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# Impact of corporate governance quality on the cost of equity capital in an emerging market: Evidence from Malaysian listed firms

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**This study investigates the impact of corporate governance on the cost of equity of Malaysian public listed firms over the period of 2003 to 2007. Corporate governance quality is assessed using a comprehensive corporate governance index consisting six categories. Using panel data regression technique, this study finds that corporate governance has a reducing effect on cost of equity. Firms having higher corporate governance quality in terms of credible board monitoring and financial reporting process and internal control system as well as empowering shareholders seem to enjoy a lower cost of equity. These findings suggest that those firms in emerging markets that have higher quality corporate governance suffer from fewer agency conflicts and information risk, and they also obtain significant economic benefits.**

**Key words:** Corporate governance index, cost of equity, emerging market, board of directors, accountability and audit, shareholder rights, agency theory, Malaysia.

## INTRODUCTION

Agency theory posits that in widely held firms, shareholders delegate most power to corporate managers, effectively establishing an agency relationship (Jensen and Meckling, 1976). The managers have vast control over the company but they tend to be opportunistic by engaging in value destroying activities that are detrimental to shareholders' interest (Williamson, 1985). As ownership is separated from control, shareholders are unable to monitor managers effectively, leading to various corporate governance issues (Baumol, 1959; Marris, 1964; Grossman and Hart, 1980).

Separation of ownership and control creates information asymmetry between shareholders and managers. Information asymmetry leads to moral hazard and adverse selection problems, which increase shareholders' exposure to agency costs. Agency costs represent the risk that self-interested managers would involve in activities that may increase the uncertainty of future cash flows (Jensen and Meckling, 1976).

Agency risks are amplified when shareholders cannot monitor the managers perfectly as a result of information asymmetry (Jensen, 1986). Hence, shareholders are

naturally very concerned about their ability to monitor and protect their investment (Smith and Warner, 1979; Kalay, 1982). Based on the risk-aversion properties, rational investors will demand a risk premium for bearing the agency risks, raising the cost of equity.

Given the detrimental effects of agency costs, firms need to have robust corporate governance mechanisms. In this study, corporate governance is defined as "the ways through which suppliers of capital to corporations assure themselves of getting return on their investment" (Shleifer and Vishny, 1997: 737). Corporate governance can enhance managerial monitoring and minimise abuse of power; thus, benefiting shareholders. Quality corporate governance mitigates problems due to conflict of interest to some extent (Gursoy and Aydogan, 2002), because it promotes goal congruence (Conyon and Schwalbach, 2000).

As robust corporate governance reduces the adverse selection and moral hazard problems, investors are willing to take larger positions in a firm's share. The positive attitude of investors leads to higher demand for the firm's securities, which raises the current prices of the firm's share

and reduces the cost of equity (Diamond and Verrechia, 1991). In addition, shareholders who are confident with the firm's ability to curb managerial opportunism and limit information asymmetry may be willing to accept a lower risk premium, which reduces the cost of equity.

Extant literature investigating the impact of corporate governance on cost of equity is scarce; therefore, a systematic pattern of relationship cannot be established (Bhattacharya and Daouk, 2002; Ashbaugh et al., 2004; Cheng et al., 2006; Hail and Leuz, 2006; Derwall and Verwijmeren, 2007; Byun et al., 2008; Chen et al., 2009; Gupta et al., 2010). But, these studies, albeit limited, did observe that market participants reward firms having quality corporate governance in the form of lower equity financing cost.

The primary aim of this study is to investigate whether corporate governance has any effect on firm cost of equity in Malaysian listed corporations. This study also wishes to identify corporate governance mechanisms that significantly reduce cost of equity. The analysis involves an examination of 101 firms listed on the Main Board of the Malaysian Bourse between 2003 and 2007. Regression results indicate significant negative association between corporate governance and the cost of equity after controlling for firm size, performance, leverage, market-to-book ratio, economic growth, industry, and time effects.

The results corroborate the findings of Bhattacharya and Daouk (2002), Ashbaugh et al. (2004), Hail and Leuz (2006), Derwall and Verwijmeren (2007), Byun et al. (2008), Chen et al. (2009) and Gupta et al. (2010). Further, the finding suggests that in Malaysia, market participants reward firms that have effective board structure and procedures, mechanisms to empower shareholders and established effective communication with them as well as enhanced accountability of the board of directors. Most importantly, the result underscores the magnitude placed by the market participants on firm corporate governance quality.

