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IMPACT OF CORPORATE GOVERNANCE ON CAPITAL STRUCTURE DYNAMICS: EVIDENCE FROM COLOMBO STOCK EXCHANGE

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ABSTRACT

This study attempts to determine the impact of corporate governance on capital structure dynamics in hotel and travelling, and manufacturing listed firms in the Colombo Stock Exchange by incorporating the financial transparency as a vital dimension of corporate governance mechanism to the previously tested governance dimensions on board effectiveness and ownership structure. The dynamic capital structure theories show that the companies have different levels of speed of adjustment which is how the companies adjust their capital structure towards the target capital structure. For this purpose, the study follows two stages in deriving the speed of adjustment and finding the impact of governance attributes on speed of adjustment and uses 20 listed firms from each sector from 2010 to 2019. The study uses Generalized Methods of Moments to analyse the data. Results reveal that financial transparency is a vital information that affect on the speed of adjustment towards the optimal capital structure in both the hotel and travelling; and manufacturing sector. Thus, this study document that the financial transparency and board effectiveness affects on both the sectors' SOA towards the optimal capital structure whereas ownership structure has significant impact only on the SOA in the manufacturing sector. Accordingly, study guides corporate managers in

adjusting their capital structure by considering governance attributes and the companies need to reform the existing policies with the implications of corporate governance and capital structure adjustments in a way which could obtain the benefits of maintaining an optimal leverage level.

Keywords – Corporate governance, hotel and travelling sector, manufacturing sector, optimal capital structure, speed of adjustment

1. INTRODUCTION

In the past decades, capital structure is increasingly being studied by the researchers with the seminal contribution by Modigliani and Miller (1958). Capital structure considers as an important issue and it is a debatable issue linking to other aspects under the corporate finance. Management should decide the most appropriate mix (optimal capital structure) of debt and equity financing by taking consideration of a company's particular circumstances and in the best interest of all shareholders.

According to static trade off theory, a firm reaches the optimal level of debt which maximizes the wealth of its shareholders via a trade-off between tax benefit due to debt use and cost of bankruptcy. However, due to the existence of agency conflicts, firms do not adjust their leverage immediately to the optimal level due to several reasons such as debt covenants (Devos, Rahman & Tsang, 2017), investment opportunities (Elsas, Flannery & Garfinkel, 2014), corporate governance (e.g., Chang, Chou, & Huang, 2014), credit ratings (Huang & Shen, 2015), and macroeconomic conditions (Cook & Tang, 2010). Chang et al. (2014) and Liao, Mukherjee and Wang, (2015) provide evidence on an association between corporate governance and dynamic capital structure, suggesting that the firms with strong corporate governance face lower costs of adjustment and will adjust more quickly towards their target. Speed of adjustment (SOA) defines as the percentage of the deviation from target (optimal) leverage that the firms tend to remove each period. Therefore, estimation of SOA investigates the existence of target leverage and adjustments toward target leverage. On the other hand, corporate governance is the structure by which corporations are controlled and directed and used to monitor managers' and directors' behaviour for the purpose of mitigating agency risks. Thus, it is worthwhile to study the relationship between corporate governance and speed with which firms converge to their target leverage.

Banerjee, Heshmati and Wihlborg (2004) stated that firms usually adjust their leverage partially to the target leverage at least due to presence of adjustment costs. According to Chang et al. (2014), adjustment costs are directly related to the severity of conflicts between managers and shareholders. Therefore,

firms' SOA toward its optimal capital structure depends on the effectiveness in the firms' corporate governance systems (Zheka, 2010).

However, the studies on corporate governance and SOA are dominated by developed economies particularly in the USA and emerging markets are still at a nascent stage due to the limited focus on this research area. A few studies have provided empirical evidence for the research area in the developing market context (Buvanendra et al., 2017; Supra, Narender, Jadiyappa, & Girish, 2016). The study conducted by Buvanendra et al. (2017) is the sole research directed towards the determination of the effect of corporate governance on the SOA in Sri Lankan context. The present study differs from the study by Buvanendra et al. (2017) which examines the financial transparency attribute as a vital dimension in corporate governance mechanisms together with the previously tested governance attributes relating to the ownership structure and board effectiveness. Further, a study by Chang et al. (2014) examines the effect of governance on SOA in terms of shareholder rights. Thus, the extant literature relating to the governance and SOA were limited with selected few attributes of governance information. Moreover, Ashbaugh-Skaife, Collins and LaFond (2006) and Fernando, Li and Hou (2019) find that the importance of incorporating comprehensive governance attributes to avoid the issue of drawing inferences based on one attribute and resulting omitted variable problem. Therefore, as highlighted in the Standard & Poor's framework (2002), financial transparency and disclosures is one of the major areas that a governance framework should focus. Previous studies have shown the financial transparency indicators as a critical aspect because it reduces information asymmetry and residual agency costs (e.g., Aggarwal & Kyaw, 2009, Ashbaugh-Skaife et al., 2006). Thus, the purpose of the current study is to examine the corporate governance attributes comprehensively, covering board effectiveness; ownership structure; and financial transparency in determining the level of influence of corporate governance on SOA of manufacturing firms; and hotels and travelling firms listed in the Colombo Stock Exchange (CSE). Moreover, the study will be beneficial to the constituents such as corporate managers of the listed manufacturing firms and hotels and travelling firms in determining their optimal capital structure and to evaluate their position and strategies in relation to the current level of leverage. The reason for selecting two sectors for the study is, it is assumed that there are some inter-industry differences in the speed of capital structure adjustments of firms due to the unique nature of each industry's business and the capital structures.

