DO BETTER GOVERNED FIRMS ENJOY A LOWER COST OF EQUITY CAPITAL?

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Do better governed firms enjoy a lower cost of equity capital?

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Contents

1. Abstract

The purpose of this study is to investigate the relationship between corporate governance and cost of equity capital for a set of Sri Lankan Listed companies. For this purpose, major five board characteristics (board independency, board size, existence of both audit and remuneration committees, CEO duality, independence of board committees) which could be considered as the main factors that determine the quality of the corporate governance of a firm are employed and by using a regression analysis, it examines whether high quality corporate governance are associated with a lower cost of equity capital. The sample comprises of hundred twenty listed companies who have highest market capitalization and covering all the industry out of Three Hundred Forty Listed companies. Using a sample of large Sri Lankan firms' in 2016/2017, we show that variation in firm-level corporate governance mechanisms plays an important role in explaining a firm's cost of capital. The association between corporate governance and the cost of equity is more pronounced in countries with strong legal systems, extensive disclosure practices, and good government quality. However, the relation between corporate governance and the cost of debt is stronger in countries characterized by weak legal protection, low transparency, and poor government quality.

2. Introduction

The term governance means that the institutional structures that are formal includes regulations and lows, informal includes norms, values and assumptions and which create constrains on the behavior of a related party (Gayle, Bhoendradatt and Whit (2003). Corporate governance is the system by which an organization makes and implements decision in pursuit of its objectives. It considers the process of decision making and the process by which decisions are implemented or not implemented (ISO FDIS 26,000). The governance body has authority to handle and utilize the organizational resources to achieve organization's goals and manage problem and affairs. "Corporate governance involves a network of relationship between corporate managers, directors, and the providers of equity capital" (7th annual meeting of the international corporate governance network). In a sole proprietorship, the proprietor has dual roles, as an owner and owner – manager directly involved in the profit maximization activities to his/her self-interest. But, in other form of organizations the ownership and control activities are separated, managers' self – interest may lead to agency problem between managers and owners. Therefore, the investors (owners) expect assurance from corporate authority that their investment will be used as intended for the agreed corporate objectives. This assurance are the

heart of what effective corporate governance is all about and corporate governance involves the relationship between related parties such as corporate to shareholders and society. The corporation enables to attract capital, perform efficiently in achieving the corporate objectives and meet legal obligations and general societal expectations with the combination of laws, regulations, listing rules, and voluntary principles. Therefore, the corporate governance's objectives are to accountability to shareholders and focusing on long term shareholder value.

3. Corporate governance and cost of equity capital

In recent finance and accounting has been focused on evaluating the relationship between cost of equity capital and the quality of corporate governance of firms. For this purpose numerous studies have been conducted by well reputed academics. Lambert (2006) has carried out several research studies that links cost of equity capital and the quality of the accounting information systems of firms. For this purpose, Lambert developed a theoretical framework which includes not only the disclosures the firm makes to outsiders, but also the internal control systems and corporate governance policies that a firm has in place. This research paper suggested that quality of accounting information systems have both direct and indirect impact on cost of equity capital of a firm. The direct effect occurs because higher quality information reduces a firm's assessed covariance with other firms' cash flows leading to a lower cost of capital. The indirect effect occurs because of high quality corporate governance enhance the real decision making of firms, including possibility that the mangers appropriate for themselves. Further, in this regard, stronger corporate governance minimize the possibility of misappropriation of assets by managers of firms.

Followings are the means which assist to reduce the cost of equity capital by having put place good corporate governance practices,

- Well designed and internal control systems and internal audit functions will assist in minimizing risk frauds (Fraudulent financial reporting and misappropriation of assets of firms)
- Active and effective sub committees of the board facilitate for smooth, reliable and objective functioning of financial reporting process and other corporate reporting including earning communications.

- Well established and designed corporate governance practices assist in enhancing financial performance of firms by putting in place adequate risk management practices and appointing and retaining capable and competent board of directors.

Further, agency theory provides empherical basis for identifying the relationship between the cost of equity capital and the corporate governance practices of firms. As per the agency theory, assigning decision making power to management by the owners of firms gives rise to series conflicts of interests. So that in order to minimize the additional cost of agency relationship include financial rewards for the management, monitoring and reviewing cost and establishing internal control systems etc. Absence of quality corporate governance system for a firm, it will lead to enhance the risk of conflict of interest between true owners of the firms and Management who govern the firms. As the name suggests, this research paper focuses on evaluating the effect on cost of equity capital rather effect on the cash flows of an entity effect of corporate governance of an firm. So that, it is intended to provide evidence on whether lower corporate governance practices give rise to expose an entity to enhances risk and further, by put in place good corporate governance practices an entity will be able to reduce its cost of equity capital. Thus, effectively, it does mean that by put in place quality corporate governance framework will enhance the value of firms by reducing the cost of equity capital which is used as the discount factor in arriving at the intrinsic value of an entity.