This study contributes to both theory and practice in four important ways. First, this study highlights that corporate governance is a vital factor in investors' investment decisions. They seem to appreciate a broad based corporate governance regime to protect their interest. Secondly, the finding implies that higher quality corporate governance brings about significant economic benefits by reducing cost of equity, and thereby making access to capital easier. Higher liquidity in the capital market increases chances for development in a particular emerging country. Thirdly, the result suggests that the corporate governance index covering a large set of quality measures is a valid instrument to assess firms' corporate governance. Fourthly, this study observes that the efforts to improve the standards of corporate governance in Malaysia seem to be fruitful. Further, firms enjoy significant economic benefits from implementing the Malaysian Code on Corporate Governance (MCCG, 2000).

## Corporate governance in Malaysia

The Asian financial crisis during 1997 and 1998 exposed the vulnerability and structurally weak foundation of Malaysian listed firms, which spurred the debate on corporate governance. Generally, listed firms were found to have poor corporate governance. Examples of corporate abuses included poor board oversight, numerous conflict of interest transaction involving directors and major shareholders, and severe lack of transparency in financial disclosure (Mak, 2006). Weak corporate governance was cited as a major cause of poor corporate performance and the erosion of shareholder's value, which led to exchange rate depreciation and stock market decline during the crisis (Kim, 1998; Johnson et al., 2000; Suto, 2003).

The economic crisis provided the impetus for the development of corporate governance in Malaysia. The Ministry of Finance established a high-level finance committee (the Committee) on 24 March 1998 to examine this issue (Securities Commission, 2000). The main task of the Committee was to develop a world-class corporate governance framework mainly for listed firms and the market to emulate. The Committee opined that firms needed guidance in improving their corporate governance standards, which should be on par with international level.

The Committee proposed the MCCG, which came into effect in March, 2000. The MCCG (2000) set out a set of principles and best practices targeted at enhancing the standards of corporate governance. The Committee posited that good corporate governance rests firmly with the board of directors whilst the shareholders and auditors have secondary roles (Shim, 2006). Hence, the emphasis of the MCCG (2000) was on strengthening the governance role of board of directors by setting the best practices for board structure and procedures (Nathan et al., 2000).

The Malaysian Bourse adopted the MCCG (2000) in its 2001's Revamped Listing Requirements (BMLR), making it mandatory for listed firms to disclose in their annual reports, the manner in which the MCCG's (2000) principles were applied and the extent of compliance with its best practice recommendations. Some of the specific recommendations of the MCCG (2000) such as the inclusion of at least one-third of independent directors in the board and the formation of an audit committee were made compulsory.

Recent trends of corporate governance in Malaysia have been encouraging (Haniffa and Hudaib, 2006; Yatim et al., 2006; Sulong and Nor, 2008). The Malaysian Bourse, Securities Commission and Companies Commission of Malaysia have been aggressive in enforcement and surveillance efforts and introducing various reforms in corporate laws and regulations. The regulators have been focusing on educating and training of directors on their responsibilities and the implementation of the MCCG's (2000) best practices.

## LITERATURE REVIEW

Using a multi-country approach, Bhattacharya and Daouk (2002) examine the impact of the insider trading laws and their enforcement on the cost of equity in 103 countries. The effect of insider trading variables on cost of equity is measured using four approaches namely the event-study, the international asset pricing factor model, the changes on the dividend yield and the credit rating. This study observes that a mere existence of insider trading laws does not affect cost of equity but a strict enforcement of the laws is significantly associated with a sharp decrease in the cost of equity.

Ashbaugh et al. (2004) document the influence of corporate governance on the cost of equity of U.S. firms by linking governance attributes to firm's expected returns, beta and realised returns. Cost of equity is estimated using the target method as employed in Botosan and Plumlee (2002, 2005), Francis et al. (2005), and the Price-Earnings Growth (PEG) ratio as developed in Easton (2004). A composite corporate governance score based on the quality of firms' financial information, ownership structure, shareholder rights and board structure is constructed in order to capture a firm's overall governance risk. Overall, this research finds that the governance attributes are found to have significant effect on firm's cost of equity. Most of the corporate governance attributes are also significantly associated with the systematic risk.