The rest of the paper is organized in sections: Section 2 reviews the literature related to the study; Section 3 presents the methodology of the study and Section 4 provides the results and discussion and the section 5 provides conclusion and recommendation from the study.

2. LITERATURE REVIEW

2.1 Empirical studies on SOA and corporate governance

The studies related to dynamic capital structure construct on the assumption of existence of target leverage. The dynamic capital structure which recognizes target leverage emphasizes that firm's trade-off between benefits and costs of debt usage. According to Baxter (1967), Kraus and Litzenberger (1973) and DeAngelo and Masulis (1980), firms attempt to maintain an optimal capital structure through a trade-off between the benefits of debt and agency costs and bankruptcy costs. As per the static tradeoff theory, firms maximize its value when it reaches its optimal capital structure through a trade-off between interest tax shield and costs of additional borrowings, particularly the bankruptcy costs. Consequently, deviations from target leverage should be removed promptly. As Kraus and Litzenberger (1973) and Baxter (1967) stated, a taxable company should raise debt until present value of possible financial distress cost offsets the marginal value of the tax shield.

According to Jensen and Meckling (1976) debt agency cost arises due to conflicts of interest between shareholders and managers as well as between debt-holders and shareholders. Conflicts between managers and shareholders arise because managers cause the reduction of opportunities for shareholders to consume perquisites by holding the entire residual claim and not capturing entire gain from profit generating activities while bearing some costs (Harris & Raviv, 1990). Jensen (1986) argued that increasing the debt portion in the capital structure will minimize the problem by reducing cash flows available for managers as firms contractually bind to pay debt before managers.

Therefore, theories related to capital structure can be identified based on the consideration of existence of target leverage under each theory. Trade-off theory (Kraus & Litzenberger, 1973; Baxter, 1967), agency theory (Jensen & Meckling, 1976) and free cash flow theory (Jensen, 1986) recognize the existence of target leverage while pecking order theory (Myers & Majluf, 1984) do not assume the existence of target leverage.

Most of the studies demonstrate that firms attempt to establish an optimal leverage (Fama & French, 1998; Flannery & Rangan, 2006; Drobetz & Wanzenried, 2006). Furthermore, the literature has recently focused extensively on the SOA toward optimal capital structure by examining the process used in arriving at optimal leverage (Flannery & Rangan, 2006; Lemmon, Roberts & Zender, 2008). According to Flannery and Hankins (2007), the SOA toward optimal leverage depends on factors such as adjustment costs and benefits and costs of non-adherence to the target leverage. Therefore, in reality firms may not fully adjust their leverage to the target

leverage while implying the importance of studying financing decisions in a dynamic framework.

According to Fama and French (2002) the optimal leverage ratio is not observable but can be estimated using firm specific determinants such as firm size, growth opportunities and non-debt tax shield. Accordingly, studies done by researchers such as Jensen (1986), Jensen and Meckling (1976), Buvanendra et al. (2017) provide empirical evidences on determinants of optimal capital structure such as profitability, firm size, growth opportunities, tangibility, non-debt tax shield.

On the other hand, corporate governance can be narrowly defined as the relationship between managers, directors and shareholders. Sanvicente (2013) states that corporate governance mainly concerns the strategies which could improve the firm's performance and minimize cost arising from agency conflicts. The presence of agency conflicts between managers and shareholders not only causing to deflect corporate policy choices, but also lowers the firms' corporate performance. Accordingly, self-interested managers do not make capital structure decisions that maximize shareholders' wealth. Therefore, firms' leverage and SOA toward optimal capital structure are influenced by not only firm specific characteristics, but also by conflicts between managers and shareholders.

Lately, some researchers extend their studies on dynamic capital structure theory by incorporating aspects of corporate governance as corporate governance is an important determinant which significantly affect on deviation between observed and target leverage. Furthermore, quality of corporate governance is helpful in determining speed with which firms converge to their target leverage. Liao et al. (2013) validate the claim by reporting that corporate governance affects the adjustment speed other than firm specific characteristics.

Accordingly, studies done by researchers such as Buvanendra et al. (2017); Liao et al. (2015); Morellec, Nikolov and SchCurhoff (2012), Fosberg (2004) provide empirical evidences for impact of corporate governance (board size, board independence, CEO-Chairman duality, percentage of management compensation, institutional ownership) on capital structure dynamics. However, as the financial disclosure and audit intensity have not been used in previous studies under the corporate governance, there are no studies which directly discuss the impact of said variables on SOA toward optimal capital structure. According to Bushman, Piotroski and Smith (2004) financial disclosure is a useful aspect for outside directors as it helps in valuing securities and monitoring managers' decisions, thus reducing agency conflicts. Accordingly, the study has been used financial disclosures and audit intensity as determinants of SOA.

2.2 Hypotheses Development

Based on the extant literature on capital structure dynamics, the hypotheses are proposed the possible corporate governance determinants of SOA.

Financial disclosure and speed of adjustment

Financial disclosure is a useful aspect for outside directors as it helps in valuing securities and monitoring managers' decisions (Bushman et al., 2004), thus reducing agency conflicts. Therefore, proper financial disclosures enhance the confidence of fund providers, thus, leads to a higher adjustment speed. Thus, it is hypothesized that proper financial disclosures lead to higher adjustment speed. Accordingly, the hypothesis 1 of the study is;

H1: Financial disclosure has a significant effect on SOA toward optimal leverage.