In this context, our paper investigates whether strong governance firms enjoy a lower cost of equity capital than weak governance firms. We capture the strength of each sample firm's governance environment using a summary measure that combines five board characteristics that have received widespread attention in corporate governance literature such as:

1. Board independence

2. Board size

3. Existence of both audit and nomination/remuneration committees

4. CEO duality

5. Independence of board committees

Board independence

The composition of the Board should reflect the company's ownership structure. The company's management is not represented on the Board and all the Board members are independent of the executive management and important business associates.

The composition of the Board also ensures that it is able to operate independently of special interests. Each of the owners have two members in the board, while the Chairman of the Board is independent of the company's main shareholders.

Board size

A board of directors is a group of individuals, elected to represent shareholders. A board's mandate is to establish policies for corporate management and oversight, making decisions on major company issues. Every public company must have a board of directors. According to Ramachandran et al. (2015), in Singapore, large board sizes lead to higher levels of collusion among directors resulting in a positive relationship between board size and the level of earnings management. The extant literature on certain corporate governance practices and earnings management provide mixed evidence. There is also a dearth of studies on the important contemporary issue of the impact of corporate governance mechanisms on earnings management practices.

Existence of both audit and nomination/remuneration committees

The purpose of the audit committee being comprised of members from outside of the organization is to ensure that the audit process is neutral by removing the conflict of interest.

Businesses use internal committees when they want to verify that their managers and financial analysts are using the correct internal protocol for financial reporting items like; business regulations, accounting policies, and risk management policies. Typically organizations will rely on this committee to help create financial reporting procedures as well. The advantage of these audit committees is that they have helped companies to run substantially smoother since their initial installment.

Nomination committee that operates under the corporate governance department on an organization and performs various duties that depend on the company. However, their main focus is on the evaluation of the company's board of director and the nomination of candidates to the board of directions if certain skills are met.

A remuneration committee is established to ensure that remuneration arrangements support the strategic aims of a business and enable the recruitment, motivation and retention of senior executives while also complying with the requirements of regulation.

The remuneration committee should have delegated responsibility for setting remuneration for all executive directors and the chairman, including pension rights and any compensation payments. The committee should also recommend and monitor the level and structure of remuneration for senior management. The definition of senior management for this purpose should be determined by the board but should normally include the first layer of management below board level.

CEO duality

CEO duality refers to the situation when the CEO also holds the position of the chairman of the board.

The board of directors is set up to monitor managers such as the CEO on the behalf of the shareholders. They design compensation contracts and hire and fire CEOs. A dual CEO benefits the firm if he or she works closely with the board to create value.

Establishing a unity of command at the head of the firm allows the firm to send a reassuring message to shareholders. However, it is also easier for the CEO to assert control of the board and consequently make it more difficult for shareholders to monitor and discipline the management.

Independence of board committees

The board of directors' role is to provide independent oversight of management and hold management accountable to shareholders for its actions. The fiduciary duty of the board of directors can be undermined if directors become allied with managers rather than protecting the interests of shareholders. In this sense, the lack of board independence from management is a governance risk that can materialize into reduced shareholder wealth. We examination of the effect of board structure on the cost of capital provides an additional avenue to gain some insight into this issue. We measure board independence as the number of independent non-executive directors over the total number of directors. We classify directors as non-independent if they were current or executive employees, had business dealings with the firm, or were related to executive directors.

4. Literature review

Recent theoretical literature in accounting and finance has been concerned with the relationship between corporate governance and the cost of equity capital.

According to Dr. Farzin Rezaei et al corporate governance is a system that control and manage the companies. It is a structure that represent the way of distribution of rights and responsibilities among role players. The administrative board members, managers, stockholders, and other beneficiaries can be defined as those role players. Cooperative governance also defines as procedures and regulations of decision-making.

Now a days, corporate governance has become as one of a important aspects of commerce. And also in the recent years the attention for cooperative governance has been increased. Hassas Yeganeh, 2005 has revejn, aled that there is a direct relationship between cooperative governance structure and success or failure of a company.