Using the Gompers et al., (2003) data and corporate governance index (known as the GIM Index), Cheng et al. (2006) investigate the effect of firm-level shareholder rights on the cost of equity of 8,281 U.S firms. Cost of equity estimate is based on the Ohlson and Juettner-Nauroth Model.

The GIM index consists of tactics for delaying hostile bidders, voting rights, director/officer protection, other takeover defences and state laws. Every provision of the GIM index that restricts shareholder rights and increases managerial power is given one point. High score indicates weaker level of shareholder rights. Weak (strong) firm-level shareholder rights levels are found to be associated with higher (lower) cost of equity, rendering supports to the theory that strong shareholder rights can reduce cost of equity. Investors impose higher discount rate for cash flows of firms with higher agency costs than firms with strong shareholders rights.

Hail and Leuz (2006) examine the influence of a country's legal institutions and securities regulations on the cost of equity of 35,118 firm-year observations from 40 countries from 1992 to 2001. Cost of equity is estimated using the residual income valuation model (Gebhardt et al., 2001; Gode and Mohanram, 2003; Ohlson and Juettner-Nauroth, 2005). Firms from countries with effective legal system, to some extent, together with extensive disclosure requirements and strong securities regulations are found to have lower cost of equity. Derwall and Verwijmeren (2007) utilise the same

same GIM Index as in Cheng et al. (2006) and investigate the effect of corporate governance on firms' systematic risk, idiosyncratic risk and cost of equity. Firms having quality corporate governance are found to have lower systematic risk, idiosyncratic risk and cost of equity.

Byun et al. (2008), in a study of 1,647 Korean firms over the period of 2001 to 2004, utilise corporate governance data from the Korea Corporate Governance Services to examine the impact of corporate governance on cost of equity. Using the data, a corporate governance index is constructed, consisting 86 items in five categories, namely, shareholder rights protection, board of directors, corporate disclosure, audit committee and dividend policy. One point is given for each item that is in line with the desirable practice. A high total score indicates strong corporate governance practices and vice versa. The implied cost of equity is estimated using the method of Gode and Mohanram (2003) and the PEG ratio. Using ordinary least squares (OLS) regression, quality corporate governance is found to reduce cost of equity. Shareholder rights protection has the most significant effect on lowering the implied cost of equity followed by board of directors and corporate disclosure.

Chen et al. (2009) investigate the impact of corporate governance and country-level investor protection on the firms' cost of equity in 17 emerging markets for the period of 2001 to 2002. The cost of equity estimate is based on the RIV model. The corporate governance variables are constructed based on Credit Lyonnais Securities Asia's surveys conducted in 2001 and 2002. Corporate governance is found to have a negative association with cost of equity and stronger in countries that have weak legal protection for investors. Corporate governance and investor protection appear to be substitutes for each other in reducing cost of equity. Shareholders resort to strengthening firm corporate governance when the legal framework for investor protection is weak. Strong investor protection accords greater protection for security right and against any expropriation of wealth by managers and controlling shareholders.

Gupta et al. (2010) examine the effect of firm-level corporate governance and country-level legal institutions and financial development on firm's cost of equity in a sample of 7,380 firms in 22 developed countries over the period of 2003 to 2007. The overall quality of a firm's corporate governance is measured using the corporate governance ratings provided by the Institutional Shareholder Services (ISS). The proxies for financial development are Financial Intermediary Development (FININT) and Stock Market Development (STKMKT), which data are obtained from the World Bank.

Cost of equity is estimated using the RIV model and abnormal earnings growth. Corporate governance scores are found to have a negative link with the cost of equity of firms in Common Law and high level of financial development countries. This finding implies that legal origin of a firm complements the financial development effect in

influencing the link between firm-level corporate governance and the cost of equity.

The literature review reveals that there are only a few studies examining the association between corporate governance and cost of equity. Findings of prior studies suggest that there are positive shareholder value implications for firms with stronger corporate governance. Firms with higher quality corporate governance are perceived favourably by the market, enabling them to enjoy lower cost of raising equity. Prior studies also demonstrate that corporate governance ratings can be a valid assessment of the strength or weaknesses of firm's corporate governance practices.

## HYPOTHESES DEVELOPMENT

From a theoretical perspective, robust corporate governance reduces agency risk and uncertainty of future cash flows (Jensen and Meckling, 1976; Jensen, 1986), mitigates the likelihood of managerial opportunism (Klein, 2002) and improves timeliness of financing reporting (Bushman et al., 2002). Conversely, Lombardo and Pagiano (2002) postulate that investors have to bear external monitoring costs in order to ensure the expected returns are realised.