Audit intensity and speed of adjustment

Audit intensity used to measure the credibility in financial disclosures. Thus, increased audit intensity provides fund providers with increased confidence by providing measures on accuracy in financial disclosures. Accordingly, it is hypothesized that increased audit intensity leads to higher adjustment speed. Thus, the hypothesis 2 of the study is;

H2: Audit intensity has a significant effect on SOA toward optimal leverage.

Board size

Board size has been identified in recent studies as a significant indicator which effects on optimum financing decisions with positive correlation (Buvanendra et al., 2017) while some of the studies identified a negative relationship (Liao et al., 2013) as larger boards may increase agency problems and reduce the speed of taking important decisions. Accordingly, it is hypothesized that larger boards have a negative relationship with speed of capital structure adjustments. Thus, the hypothesis 3 of the study is;

H3: Board size significantly effect on SOA toward the optimal leverage.

Board independence and speed of adjustment

Higher proportion of non-executive directors makes it easier for a company to obtain debt as the market believes that with a higher number of non-executive directors, the company is being monitored effectively. Furthermore, an independent board leads to lower agency cost, thus, provides increased opportunities to raise funds through debt financing. Therefore, it is

hypothesized that a higher representation of non-executive directors on board leads to higher adjustment speed. Thus, the hypothesis 4 of the study is;

H4: Board independence significantly effect on SOA toward optimal leverage.

CEO-duality and speed of adjustment

CEO-duality discourages a board's independent decision making as proven by most of related studies (e.g., Buvanendra et al., 2017). Furthermore, few studies stated that CEO-duality reduces issues related to separation of ownership and control, thus, provide a direct relationship with leverage (Fosberg, 2004). The study hypothesized that if the CEO and the Chairman is the same person, it leads to lower adjustment speed towards optimal capital structure. Accordingly, the hypothesis 5 of the study is;

H5: CEO duality significantly effect of on SOA toward optimal leverage.

Director compensation and speed of adjustment

Most of the studies state that incentive-oriented compensation is helpful in minimizing problems related to agency conflicts (Hall & Liebman, 2000), thus it facilitates timely convergence of optimum capital structure (Buvanendra et al., 2017). Thus, it is hypothesized that a higher the directors' compensation, higher the adjustment speed. Accordingly, the hypothesis 6 of the study is;

H6: Director compensation significantly effect on SOA toward optimal leverage.

Institutional ownership and speed of adjustment

Institutional investors' substantial ownership in a company's stake promotes effective monitoring over managers' decisions (Liao, et al., 2015). Accordingly, increased institutional ownership reduces the agency conflicts and helps to increase leverage at an advantageous cost. Therefore, it is hypothesized that a higher the percent of institutional ownership, higher the adjustment speed. Thus, the hypothesis 7 of the study is;

H7: Institutional ownership significantly effect on SOA toward optimal leverage.

3. METHODOLOGY

3.1 Sample data and data collection

The research has been conducted in two stages using secondary data contained in the published annual reports of selected listed firms from the hotel & travelling sector and the manufacturing sector.[1] Initially, the listed companies in manufacturing and hotel & travelling industries as classified by the CSE was considered for the study from 2010 to 2019. As at the end of 2019, there were 38 listed companies from each sector. Subsequently, the sample was selected from those sectors based on availability of data and the highest market capitalization, thus 20 companies from each industry have been used for this study.

3.2 The empirical model

Based on the above hypotheses, the analysis follows two stages to examine the impact of corporate governance on SOA. Accordingly, in the first stage, firm specific characteristics (independent variables) are used to determine the optimal leverage (dependent variable). In the second stage, the lag value of the leverage deviation (i.e., the optimal leverage minus actual leverage) together with the governance attributes are used to derive SOA towards the optimal capital structure. After the model estimation in the second stage, the sign of the governance attributes and the significant level are used to examine the impact of corporate governance attributes on SOA toward optimal capital structure.

The equation (1) used to estimate typical target leverage.

Determining optimal capital structure

$$L*_{it} = f(X_{it}) \rightarrow (1)$$

The study specifies the target leverage ($Lev*_{it}$) as a function of the exogenous firm-specific factors represented by X_{it}. Both book and market value of leverage ratios are used in this study[2] as separate models. As shown in Equation (1), the target leverage ratio varies across firms and time. Following the literature (Fama & French, 2002; Hovakimian, Hovakimian, & Tehranian, 2001; and Titman & Wessels, 1988), this study considers the most commonly used determinants of the target leverage (Profitability (PROF); Growth Opportunities (GO); Firm Size (FS); Tangibility (TAND); Non-debt Tax

[1] The industry classification at the CSE has changed since 2020 and adopted GICS. Thus, the manufacturing and hotel & travel sectors are no longer available in these categories.

[2] Book leverage = long-term debt plus short-term debt/book value of total assets; Market leverage = long-term debt plus short-term debt/market value of total assets.

Shield (NDTS). Next, the fitted values from Equation (1) known as the target leverage (Lev^*_{it}) apply to the second step in the following model (Equation (2)).