According to Parkinson , 1994 corporate governance has defined as utilization of resources in a effectively manner, demonstrate responsibility in oversee these resources and align interests of individuals with interests of society and the company. The researchers and experts reveal corporate governance in their point of view as a process of managing and controlling to guarant that performance of managers collaborate with interest stockholders, structures, cultures, processes and systems that lead to accomplishment organization's goals. Corporate governance lead to make effective the legal factors, cultural and religious factors, political and economic factors and ownership structure.

According to Parkinson, 1994 corporate governance is a collection of a processes that minimize risk of representation by enhancing oversee the activities of managers, limiting their acquisitive and improving the quality of data that are published by the company. Different kind of theoretical framework has been developed to explain and analyze corporate governance.

Morck et al. (1988), Byrd and Hickman (1992), Brickley et al. (1994), Yermack (1996), Core et al. (1999), Klein (2002), and Gompers et al. (2003) has revealed that corporate governance is a set of mechanisms that affects to the decisions made by managers when a company's ownership and control are separated. These monitoring mechanism is consist of the director board, institutional shareholders, and operation of the market for corporate control. According to the empirical studies corporate governance coordinate with accounting, economics, finance, corporate strategy and the management.

This research aims to investigate the relationship between the corporate governance and cost of capital. (Hill and Jones, 1992) has investigated that the reason behind that is the agency theory that described the conflict between the managers and shareholders within the firm due to the different kind of interests and objectives of them. The foundation of the agency theory is the assumption that there is divergent interests between principal and agents.

According to (Hill and Jones, 1992) fixing suitable incentives for the agent and supporting monitoring cost targeted to minimize opportunistic actions conducted by the agent are solutions that can be implemented by principal to reduction the divergence. And the agent can be paid and spent resources by the principal to be certify that the agent itself will not be taken disadvantage actions to the principal. La Porta et al., 2000 has revealed that effective CG and a legal protection for the investors at a country level leads to reduce the conflicts, increasing the firm value and ultimately reduce the cost of equity.

Khanchel El Mehdi, 2007; Garay and Gonzales, 2008 has examined that shareholders willing to have comparatively lower expectation in terms of return in companies that corporative governance able to mitigate agency costs and therefore In which the rights of shareholders themselves are more protected. Thus according to Black et al., 2012 good cooperate governance practices are varying country to country.it is not universal and depend on characteristics of country. Cooperate governance diminish agency costs and reduce the cost of equity in three main ways. First one is reduce the risk of expropriation which is not only depends on firm specific factors but also on variables of market. Second one is corporate governance lead to protect agency costs by minimizing the monitoring cost generally conducted by external investors. According to Lombardo and Pagano, 2002 the minimization of monitoring leads to lower expected returns of shareholders ,as they assist to a lower risk. Third, one is effective corporate governance leads to limit information asymmetry.

Most of previous studies has focused on the relationship between corporate governance and firm value rather than focuses on the relationship between corporate governance and the cost of capital.

However, there is an advantage of use of cost of capital rather than firm value. According to Hail and Leuz, 2006). Annual changes in the firm governance affected by the cost of equity but not affected by exogenous factors that influence in profitability and growth. Therefore, it is more appropriate that selection of cost of equity than the firm value.

Most of studies has investigated the negative relationship and the positive relationship between the corporate governance and the firm value that measuring in different ways. Gompers et al. (2003) has examined that rights of shareholders are positively related with profits, sales growth and the firm value while negatively related with the corporate acquisitions and capital expenditures. Dittmar and Mahrt-Smith (2007) and Masulis et al. (2007) has revealed that ineffective corporate governance practices leads to decrease of shareholders value.

Lei and Song (2005) has found that better corporate governance index leads to higher firm value. Mandeetal (2012) has examined that minimization of agency cost, means effective corporate governance standards enlarge the propensity of companies to use equity rather than debt.

The literature are insufficient to identify an association between effective corporate governance and cost of equity in less developed countries, and in Sri Lanka context ,it is very rear to find studies related to the corporate governance and cost of equity. Therefore, this research will be very important to ongoing researches in corporate governance area.

Carmelo Reverte (2009) has proposed the relationship between the corporate governance and the cost of equity capital. The research article of Do better governed firms enjoy a lower cost of equity capital? Evidence from Spanish firms by the Carmelo Reverte proved the negative relationship between the corporate governance and the cost of equity capital. Carmelo used 228 Spanish firms for his research. And analyzed the relationship between the corporate governance and cost of equity capital of those firms. Those firms represented various business sectors. Data for set of Spanish firms were collected from the Spencer & Stuart surveys on Boards of Directors published between 2001 and 2005, corresponding to the fiscal periods from 2000 to 2004.

