142.26, P-Value <0.01). This means that the proxies of the independent variable, without the moderator, have a combined effect of approximately 27.4% on the systematic changes in the dependent variable (ROA) during the period being studied.

Regression model 02 investigates the link between the board characteristics and financial performance, taking into account a firm size as a moderating variable. Interestingly, it appears that BDS has a positive impact on ROA ($R = 0.25$, $p < 0.05$). This result aligns with the results of Farwis et al. (2021), however it contradicts the findings of Liang et al. (2013). It indicated that more BDM do support for financial performance of the Sri Lankan firms through their diverse knowledge. Whereas BDI ($R = 1.38$, $p > 0.1$) and BDM ($R = 0.31$, $p > 0.1$) have no significant impact on firm performance. Firm size does not significantly influence the relationship between BDI and ROA, nor between BDM and ROA. However, the firm size is found to substantially and negatively moderate the association between board size and the financial performance of Sri Lankan firms. The regression results exhibit that the three board attributes and firm size explained 31.78% of the variance in firm performance (R^2=0.31788, Wald chi2=148.76, P-Value <0.01). The remaining 68.22% are explained by the other factors.

Based on the empirical findings and consistent with the existing literature, this study reinforces the complex and context-dependent nature of the relationship between board structure and firm performance. Regression Model 01 indicates that board meeting frequency significantly and positively impacts ROA, echoing prior evidence (e.g., Paul, 2017; Eluyela et al., 2018) that board engagement through regular meetings enhances monitoring effectiveness and strategic oversight. Conversely, BDS and BDI show no significant relationship with firm performance in this model, reflecting earlier inconclusive findings in both developed and emerging markets (e.g., Graf & Lueg, 2019; Hui Liang James, 2020). Notably, when firm size is introduced as a moderator in Model 02, BDS exhibits a positive and significant influence on ROA, although this effect is dampened when firm size interacts with board size, suggesting that the governance-performance linkage is sensitive to contextual organizational factors such as firm scale. The insignificant moderating effect of firm size on BDI and BDM relationships further implies that certain governance mechanisms operate independently of organizational size in the Sri Lankan context. These findings, aligned with agency theory and institutional considerations, highlight the need for a nuanced understanding of board characteristics, reinforcing that one-size-fits-all governance prescriptions may not yield uniform performance outcomes in emerging economies.

5. Implications

In terms of theoretical implications, this study strengthens agency theory by showing that business size affects how well board qualities mitigate agency issues, emphasizing the necessity of a contextual approach. According to the findings, moderating factors like business size should be included in agency theory, which has historically placed an emphasis on uniform governance procedures, in order to properly explain variances in board effectiveness. In particular, the contribution of BDS to enhancing financial success seems to depend on the size of the company, necessitating a deviation from universally applicable governance guidelines. Agency theory adapts to the dynamic interplay between business features and governance systems, especially in emerging markets, by incorporating these ideas.

In terms of practical implications**,** policymakers, business executives, and governance professionals in Sri Lanka can benefit from the practical insights this study offers. When creating corporate governance principles, Sri Lankan regulators like the Securities and Exchange Commission (SEC) and Colombo Stock Exchange (CSE) ought to take business size into account. They should also encourage larger boards for major companies so that they can benefit from a variety of experience. Furthermore, the continuous benefits of regular BDM highlight how crucial it is to mandate active board participation in all businesses, regardless of size, in order to improve financial results and the efficacy of decision-making.

6. Conclusion

Even though considerable research has been carried out in Sri Lanka on the link between board attribute and financial performance, the significance of examining the role of firm size in this nexus remains unexplored. Consequently, this research investigated the moderating role of firm size on the association between board attribute and firm performance. The study shows that, in the absence of a moderating variable in the regression model, BDM are strongly positively correlated with financial performance, but BDS and BDI have no discernible relationship to the financial performance of Sri Lankan enterprises. Firm size does not moderate the relationship between BDI and BDM and the financial performance of Sri Lankan firms. The firm size, however, moderates the association between BDS and the financial performance of companies.

This study provides empirical evidence on the underexplored relationship between board attributes and financial performance, with firm size acting as moderating variable. Moreover, this study reveals results that are thought-provoking for practitioners, legislators, and researchers involved in the development of corporate governance structures. This study only considers the board attributes in governance structures such as BDS, BDI and BDM and also ROA used to measure the performance. Thus, future studies can include the firm characteristics and other governance characteristics such as CEO duality, Gender diversity ,Audit committee etc; and ROI, EPS, and Tobin Q ratio to measure the performance. This study is conducted in non-financial listed firms in the Sri

Lankan context, so future studies might be needed in otherfinancial sectors in the Colombo stock exchange.

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