Determining the impact of corporate governance on SOA

$$L_{it} - L_{it-1} = \delta_{it}(L *_{it} - L_{it-1}) \rightarrow \quad (2)$$

$$it = \alpha_0 + (\partial_0 + \beta_1 BS_{it} + \beta_2 BI_{it} + \beta_3 DUAL_{it} + \beta_4 DC_{it} + \beta_5 IO_{it} + \beta_6 FD_{it} + \beta_7 AI_{it} + \varepsilon_{it} \quad \rightarrow \quad (3)$$

$$L_{it} - L_{it-1} = \alpha_0 + (\partial_0 + \beta_1 BS_{it} + \beta_2 BI_{it} + \beta_3 DUAL_{it} + \beta_4 DC_{it} + \beta_5 IO_{it} + \beta_6 FD_{it} + \beta_7 AI_{it})(Dist_{it}) + \varepsilon_{it} \quad \rightarrow \quad (4)$$

Where; $L_{it} - L_{it-1}$ is the leverage deviation. Thus, the Equation (2) regresses the leverage change (i.e., Lev_{it} -Lev_{it-1}) on the leverage deviation (i.e., Lev^*_{it} - Lev_{it-1}). In the equation, Lev_{it} denotes the year-end leverage for the i^{th} firm, and $Levi_{t-1}$ is the lagged leverage of the i^{th} firm. δ in Equation (2) represents the SOA, which measures how fast firms adjust their current leverage towards the target leverage. δ is expected to be between zero and one due to transaction cost (Hovakimian et al., 2001). While the leverage adjustment speed δ_{it} in Eq. (3) is constant for all firms, study allows corporate governance (Board size; Board independence; CEO-duality; Director compensation; Institutional ownership; Financial disclosures; audit intensity) to increase the firm's level of adjustment toward it target ratio. Thus, substituting equation (3) back to equation (2) yields the equation for a partial adjustment model with heterogeneity in the leverage SOA equation (4). The all the measurement scale of variables is listed in the appendix (Table A1).

3.3 Data analysis techniques

The study has been conducted using descriptive statistics, correlation analysis, panel regression and generalized method of moments (GMM). At the first stage, by following the existing literature (For example, Fernando, Li and Hou, 2021), the study estimates the target leverage by using panel regression and estimates both book and market target leverage. Thereupon, the determined optimal leverage has been used to determine the SOA along with the corporate governance on the capital structure dynamics using system GMM. System GMM method is applied due to the advantages of its in short panel with independent variables that are not strictly exogenous meaning that independent variables are correlated with past and possibly current realizations of error and controls for fixed effects, heteroscedasticity and autocorrelation within individuals (Buvanendra et al., 2017; Flannery & Hankins, 2013; Liao et al., 2015). The study has used Fisher-type unit root test based on augmented

Dickey-Fuller test to perform unit root test as the study contains unbalanced panels (See the Appendix: Table A2).[3]

4. RESULT AND DISCUSSION

4.1 Descriptive statistics

The table 1 presents summary statistics of firm leverage (including book and market values), the firm specific variables used to determine the target leverage and the corporate governance variables used to determine the SOA towards optimal leverage. First, the mean and median values of the hotel and travelling sector in terms of book leverage are 0.229 and 0.133 respectively. The corresponding values for the manufacturing sector are 0.424 and 0.435, which implies a higher book leverage in the manufacturing sector compared to the hotel and travelling sector. In line with the book leverage, the market leverage of the manufacturing sector also supports a higher leverage with mean and median values of 0.336 and 0.346, in contrast to the hotel and travelling sector which possesses corresponding values of 0.242 and 0.158. Furthermore, maximum, minimum and standard deviation values of the hotel and travelling sector are 0.924, 0.001, 0227 in terms of book leverage and 0.872, 0.001, 0.247 in terms of market leverage. The corresponding values for the manufacturing sector are 0.815, 0.032, 0.144 in terms of book leverage and 0.758, 0.008, 0.183 in terms of market leverage. Last, the market leverage of both sectors is higher than the book leverage.

Furthermore, the determinant variables of speed of adjustment present significant differences among manufacturing firms and hotel and travelling firms. For instance, the mean and median of the board size variable for hotel and travelling firms are 8.423 and 9.000 whereas manufacturing firms report 7.870 and 8.000 for mean and median, providing evidence for larger board size in hotel and travelling firms. Next, the board independence variable of both sectors possesses almost similar values. Accordingly, the mean and median for hotel and travelling firms are 0.706 and 0.714 whereas manufacturing firms report 0.724 and 0.714 for mean and median respectively. The CEO-Chairman duality is a dummy variable, taking a value of 1 if a firm's CEO and Chairman are the same person; and 0 otherwise. The mean value for hotel and travelling firms and manufacturing firms are 0.073, 0.056 whereas the median is 0.000 for both sectors. The directors' compensation of hotel and travelling firms

[3] As per the results of unit root test, book leverage, profitability, firm size and tangibility variables are stationary at level while market leverage, growth opportunities and non-debt tax shield are stationary at first difference in hotel and travelling sector. Moreover, market leverage and profitability variables of the manufacturing sector are stationary at level whereas book leverage, firm size, growth opportunities, tangibility and non-debt tax shield variables are stationary at first difference.

possess mean and median values of 0.105 and 0.009 while manufacturing firms possess mean and median values of 0.099 and 0.075, respectively. The hotel and travelling sector have a higher institutional ownership provided with mean and median of 0.838 and 0.897 in contrast to the manufacturing sector which has 0.786 and 0.852 of mean and median values respectively. Financial disclosure and audit intensity variables are dummy variables which has been used as proxies for financial transparency. The related mean and median values of financial disclosure for hotel and travelling firms are 0.687 and 1.000 whereas 0.333, 0.000 values are related to manufacturing firms. This result implies a higher adherence by hotel and travelling firms, in undertaking appropriate financial disclosure requirements. In line with the financial transparency, audit intensity also shows a higher value in the hotel and travelling sector with a mean and a median of 0.933 and 1.000. The corresponding values for the manufacturing sector are 0.898 and 1.000, respectively. The correlation analysis results are presented in appendix (Table A5) and ensures no multicollinearity issues among the variables.