Though that research was about the corporate governance, it not considered the all 23 corporate governance attributes. It focused on the corporate governance factors which related to the director board. In there, Carmelo has took five board attributes as the independent variables. They were board independence, board size, existence of both audit and nomination/remuneration committees, CEO duality and independence of board committees.

In Carmelo's research, board independence has been taken as the number of independent directors. Inside an agency framework, independent non-executives directors are viewed as

valuable since they can screen and control the activities of opportunistic executive directors settling agency issues among directors and investors.

Small boards are more effective than the larger boards. There are some benefits of having smaller boards; Directors have greater ownership and accountability, Small boards spend less time in discussions and make faster decisions, Directors are more committed, candid and engaged and etc.

The audit committee plays an important role as it is concerned with establishing and monitoring the accounting processes to provide relevant and credible information to the firm's stakeholders. It lead to Create and maintain effective anti-fraud programs within the organization. On the other hand it Provide actionable insights to oversee and improve financial practices and reporting. Nomination/remuneration committees are for adjusting executives' cash compensation in order to preventing an opportunistic behavior. Thus, a well governed firm should have both types of board committees.

The main presence of board delegate committees are insufficient to ensure their sufficient performance. With the goal for them to assume a compelling job, controllers underscore that they ought to be made by a dominant part out of independent directors. In this specific situation, earlier corporate governance literature has concentrated fundamentally on analyzing the effect of audit committee independence of trustees autonomy on the nature of an entity's financial reporting.

CEO duality refers to the situation when the CEO also holds the position of the chairman of the board. Both theorists and regulators have argued that the separation of the chief executive and chairman roles is an important determinant of board effectiveness. The board of directors is set up to monitor managers such as the CEO on the behalf of the shareholders. They design compensation contracts and hire and fire CEOs. A dual CEO benefits the firm if he or she works closely with the board to create value.

Carmelo used the CAPM model to determine the cost of equity capital. Then, by using regression analysis, it examined whether higher governance quality is associated with a lower cost of equity capital. Result of data analysis in the Carmelo's research, it was proved that stronger governance firms have a lower cost of equity capital with respect to firms with weaker governance.

5. Research methodology

This section intend to discuss the research approach, population, sample and further, sources from which data was gathered and statistical analytical tools used in this study.

6. Research approach

Estimating the cost of equity capital

The cost of equity capital is generally viewed as the discount rate that market participants use to a firm's expected future cash flows to arrive at the current intrinsic value, however, it is obvious that not like other variables, cost of equity capital is not an observable input for the business valuation process. So that, analysts will have to estimate the cost of equity capital in using it to the business valuation purposes. In estimating the cost of equity capital for a particular company, entity specific characteristic and features have to be taken in to account and involve judgmental decisions generally made by analysts. In order for estimate the cost of equity capital for a particular company, well established several approached have been developed over the time. One approach is that, averaged realized returns of a large sample as the reliable proxy for the cost of equity capital. Further, proponents of this approach argue that those averaged realized returns provide reasonable basis for determining the cost of equity capital as the cost of equity capital was estimated based on large sample and as a result it tends to be an unbiased and reliable proxy for the cost of equity capital of a firm. However, there are many research papers, Elton (1999) suggest that averaged historical returns are not a reliable proxy to use in estimating the cost of equity capital of a firm. For example, Fama and French (1992) fail to provide convincing evidence of an association between average realized returns and market beta.

In addition to the above approach, CAPM and factor models also have been developed by taking in to account various risk factors for which perfect market will compensate by offering additional risk premiums. Most of the risk factors reflect the market risk (Systematic risk) which cannot be diversified away by further diversifying the portfolio. CAPM model employ the ***Beta*** as the measure of the systematic risk. Further, it assumes that perfect market does not compensate the non-systematic risk (Entity specific risk factors). Since the CAPM model is purely based on the ***beta*** value and it assumes the ***beta*** value reflects the market risk of the stock, it is not possible identify the entity specific risk.

Another approach is that using the dividend growth models (Gordons's Model) to estimate the cost of equity capital. Under this approach, main assumption is that company's main return is dividend and it will be growing at a constant rate for a foreseeable future. Hence significant inputs to the approach is that dividend growth rate and current stock prices. Even though, main intention of this approach is to obtain the current market price of stocks, yet, since we have the current market prices of those stocks, we can re-arrange the formula and use to estimate the cost of equity capital of particular firm. Having carefully analyzed all the factors, for the purpose of this research paper, dividend growth model will be used in estimating the cost of equity capital.