Equity investors who invest in firms with poor corporate governance demand a higher required rate of return for which they need to expend additional time and resources to monitor errant managers. Easley and O'Hara (2004) find that information asymmetry increases cost of capital. Hence, corporate governance is needed to limit issues associated with agency conflicts, which in turn reduces the cost of equity.

A few recent empirical studies supported this theoretical conjecture (Bhattacharya and Daouk, 2002; Ashbaugh et al., 2004; Cheng et al., 2006; Hail and Leuz, 2006; Derwall and Verwijmeren, 2007; Byun et al., 2008; Chen et al., 2009; Gupta et al., 2010). These prior studies report that corporate governance has a linkage with the cost of equity, with stronger governance leads to lower cost of equity. When investors anticipate that strong (weak) governance will increase (reduce) future cash flows they impose low (high) discount rate on the expected future cash flows; thereby reducing (increasing) firms' cost of equity.

All these theoretical arguments predict that better corporate governance is linked with lower cost of equity. But, the empirical magnitude of these effects is still an open issue. Hence, it is proposed that higher quality corporate governance reduces cost of equity and support the hypothesis that corporate governance is negatively related to cost of equity capital.

## METHODOLOGY

### Sample and data collection

This study focuses on non-financial public listed firms on the Main

Board of the Malaysian Bourse Composite Index. All finance-related firms, banks, insurance and unit trusts companies are excluded from the sample because they have different regulatory requirements and framework, financial reporting standards, compliance (Renneboog and Trojanowski, 2005) and materially different types of operations (Mohd Ghazali and Weetman, 2006).

Due to the Malaysian legislative requirements, corporate governance data are readily available from firm annual reports. The annual financial data is gathered from the Bloomberg database. A study period from 2003 to 2007 is chosen to represent the period after the implementation of the various corporate governance initiatives in Malaysia following the Asian financial crisis.

## Research variables

### Dependent variable

The dependent variable is the cost of equity. Following Liu and Wysocki (2006), Gray et al. (2009), Li et al. (2009) and Wong (2009), this study uses industry-adjusted earnings-price ratio (IndEP) to proxy for the cost of equity. IndEP is the firm's earnings-price ratio for a particular year less the median earnings-price ratio of all firms in the same Malaysian Bourse industry sector. Hence, IndEP is actually based on the current earnings in the financial report.

This measure is chosen due to the following reasons: (1) it has less onerous data requirements, (2) the price multiple attached to earnings can be viewed as a short-hand equity valuation (Liu et al., 2002), (3) price-earnings ratio (PE ratio) is a popular means of estimating rate of return in the equity market and it is widely used as a basis for stock investment and recommendation (Easton, 2004), (4) earnings as the numerator of earnings-price ratio (EP ratio) is a key accounting number in financial reports and is subject to audit and the resultant EP ratio shows how much an investor is willing to pay for a dollar of audited earnings (Li and Stokes, 2008) and (5) non-availability of earnings forecast data to be used in the computation of the implied cost of equity.

Loss making firms are excluded from the analysis due to difficulty in interpreting a negative earning-price ratio in terms of cost of equity and the non-linearity in the distribution of negative and positive earning-price ratio. In addition, according to Hayn (1995) and Collins et al. (1999), earnings numbers have low information content for loss making firms. Following the prior studies, EP ratio is used instead of the PE ratio in order to address concerns with the effects of small values earnings in the denominator. This measure is industry-adjusted because Alford (1992) finds that industry membership works well for selecting firms that are comparable in terms of risk and growth.

### Independent variable

The independent variable is the overall corporate governance score (CGSC). It is measured by the CG index developed based on the MCCG's (2000) principles and best practices as well as prior studies such as Patel and Dallas (2002), Brown and Caylor (2004), Beiner et al. (2006), Black et al. (2006), Cheng et al. (2006), Byun et al. (2008), Donker and Zahir (2008) and Chen et al. (2009).