Table 1 Descriptive statistics

	Mean		Median		Max.		Min.		Std. Dev.	
	H&T	M	H&T	M	H&T	M	H&T	M	H&T	M
BLEV	0.229	0.424	0.133	0.435	0.924	0.815	0.001	0.032	0.227	0.144
MLEV	0.242	0.336	0.158	0.346	0.872	0.758	0.001	0.008	0.247	0.183
PROF	0.067	0.151	0.063	0.122	0.194	0.659	-0.01	-0.08	0.049	0.121
FS	9.682	9.561	9.659	9.661	10.54	10.51	8.997	8.717	0.323	0.432
GO	1.199	1.813	0.898	1.277	4.893	7.931	0.001	0.602	0.853	1.363
TANG	0.437	0.306	0.494	0.304	0.964	0.820	0.000	0.002	0.349	0.191
NDTS	0.017	0.023	0.011	0.017	0.089	0.095	0.000	0.001	0.018	0.019
BS	8.423	7.870	9.000	8.000	12.00	14.00	5.000	4.000	1.812	1.849
BI	0.706	0.724	0.714	0.714	1.000	0.900	0.300	0.400	0.205	0.118
DUAL	0.073	0.056	0.000	0.000	1.000	1.000	0.000	0.000	0.262	0.231
DC	0.105	0.099	0.009	0.075	0.736	0.551	0.000	0.000	0.202	0.096
IO	0.838	0.786	0.897	0.852	0.987	0.992	0.030	0.231	0.167	0.194
FD	0.687	0.333	1.000	0.000	1.000	1.000	0.000	0.000	0.465	0.473
AI	0.933	0.898	1.000	1.000	1.000	1.000	0.000	0.000	0.252	0.303

Note: (Profitability (PROF); Growth Opportunities (GO); Firm Size (FS); Tangibility (TAND); Non-debt Tax Shield (NDTS); Board Size (BS); Board independence (BI); CEO-Duality (DUAL); Percent of directors' compensation (DC); Institutional Ownership (IO); Financial Disclosure (FD); Audit Intensity (AI).

Source: Author Constructed

4.2 Analysis on hotel and travelling sector

The study has been conducted the Hausman test at the inception of the study to determine the most appropriate model between the fixed effect the random effect model for the purpose of determining the optimal capital structure of hotel and travelling sector in terms of both book leverage and market leverage. According to the test results, fixed effect model has been used in the book leverage model while random effect model (See the Appendix: Table A3) used in market leverage model and the use of random effect model is further supported by the Breusch-Pagan LM test as the test has been able to reject the null hypothesis. Then the Breusch-Pagan / Cook-Weisberg test has been used to test the homoscedasticity. As per the results of Breusch-Pagan / Cook-Weisberg test, heteroscedasticity exists in the model, thus the robust standard errors have been interpreted in the study instead of standard errors.

Table 2: Determination of optimal capital structure of hotel and travelling sector

	Book Leverage			Market Leverage		
	Coeff	t-stat.	Prob	Coeff	t-stat	Prob
Profitability	-0.286	-1.70	0.106	-0.356	-1.74	**0.083**
Firm Size	0.410	2.19	**0.042**	-0.058	-1.91	**0.059**
Growth Opportunities	0.059	1.75	**0.097**	-0.058	-1.08	0.282
Tangibility	0.290	1.96	**0.064**	0.039	1.21	0.227
Non-Debt Tax Shield	-0.772	-0.66	0.517	-4.295	-1.60	0.112
Constant	-3.843	-2.11	0.049	0.595	1.99	0.048
R-Squared	0.012			0.074		
F	10.440			2.470		
Probability	0.000			0.035		

Source: Author Constructed

As per table 2, there is a significant effect from firm size on leverage (book leverage) at a 5% significant level whereas growth opportunities and tangibility possess statistically significant impact with book leverage at a 10% significant level. In the market leverage model, only profitability and firm size is statistically significant at 10% significance level and none of the other firm specific variables are significant with the market leverage. The F-statistics of the regression result and respective p-value evidence that the overall model of both models is significant. Both models have been used for the purpose of predicting optimal leverage to arrive at the ultimate objective of determining the impact of corporate governance on speed of adjustment towards optimal capital structure. Then in the second stage, impact of corporate governance on capital structure dynamics has been determined using system GMM.

Table 3: The effect of corporate governance on leverage SOA in the Hotel & Travelling sector

	Book Leverage			Market Leverage		
	Coeff	t-stat.	Prob	Coeff	t-stat	Prob
Distance*Board Size	-0.017	-3.18	**0.002**	0.028	2.25	**0.027**
Distance*Board Independence	0.138	6.44	**0.000**	0.341	1.52	0.131
Distance*CEO-Chairman Duality	-0.023	-0.90	0.370	0.284	1.49	0.139
Distance*Percentage of Directors' Compensation	0.043	3.40	**0.001**	-0.058	-0.29	0.769
Distance*Institutional Ownership	0.109	1.39	0.168	0.393	1.15	0.254
Distance*Financial Disclosure	-0.031	-3.77	**0.000**	-0.006	-0.07	0.944
Distance*Audit Intensity	-0.032	-1.61	0.109	-0.799	-2.74	**0.007**
Wald Prob.	0.000			0.008		
AR (2)	0.321			0.761		

Note: Distance = Target leverage- Current leverage)
Source: Author Constructed

As per the results of table 3, board size, board independence, directors' compensation and financial disclosure have significant impact on speed of adjustment (book leverage) at 1% significance level. However, CEO-Chairman duality, institutional ownership and audit intensity are insignificant. Furthermore, the market leverage model shows a significant influence of board size and audit intensity on speed of adjustment at 5% and 1% significant levels respectively. However, board independence, CEO-duality, director compensation and financial disclosure variables do not significantly influence the speed of adjustment towards optimal leverage. Overall, both models are significant at 1% significance level as evidenced by Wald test and the Arellano-Bond test for second order (AR2) serial correlation provide evidence for absence of second order serial correlation.