Main components of the dividend growth model can be identified as follows,

- Current Market price of the stock *(P_0)*
- Dividend growth of the company *(g)*
- Current year dividend declared *(D_0)*
- Cost of equity capital *(r)*

$$P_0 = \frac{D_0(1+g)}{r-g}$$

Above mentioned formula for dividend growth model will be re-arranged in following manner in order to be able to obtain the cost of equity capital instead of current market price of the share.

$$K_e = \frac{D_1}{P_0} + g$$

(Expression 1)

- Current Market price of the stock *(P_0)*
- Dividend growth of the company *(g)*
- Following year dividend declared *(D_1)*
- Cost of equity capital *(K_e)*

Estimating the other properties of the formula,

Dividend growth

Dividend growth could be obtained by several ways, including, as the geometric mean of the long term growth of earnings per share or growth of dividend per share and assessing the retention ratio and the ROE method. However, for the purpose of this research paper, following approach has been adopted,

Dividend Growth rate = Retention ratio × Return on equity capital

Retention ratio = (1- Payout ratio)

$$\text{Payout ratio} = \frac{\text{Dividend per share (DPS)}}{\text{Earnings per share (EPS)}}$$

$$\text{Return on equity capital} = \frac{\text{Profit for the period}}{\text{Average equity value during the year}}$$

This approach was adopted to determine the dividend growth rate for the purpose of this research paper as it provides firm's sustainable growth rate which is purely based on the firm's real earnings capacity. Further, it has been emphatically proved that this growth provides consistent basis for measure the firm's earnings growth and dividend growth provided that with the assumption of that firms maintain the same payout ratio for the foreseeable future. Furthermore, it is worthwhile to highlight here that our main purpose is to assess the relationship between cost of equity capital and the various corporate governance characteristics of firms. According the main objective of the research paper, we determined that dividend growth model (Gordons's Model) best reflect the market participants' assumptions who hold the shares for obtaining the long term return instead of short term capital gains. Followings are the assumptions of the Grodan's Growth Model,

- We assume that the Company grows at a constant rate.
- The Company has a stable financial leverage or there is no financial leverage involved in the Company.
- The life of the firm is indefinite.
- The required rate of return remains constant.
- The free cash flow of the Company is paid as a dividend at constant growth rates.
- The required rate of return is greater than the growth rate.

Current market price of the stock

Current market price is directly obtained from the active market as all those companies are listed companies. Those market values were obtained as at 31st March 2017.

Dividend per share

Dividend per share has been obtained through the annual reports of those companies. Further, dividend per share includes both interim and the final dividend declaration as those two reflect the total dividend payment that company expect payout.

7. Validation of our cost of equity capital measure

Theoretical and empirical research (Botosan and Plumlee, 2005) indicates that a good measure of expected return will be positively related to beta and negatively related to size and the market-to-book ratio. With respect to beta, Sharpe (1964) formalize the prediction that a firm's expected return should be positively related to its beta. As regards size, Berk (1995) demonstrates that size will exhibit a negative relation with expected returns, as a residual risk factor, in any incomplete model of expected returns. As far as the market-to-book ratio is concerned, Fama and French (2004) use Ohlson's (1995) residual income framework to formalize the valuation role of the market-to-book ratio in expected returns and predict a negative relation between the market-to-book ratio and expected return. As a matter of fact, Fama and French (1992) develop a three factor asset pricing model that includes the previous variables. Beta, size and market-to-book-, and show that this asset pricing model outperforms the CAPM. We thus validate our estimate of firms' cost of equity capital by documenting the relations between cost of equity capital and these three risk proxies. Specifically, we estimate the following regression:

$$CC_i = \beta_0 + \beta_1 BETA_i + \beta_2 MB_i + \beta_3 SIZE_i + \varepsilon_i$$ (Expression 2)

CC_i.	Cost of equity capital for firm *i* derived from expression (1).
$BETA_i$.	Market model beta for firm *i* estimated over the 60 months prior to a firm-year observation fiscal year end.
MB_i.	Fiscal year-end market value of equity divided by fiscal year end book value of equity for firm *i*.
$SIZE_i$	Natural log of fiscal year-end market value of equity for firm *i*[5].

Sample and data

Sample of Sri Lankan listed firms for the purpose of this research paper were selected as follows,

Description	Amount	As a %
Number of listed companies	301	100%
Number of companies in the sample	120	40%
Total market capitalization	LKR 2,831,578,783,890	100%
Market capitalization represented by the sample	LKR 2,614,569,920,157	92%

In selecting the sample, firms were selected on their respective capital market capitalization disregarding their industry or any other quantitative or qualitative dimensions. Main intention of this sampling basis was to incorporate as much as market capitalization in to the research scope, thus, it enables us to arrive at more representative conclusion in respect of the population. (Selected sample was given in the annex 1)

Validation of the quality of corporate governance of firms (Independent variable)

As we mentioned at the beginning the of the research paper, we assess the level of corporate governance of firms based on following dimensions and most of the measures are directly related to independence of the board of firms.