The CG index is also adapted from the Corporate Governance Screencard developed by a team of researchers from MARA University of Technology in collaboration with the Minority Shareholder Watchdog Group (MSWG) in Malaysia. All thirteen corporate governance broad principles and thirty three corporate governance best practices of the MCCG (2000) are incorporated into the CG index. The CG Index consists of 139 items in six categories namely board structure and procedures, board compensation practices, shareholder rights and relations, accountability

**Table 1.** A summary list of corporate governance categories of the CG index.

Corporate governance category	Symbol	No. of item
Board structure and procedures	CGM1	68
Board compensation practices	CGM2	14
Shareholder rights and relations	CGM3	6
Accountability and audit	CGM4	17
Transparency	CGM5	23
Social and environmental	CGM6	11

**Table 2.** Definition of corporate governance categories of the CG index.

Category	Definition
Board structure and procedures	The structural elements of the board and the process of governing by the directors
Board compensation practices	The practices adopted by the board in determining and deciding the remuneration for the directors
Shareholder rights and relations	The empowerment of shareholders and shareholder communication
Accountability and audit	The accountability mechanisms and process of the board of directors
Transparency	The ability of stakeholders to assess the true position, prospect and performance of the company
Social and environmental	The company's ethical and socially responsible activities

and audit, transparency, and social and environmental. The categories of the CG index are not given any weight because there is no proven weighting system that is globally accepted (Donker and Zahir, 2008) and lack of theoretical basis for doing so (Black et al., 2006). To avoid biasness that may arise due to subjective assessment in scoring the corporate governance items, the CG index is designed based on facts, such as whether the firm has an internal audit function and firm has a CEO statement on environmental policy. This approach is consistent with the approaches of Byun et al. (2008) and Chen et al. (2009).

The scoring approach employed in this study is consistent with the method used in prior studies (Brown and Caylor, 2004; Black et al., 2006; Beiner et al., 2006; Byun et al., 2008; Chen et al., 2009). A dichotomous procedure is applied in scoring the items of the CG index. Specifically, a "1-point" score is awarded for each item that is consistent with good corporate governance practice as indicated on the CG Index and otherwise, a "0-point" score is given. For example, if remuneration committee makes recommendation to the board the remuneration package of the executive directors in all its forms a "1-point" score is given.

The CG index is presented in the Appendix. Tables 1 and 2 provide a summary listing of the six corporate governance categories and the definitions of each category respectively.

The sum of scores for each of the six corporate governance categories is computed once each of the 139 items is scored. Then, the sum of scores of all six categories is computed. This score represents an aggregate ranking for all six categories. The overall corporate governance score is derived by calculating the ratio of actual sum of scores awarded to a firm to the maximum score (139). This score is converted into a percentage form. A high CGSC implies a high quality of corporate governance and vice versa.

### Control variables

The selection of control variables included in this study is primarily

based on prior studies. The control variables are firm size, return on assets, leverage, market-to-book ratio, gross domestic product rate, industry dummy and year dummy. Table 3 provides a definition of the research variables of this study.

**Firm size:** Firm size is measured as total assets (TA) in Malaysian Ringgit. Firm size is inversely related to equity risk and default risk. Larger firms enjoy greater stability and therefore may have a lower cost of capital (Ashbaugh et al., 2004; Cheng et al., 2006; Hail and Leuz, 2006; Liu and Wysocki, 2006; Chen et al., 2009; Gray et al., 2009).

**Leverage:** Leverage (LEV) is measured by the ratio of the long-term debt to total assets. Modigliani and Miller (1958) demonstrated that a firm's cost of equity is an increasing function of its debt ratio. The greater the financial leverage the higher the agency costs arising from managerial discretion to shift resources away from shareholders and the greater the demand for monitoring and disclosure; thus, the higher the cost of equity (Fama and French, 1992; Cheng et al., 2006; Liu and Wysocki, 2006; Byun et al., 2008; Gray et al., 2009).

**Return on assets:** The ratio of return on asset (ROA) is a proxy for firm performance. It is measured as operating income to total assets. Profitable firms have lower default risk. Hence, ROA is expected to have negative association with the cost of equity. Prior empirical studies document a negative association between firm profitability and the cost of equity (Francis et al., 2005; Byun et al., 2008).