4.3 Analysis on manufacturing sector

Random effect model has been used to determine the optimal capital structure with a 5% significance level in terms of book and market leverage given the results of the Hausman test (See the appendix: Table A4) and the use of random effect model is further supported by the Breusch-Pagan LM test as the test has been able to reject the null hypothesis. Then the homoscedasticity has been tested using Breusch-Pagan/ Cook-Weisberg test. The test has not been able to reject the null hypothesis of homoscedasticity; thus, the model is free of heteroskedasticity.

Table 4: Determination of optimal capital structure of manufacturing sector

	Book Leverage			Market Leverage		
	Coeff	t-stat.	Prob	Coeff	t-stat	Prob
Profitability	-0.349	-5.86	**0.000**	-0.183	-1.58	0.113
Firm Size	0.720	8.73	**0.000**	0.192	1.14	0.256
Growth Opportunities	0.003	0.31	0.757	-0.038	-1.56	0.118
Tangibility	-0.209	-2.52	**0.013**	-0.223	-1.32	0.188
Non-Debt Tax Shield	2.020	2.13	**0.035**	4.163	2.13	**0.033**
Constant	-0.029	-5.41	**0.000**	0.325	8.68	0.000
R-Squared	0.433			0.007		
F	23.140			8.780		
Probability	0.000			0.118		

Source: Author Constructed

As per the regression output, profitability and firm size have significant impacts on book leverage in the manufacturing sector at 1% significance level and tangibility and non-debt tax ratio have a significant impact at 5% significance while growth opportunities have no impact on the book leverage. Furthermore, all firm specific variables in the market leverage model have no significant impact on market leverage other than non-debt tax shield which is significant at 5%. In contrast to the book leverage model, the market leverage model has been unable to reject the null hypothesis of the Wald test. However, both models have been used to predict the optimal leverage to which has been used in the main model to determine the impact of corporate governance on speed of adjustment towards optimal capital structure.

Table 5: The effect of corporate governance on leverage SOA in manufacturing sector

	Book Leverage			Market Leverage		
	Coeff	t-stat.	Prob	Coeff	t-stat	Prob
Distance*Board Size	0.010	1.90	**0.060**	0.008	1.42	0.157
Distance*Board Independence	-0.298	-3.08	**0.003**	-0.031	-0.46	0.645
Distance*CEO-Duality	-0.514	-0.41	0.683	0.129	2.42	**0.017**
Distance*Percentage of Directors' Compensation	-0.087	-0.97	0.337	-0.380	-2.27	**0.025**
Distance*Institutional Ownership	0.106	2.17	**0.032**	-0.073	-2.07	**0.040**
Distance*Financial Disclosure	0.055	1.63	0.107	-0.046	-1.26	0.209
Distance*Audit Intensity	0.069	1.76	**0.081**	0.079	2.06	**0.042**
Wald Prob.	0.018			0.000		
AR (2)	0.842			0.615		

Note: Distance (Target leverage- Current leverage)
Source: Author Constructed

According to the results generated through GMM estimation (Table 5), board independence and institutional ownership have significant influence on speed of adjustment (in terms of book leverage) at 1% and 5% significant levels, respectively. Moreover, the board size and audit intensity possess significant relationships with SOA at a 10% significance level. In terms of market leverage, CEO-Duality, directors' compensation, institutional ownership and audit intensity possess significant influence on speed of adjustment at 5% significance level, whereas board size, board independence and financial disclosure are insignificant in determining speed of adjustment. According to the Wald test, the overall model is significant at 5% and 1% significance in book leverage model and market leverage model respectively. Moreover, the Arellano-Bond test for second order (AR2) serial correlation provides evidence for the absence of second order serial correlation for both models.

4.4 Discussion

As per the results, board size in hotel and travelling sector possess a significant negative relationship with SOA (in terms of book leverage) in line with the study of Liao et al. (2013), thus larger boards increase agency problems and lower the SOA in hotel and travelling sector in terms of book leverage. In contrast with the book leverage model, the market leverage model of the hotel and travelling sector provides evidence for a significant positive relationship between board size and SOA, thus providing ambiguous results. The reason for the contradicted relationships in the same industry could be the higher impact of non-controllable factors on market leverage than the book leverage (Drobetz & Wanzenried, 2006). Moreover, the positive association identified in the book leverage model of the manufacturing sector supports the findings of Buvanendra et al. (2017).

The book leverage shows a positive impact of board independence on SOA whereas the market leverage model of hotel and travelling sector is insignificant with board independence. These results are in line with the findings and facts provided by Liao et al. (2013). Accordingly, higher representation of non-executive directors in the hotel and travelling sector speeds up the capital structure rebalancing process and encourages adjustments towards optimal leverage along with a reduced agency cost.

Nevertheless, the board independence of the manufacturing sector is significant and negatively associated with SOA toward optimal leverage (book leverage) as proposed by Buvanendra et al. (2017). However, Buvanendra et al. (2017) shows an insignificant relationship in contrast to this study which provides evidence for a significant association. Furthermore, the negative association in the manufacturing sector is further supported by the insignificant yet negative relationship provided by the market leverage model.