Board characteristic	Measure	Validation
1.Board size	Number of members in the board of directors	Absolute number

2.Board independence	Percentage of the full board made up of independent non-executive directors	Percentages
3.CEO duality	Whether same individual hold both CEO and Chairman of the board.	Dummy variable that takes the value of 1 if there is a separation of the chief executive and chairman roles in the firm and 0 otherwise
4.Audit and Nomination committees	Availability of both audit and nomination committees	Dummy variable that takes the value of 1 if the firm has both an audit and a nomination/remuneration committee and 0 otherwise
5. Independence of committees	Percentage of outside independent directors on the board committees	Percentages

(Table 2)

8. Evaluating the overall quality of the corporate governance

In order to derive the following formula, expression 2 was re- arranged to incorporate the overall corporate governance scores based on above five dimensions in to the formula. Further, derived new expression is as follows,

$$CC_i = \beta_0 + \beta_1 BETA_i + \beta_2 MB_i + \beta_3 SIZE_i + \beta_4 GOV\_SCORE_i + \varepsilon_i$$ (Expression 3)

Board size

For each sample firm, we measure its board size (BRD_SIZE) in order to capture the differing governance implications of board size evidenced by the abovementioned studies, we create a dummy variable (DBRD_SIZE) that takes the value 1 if the firm's board size is less than the sample median and 0 otherwise.

Board independence

For each sample firm, we compute the percentage of the board made up of independent outside directors (BRD_IND). Following prior studies, we create a dummy variable (DBRD_IND) that takes the value of one if BRD_IND for firm i is above the sample median (strong governance) and 0 otherwise (weak governance).

Existence of both audit and nomination/remuneration committees

In order to capture the differing prevalence of these two board committees in our sample firms, we create a dummy variable, AUD_NOM that takes the value 1 if the firm has both committees and 0 otherwise.

CEO duality

In order to capture the differences in CEO duality among our sample firms, following prior research we create a dummy variable (DUAL) that takes the value of 1 if there is a separation of the chief executive and chairman roles in the firm and 0 otherwise.

Independence of board committees

For each firm, we compute the percentage of outside independent directors on the board committees (IND_COM). We create a dummy variable (DIND_COM) that takes the value 1 if IND_COM for firm i is above the sample median (strong governance) and 0 otherwise (weak governance).

Overall governance score

Our summary governance measure (GOV_SCORE) is formed by summing the previous five dichotomous variables (DBRD_IND, DBRD_SIZE, DUAL, AUD_NOM, DIND_COM) so that a value of 5 indicates the highest governance quality and a value of 0 the lowest governance quality.

9. Analysis and discussions

Table 1

Table I reports descriptive statistics for the governance attributes used in our analysis for the entire sample and also for the partitioned sample that distinguishes between strong and weak governance firms based on our summary corporate governance measure (GOV_SCORE). As shown, on average, the board size is lower for strong governance firms (8.383 members) than for weak governance firms (9.164 members). The average percentage of independent directors on the board is higher for strong governance firms (48.1 per cent) than for weak governance firms (35.8 per cent). Moreover, the separation between the Chairman and the Chief Executive Officer roles is more identifiable in strong governance firms (0.936) than in weak governance firms (0.712). Regarding the existence of both audit and nomination committees, 100 per cent of strong governance firms have both types of delegate committees while that percentage falls to an 97.3 per cent for weak governance firms. Finally, the average percentage of independent directors on the board delegate committees is higher for strong governance firms (82.9 per cent) than for weak governance firms (67.9 per cent). As a result, the value of the summary corporate governance measure – whose maximum value is 5 – is significantly higher for strong governance firms (mean 4.191; median 4.00) than for weak governance firms (mean 2.603 median 3.00).

Table 1

Variable	Statistical measure	Entire sample	Strong governance firms	Weak governance firms	Difference
1. Board size (DBRD_SIZE)	Median	9.000	8.000	9.000	1.000
	Mean	8.992	8.383	9.164	0.781
	Std dev.	2.549	2.411	2.961	-

2.Board independence (DBRD_IND)	Median	0.400	0.455	0.333	0.122
	Mean	0.464	0.481	0.358	0.123
	Std dev.	0.142	0.133	0.127	-
3.CEO duality (DUAL)	Median	1.000	1.000	1.000	0.000
	Mean	0.814	0.936	0.712	0.224
	Std dev.	0.390	0.244	0.453	-
4.Audit and Nomination(AUD _NOM)	Median	1.000	1.000	1.000	0.000
	Mean	1.000	1.000	0.973	0.027
	Std dev.	0.000	0.000	0.163	-
5.Independance of committees IND_COM	Median	0.727	0.818	0.700	0.118
	Mean	0.736	0.829	0.679	0.150
	Std dev.	0.184	0.129	0.189	-
6. Overall score (GOV_SCORE)	Median	3.000	4.000	3.000	1.000
	Mean	3.217	4.191	2.603	1.588
	Std dev.	0.941	0.393	0.614	-

Notes: Variable definitions: BRD_SIZE: Number of members of the board of directors; BRD_IND: Percentage of the full board made up of independent non-executive directors DUAL: Dummy variable that takes the value of 1 if there is a separation of the chief executive and chairman roles in the firm and 0 otherwise; AUD_NOM: Dummy variable that takes the value of 1 if the firm has both an audit and a nomination/remuneration committee and 0 otherwise; IND_COM: Percentage of outside independent directors on the board committees; GOV_SCORE: Summary corporate governance measure capturing the previous five dimensions. A value of 5 indicates the highest governance quality while a value of 0 indicates the lowest governance quality. b Tests for differences in the means (medians) between strong and weak governance subsamples are based on t-(Wilcoxon-) tests for continuous variables and chi-square test for binary variables

Findings

Table 2.1

Regression Statistics	
Multiple R	0.8651
R Square	0.7484
Adjusted R Square	0.8347
Standard Error	0.0192

Observations	120

Table 2.2

Variable	***Coefficients***	***Standard Error***	***t Stat***	***P-value***
Intercept	0.1481	0.0026	56.135	0.0000000
MB	-0.0202	0.0003	53.205	0.0000000
SIZE	-0.0058	0.0740	-0.078	0.0674362
BETA	0.0322	0.0020	15.452	0.0000000

$$CC_i = \beta_0 + \beta_1 BETA_i + \beta_2 MB_i + \beta_3 SIZE_i + \varepsilon_i$$

The table shows the pooled results derived from the estimation of the following model: CCi where: CC: Cost of equity capital for firm i derived from expression (1); BETA: Market model beta for firm i estimated over the 60 months prior to a firm-year observation fiscal year end; MB: Fiscal year end market value of equity divided by fiscal yearend book value of equity for firm i; SIZE: Natural log of fiscal year-end market value of equity for firm i.

Table 2.1 and 2.2 report the results from the estimation of above expression (2), where cost of equity capital is regressed on BETA, SIZE and MB, respectively in order to assess the reliability of our cost of equity capital estimates. Our results shows a significantly positive relation between BETA and cost of equity capital whereas SIZE and MB are significantly and negatively related to cost of equity capital. Thus, our cost of equity capital estimate serves as a reliable measure for firms' cost of equity capital.

In order to verify whether firms with a higher governance quality benefit themselves with lower costs of equity capital (after controlling for Fama and French risk factors including beta) we estimate the following regression model where we add to expression (2) our summary corporate governance measure (GOV_SCORE):

$$CC_i = \beta_0 + \beta_1 BETA_i + \beta_2 MB_i + \beta_3 SIZE_i + \beta_4 GOV\_SCORE_i + \varepsilon_i$$

In this model, if b4 is significantly lower than zero, this would imply that a high governance quality is associated with a lower cost of equity capital.

Table 3.1 and 3.2 present the results from the estimation of expression (3). As expected, our results report that the coefficient on GOV_SCORE is significantly lower than zero (-0.200), which evidences that firms with a higher governance quality enjoy lower costs of equity capital.

Table 3.1

Regression Statistics	
Multiple R	0.8111
R Square	0.6579
Adjusted R Square	0.7397
Standard Error	0.0192
Observations	120.0000

Table 3.2

Variable	***Coefficients***	***Standard Error***	***t Stat***	***P-value***
Intercept	0.2120	0.0023	1.9951	0.0000
MB	-0.0200	0.0033	-3.2076	0.0000
SIZE	-0.0430	0.0540	-3.5451	0.0674
BETA	0.0330	0.002	9.6521	0.0000
GOV_SCORE	-0.0200	0.0021	-6.5801	0.0000