CEO-duality shows a significant impact with SOA in the manufacturing sector (in terms of market leverage). Moreover, both sectors provide ambiguous results for book leverage and market leverage models. Accordingly, the negative association between CEO-Duality and SOA as provided by book leverage models of both sectors is consistent with the findings of Buvanendra et al. (2017). It indicates that CEO-duality creates conflict of interest as the same person serves in both positions. Furthermore, the result supported CEO-Chairman separation. The market leverage models of both sectors show a positive impact of CEO-Chairman duality on SOA, indicating that CEO-Chairman duality reduces problems related to separation of ownership and control, thus persuading capital structure rebalancing (Liao et al., 2013; Fosberg, 2004). Moreover, the contradicting results in both sectors could be because of the impact of market imperfections on leverage (Drobetz and Wanzenried, 2006).

Directors' compensation of the hotel and travelling sector indicates a statistically significant positive relationship (in terms of book leverage) in line with the results of Buvanendra et al. (2017). Accordingly, it indicates that incentive-oriented compensation helps to minimize the agency problems (Hall and Liebman, 2000), and thus facilitates timely convergence of optimal capital structure. However, the market leverage model shows an insignificant negative relationship as opposed to the book leverage model of the hotel and travelling sector (Liao et al., 2013; Morellec et al., 2012). Directors' compensation in the manufacturing sector shows a negative relationship with SOA in line with the findings of Liao et al. (2013) and Morellec et al. (2012). Moreover, directors' compensation of the manufacturing sector (in terms of market leverage) significantly influences SOA towards optimal capital structure. Thus, it can conclude that increased management compensation in the manufacturing sector leads to incur greater agency cost, thus discouraging capital structure adjustments.

According to the results of the study, institutional ownership possesses an insignificant positive relationship with the SOA toward optimal leverage (both book leverage and market leverage) in the hotel and travelling sector. Furthermore, institutional ownership of the manufacturing sector has a significant and positive impact on SOA in terms of book leverage. Accordingly, a positive relationship reflects in the hotel and travelling sector and the book leverage model of the manufacturing sector supports the findings of Liao et al. (2013). It indicates that institutional investors' substantial ownership promotes effective monitoring over managers' decisions, thus reducing the agency conflicts and helps to adjust leverage at an advantageous cost. In contrast with the other three models, the market leverage model of the manufacturing sector shows a significant negative relationship between institutional ownership and SOA. However, it is not in line with the general

assumption of a positive relationship which states that the higher percentage of institutional ownership reduces agency costs and managerial opportunism, thus enhancing the confidence of lenders and resulting in favorable terms of borrowing by the company. The reason for the negative relationship could be the higher impact of non-controllable factors on market leverage than the book leverage (Drobetz & Wanzenried, 2006).

The study has developed a hypothesis on the relationship between financial disclosure and the SOA on the basis of a general assumption as previous studies have not considered financial transparency in determining the impact on SOA. Accordingly, the study has hypothesized that proper financial disclosure is useful in reducing agency conflicts, thus leading to higher adjustment speed. However, according to the results of the analysis, the financial disclosure variable of the hotel and travelling sector shows a negative association with the SOA. Furthermore, the negative association identified in the book leverage model is significant at 5% significance level in contrast with the hypothesis. However, the book leverage model of the manufacturing sector shows a significant positive relationship among the financial disclosure and the SOA. Thus, it indicates that proper financial disclosures can enhance the confidence of fund providers and provide useful insights to outside directors in monitoring managers' decisions (Bushman et al., 2004) which reduces agency conflicts, thus leading to a higher convergence speed towards optimal capital structure. In contrast to the book leverage model, the market leverage model of the manufacturing sector shows an insignificant negative association among financial disclosure and SOA. The reason for the contradicted results between the two models could be the higher impact of market imperfections on market leverage than the book leverage (Drobetz & Wanzenried, 2006).

Audit intensity also has not been used to measure the speed of adjustment toward optimal capital structure in previous studies. Therefore, the study has been hypothesized that increased audit intensity provides fund providers with increased confidence on accuracy of financial disclosures, thus leading to a higher adjustment speed. However, the audit intensity of the hotel and travelling sector possesses a negative relationship with the SOA. Furthermore, the negative association identified in the market leverage model is significant at 1% significance level in contrast with the hypothesis. Nevertheless, the audit intensity of the manufacturing sector shows a significant positive relationship with SOA (in terms of both models), consistent with the developed hypothesis. Accordingly, it indicates that increased audit intensity in the manufacturing sector increases the confidence of fund providers by providing measures on accuracy in financial disclosures, thus leading to a higher adjustment speed.

5. CONCLUSION AND RECOMMENDATIONS

The objective of the study was to examine the impact of corporate governance on speed of adjustment towards the optimal capital structure in hotel and travelling companies and manufacturing companies listed in CSE incorporating data of recent ten years (2010-2019) as a sample. Previous studies have focused only on the governance factors based on board effectiveness; ownership structure. Thus, this study examines the effect of financial transparency as one of the important dimensions of the corporate governance mechanism in searching the SOA towards the optimal leverage. Therefore, the current study examines the corporate governance attributes compressively, covering board effectiveness, ownership structure and financial transparency in determining the level of influence on speed of adjustment towards optimal capital structure. The analysis is based on secondary data published in annual reports of the listed manufacturing and hotel & travelling sectors firms over 10 years which were selected based on highest market capitalization. Accordingly, the sample consists of 20 companies from selected sectors. The study found that the hotel and travelling sector, board size; board independence; and percentage of director compensation have a significant impact on determining the SOA, while CEO-duality being insignificant. In the manufacturing sector, board size; board independence; director compensation; and CEO-duality show a significant influence on the speed of adjustment toward optimal capital structure in manufacturing firms. The ownership structure in terms of percentage of institutional ownership shows a significant impact on the manufacturing sector whereas it does not show a significant impact on the hotel and travelling sector in determining the SOA.