Notes: The table shows the pooled results derived from the estimation of the following CC: Cost of equity capital for firm i derived from expression (1); BETA: Market model beta for firm i estimated over the 60 months prior to a firm-year observation fiscal year end; MB: Fiscal year end market value of equity divided by fiscal year-end book value of equity for firm i; SIZE: Natural log of fiscal year-end market value of equity for firm i; GOV_SCORE: Summary corporate governance measure. A higher value of this measure indicates a higher governance quality.

governance with respect to those with weaker governance, we create an another dummy variable (DGOV_SCORE) based on the median of GOV_SCORE so that DGOV_SCORE takes the value 1 if GOV_SCORE for firm i is higher than the sample median (in our case, 3) and 0 otherwise. Thus, we estimate the following model:

$$CC_i = \beta_0 + \beta_1 BETA_i + \beta_2 MB_i + \beta_3 SIZE_i + \beta_4 DGOV\_SCORE_i + \varepsilon$$

In this model, a negative value of the coefficient b4 measures – for a given value of BETA, SIZE, and MB – the average reduction of the cost of equity capital for stronger governance firms as compared to weaker governance firms.

Table 4.1 and 4.2 reports the results from the estimation of model (4). As predicted, the coefficient on DGOV_SCORE is significantly lower than zero (-0.0320), which indicates that the average reduction of the cost of equity capital for stronger governance firms as compared to weaker governance firms is of -0.320, after taking in account for differences in the well-known risk factors, such as beta, size and market-to-book.

Table 4.1

Regression Statistics	
Multiple R	0.7952
R Square	0.6324
Adjusted R Square	0.7801
Standard Error	0.0109
Observations	120

Table 4.2

Variable	***Coefficients***	***Standard Error***	***t Stat***	***P-value***
Intercept	0.1614	0.0017	93.364	0.0000
MB	-0.0200	0.0002	-92.523	0.0000
SIZE	-0.0832	0.0424	-1.9612	0.0674
BETA	0.0318	0.0011	26.7754	0.0000
DGOV_SCORE	-0.0320	0.0020	-15.5833	0.0000

Notes: The table shows the pooled results derived from the estimation of the following model: CC: Cost of equity capital for firm i derived from expression (1); BETA: Market model beta for firm i estimated over the 60 months prior to a firm-year observation fiscal year end; MB: Fiscal year end market value of equity divided by fiscal yearend book value of equity for firm i; SIZE: Natural log of fiscal year-end market value of equity for firm i; DGOV_SCORE: Dummy variable that takes the value 1 when GOV_SCOR above median (stronger governance firms) and 0 otherwise (weaker governance firms).

10.Limitations of the study

- The study heavily depends on secondary data and lowers the usage of primary data. Therefore, the research will be more biased towards the published secondary data and will be using low amount of data directly gathered by us.
- There are some other factors may affect to a Lower cost of Equity Capital Other than Quality of Governance.
- The profits, earning per share and Equity capital disclosed in the annual reports may be manipulated and not comparable due to various accounting policies used and assumptions incorporated in each entity.
- The representation of the sample from the population is limited to the top 120 companies with the highest market capitalization; therefore, all the other listed companies in the population have been omitted in our evaluations.
- Since the cost of equity capital is estimated based on the capital asset pricing model, inherent limitations of dividend growth model (Gordons's Model) also may affect to the effectiveness of the study.
- Further, regression analysis is used as the main statistical tool in evaluating the relationship of cost of equity capital and the level of corporate governance, as a result, standard error in the regression model will have negative impact over the study as well.

11. Conclusion

Based on recent theoretical literature that links corporate governance to the cost of capital (Garmaise and Liu, 2005; Albuquerque and Wang, 2006; Lambert et al., 2006), our paper investigates whether higher quality governance is associated with a lower cost of equity capital. We focus on five board characteristics that have received widespread attention in corporate governance literature (board independence, board size, existence of both audit and nomination/remuneration committees, CEO duality, and independence of board committees).

Our results for a sample of listed Sri Lankan listed firms whose data on governance attributes are available in annual reports on board characteristics document that our set of governance attributes has a significant incremental explanatory power for firms' cost of equity after controlling for well-known Fama and French (1992)'s risk factors (i.e. beta, size and market-to-book). Specifically, our results indicate that stronger governance firms enjoy a statistically significant reduction in the cost of equity

capital with respect to firms with weaker governance, after controlling for beta, size and market-to-book. Therefore, our paper suggests that the agency risk attributable to governance quality is not diversifiable. Thus, investors not only expect lower future cash flows for weak governance firms, as documented in prior research, but they also discount the expected future cash flows at a higher rate.

12. References

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