More importantly, the study focused the dimension of financial transparency on the SOA towards the optimal capital structure. Thus, the study revealed that both the transparency attributes (financial disclosure, audit intensity) significantly affect the hotel and travelling sector of the SOA negatively. However, both the variables possess significant positive relationships with the SOA toward optimal capital structure in the manufacturing sector.

Therefore, corporate managers of each sector should pay greater attention to significant governance attributes related to each sector and need to reform the existing policies with the implications of corporate governance and capital structure adjustments in a way which could obtain the benefits of maintaining an optimal leverage level. Moreover, top management of the companies should make prudent financing decisions, maintain proper administration procedures and management practices which facilitate the timely convergence towards optimal capital structure. Furthermore, fund providers need to consider the critical governance attributes identified in the study when making critical funding decisions.

Moreover, future researchers could enhance the study by incorporating non listed manufacturing and hotel & travelling firms or other sectors in CSE. Moreover, researchers could use ownership structure attributes and qualitative data such as the view of the corporate managers for examine the same issue in a qualitative approach. Thus, the future researchers could address this deficiency by incorporating more ownership structure variables.

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APPENDIX

Table A1: Variables and measurements

Variables	Proxy Measurement	Variable Definition
Dependent Variable (Stage 01)		
Firm's Leverage	Book Debt Ratio BV of total debt/ BV of total assets Market Debt Ratio BV of total debt/ (MV of equity + BV of total debt)	Use of debt by a firm for the purpose of funding financing needs such as purchase of inventory and other assets
Firm Specific Variables		
Profitability	Return on Assets (ROA) Operating income before depreciation/ Total assets)	Financial benefit realized from a business activity which measures the efficiency of that business activity.
Firm Size	Logarithm of total assets	Breadth of a company measured through a particular scale of measurement.
Growth Opportunities	Market-to-Book ratio (BV of debt + MV of equity)/ BV of assets	An organization's ability to expand their business in future through the use of strategies to generate larger profits, increase production, etc.
Tangibility	Fixed Assets / Total Assets	Physical and measurable assets possess by a firm which are used in a firm's operations and could be used as a collateral to obtain secured debt.
Non-debt tax shield	Depreciation / Total Assets	Tax benefits derive from depreciation expenses and investment tax credit as substitutes for the tax benefits from debt financing.
Corporate Governance Variables		
Board Size	Number of Board of Directors	Number of members in the board comprises of executive directors and non-executive directors including the chairman and CEO.
Board independence	No of non-executive directors / no of board of directors	The state in which all or a majority of directors do not have a significant material or pecuniary relationship with the company.
CEO-Duality	One, if the CEO and the Chairman of the board is the same person, otherwise zero.	The state where CEO and board chair positions in a company holds by separate individuals.
Percent of directors' compensation	Gross Remuneration of Directors / Total Staff Cost	Directors' remuneration including salaries, bonuses and other perquisites as a percentage of total staff costs.
Institutional Ownership	Fraction of stocks owned by institutional investors	The amount of a company's stock owned by large companies or

	Stocks owned by institutional investors/ Total stocks	organizations which invests money on behalf of other people.
Financial Disclosure	One, if the firm disclosed disclosures concerning research and development, capital expenditure, product and geographic segment data, subsidiary information and accounting methods, otherwise zero.	Timely release of accurate information of a company that may influence decisions of investors.
Audit Intensity	One, if the firm has been audited by one of big 3 audit firms in Sri Lanka (PWC, E&Y, KPMG), otherwise zero	Evaluating the accuracy of financial reporting and disclosures using proper audit procedures.

Table A2: Summary of results from unit root test

	Hotel & Travelling Firms	Manufacturing Firms
Book Leverage	at level	at first difference
Market Leverage	at first difference	at level
Profitability	at level	at level
Firm Size	at level	at first difference
Growth Opportunities	at first difference	at first difference
Tangibility	at level	at first difference
Non-Debt Tax Shield	at first difference	at first difference

Table A3: Hausman Test: Analysis on hotel & travelling sector

	Hausman Test			
	Book Leverage		**Market Leverage**	
	Chi2	Prob	Chi2	Prob
Test Summary	18.49	**0.0024**	10.02	**0.0747**

Table A4: Hausman Test: Analysis on Manufacturing sector

	Hausman Test			
	Book Leverage		**Market Leverage**	
	Chi2	Prob	Chi2	Prob
Test Summary	4.87	**0.4325**	1.23	0.9418

Table A5: Correlation results for the selected governance variables for both sectors

	BS	BI	DUAL	DC	IO	FD	AI
Panel A: Hotel & Travelling Sector							
BS	1.000						
BI	-0.094	1.000					
Dual	-0.207	0.005	1.000				
DC	-0.243	-0.269	0.128	1.000			
IO	0.067	0.013	-0.215	-0.107	1.000		
FD	0.012	-0.233	0.139	-0.198	-0.255	1.000	
AI	-0.303	-0.173	-0.486	-0.084	0.327	-0.182	1.000
Panel A: Hotel & Travelling Sector							
BS	1.000						
BI	0.024	1.000					
Dual	-0.150	-0.029	1.000				
DC	0.132	-0.211	-0.076	1.000			
IO	0.157	0.138	-0.058	0.084	1.000		
FD	0.093	0.188	-0.173	-0.264	-0.001	1.000	
AI	-0.189	-0.177	-0.161	0.229	-0.267	-0.157	1.000