**Market-to-book ratio:** Market-to-book (MTB) ratio is measured by market value of common share to book value of common share. Empirically, higher book-to-market firms earn higher ex-post realised returns, suggesting that MTB ratio has a negative relationship with the cost of equity (Fama and French, 1992; Gebhardt et

**Table 3.** Definition of research variables.

Variable	Symbol	Definition
<b>Dependent</b>		
Cost of equity	IndEP	Industry-adjusted earnings-price ratio defined as the difference between the $j$ 's earnings-price ratio (EP) and its median industry EP in year $t$ ; where $j$ = firm and $t$ = year of observation
<b>Independent</b>		
Corporate governance	CGSC	Corporate governance score defined as the percentage of the sum of the scores awarded for each item in the CG Index i.e. the sum of the scores awarded divided by the total number of items in the CG Index (maximum score)
Corporate governance categories	CGM1 - CGM6	Individual category score defined as the percentage of the sum of the scores of each corporate governance category i.e. the category score divided by the total number of items in the CG Index (maximum score)
<b>Control</b>		
Total assets	TA	Total assets (in millions of Ringgit)
Leverage	LEV	Debt ratio defined as total long-term debt to market value of common share
Return on assets	ROA	Return on assets defined as operating income to total assets
Market-to-book ratio	MTB	Market-to-book ratio defined as the ratio of market value of common share to book value of common share
Gross domestic product rate	GDP rate	Economic growth rate defined as gross domestic product rate for the each year
Industry dummy	IndDummy	Industry dummy defined as 1 if the observation belongs to industry $i$ , and 0 otherwise.
Year dummy	YrDummy	Year dummy defined as 1 if the observation belongs to year $t$ , and 0 otherwise

al., 2001; Ashbaugh et al., 2004). Firms tend to have high share prices when they have high investment opportunities, leading to a higher MTB ratio (Geczy et al., 1997). High investment opportunities have been linked to higher long-term growth in earnings and cash-flows; thus, cost of equity is expected to be lower for a higher MTB firm.

**Gross domestic product rate:** The gross domestic product rate (GDP rate) is a proxy for the general macroeconomic situation and growth in Malaysia. GDP rate is a continuous variable obtained from the Department of Statistics, Malaysia. High GDP rate indicates that the country is experiencing high growth period (i.e. booming economy), which makes raising capital more expensive.

**Industry dummy:** Industry effects are a dominant factor in explaining cross-sectional variation in the cost of equity (Fama and French, 1997; Gebhardt et al., 2001; Chen et al., 2009). Industry differences are controlled using the nine Malaysian Bourse's industry classification namely construction, consumer products, hotels, industrial products, plantation, properties, technology, infrastructure project and trading/services. All industry sectors are represented in the sample.

**Year dummy:** Year\_dummy is a dummy variable equal to 1 if the year is 2003, 2004, 2005, 2006 or 2007, otherwise equal to 0. Following Certo and Semadeni (2006), we include year dummy variable due to the fact that our data set is cross-sectionally dominated.

### Assessment of the validity of the CG index

The CG index is pilot tested on ten company annual reports for the purposes of ensuring some variability in corporate governance practices between different firms, ascertaining that the items of the CG index are clearly worded so as to avoid ambiguity and subjectivity in scoring the items, avoiding any redundancy of items and finally, ensuring its overall functionality. Necessary amendments are made to the CG index, which are mostly due to the choice of words and syntax. A few repetitive statements are deleted.

Consistent with Botosan (1997), Cronbach's alpha test is employed for checking the internal consistency of the CG Index. The same ten annual reports selected for the pilot test are used for this validation exercise. As a general rule, an alpha of 0.70 indicates that the correlation is attenuated very little by random measurement error (Pallant, 2002). The Cronbach's coefficient alpha of 0.89 for all the 139 items indicates that, overall the CG index has good internal consistency and a reliable instrument for measuring corporate governance quality.

### Preliminary tests

An examination of the research variables reveals some skewness and kurtosis in the distributions. A normally distributed variable should have skewness and kurtosis near zero and three, respectively (Park, 2008). Severe skewness and kurtosis are

detected in the distributions of CGSC and all the control variables except GDP rate. Consistent with the approach of Coakes and Steed (2007) and Black et al. (2006), all these variables are log transformed so as to address the non-normality problem and the influence of outliers.

The Breusch-Pagan and Wooldridge tests reveal that the data suffer from both heteroskedasticity and autocorrelation problems. The presence of heteroskedasticity and autocorrelation may inflate the standard errors of the regression coefficients leading to false inferences. Hence, this study employs a feasible generalized least squares (FGLS) panel data estimation procedure, which provides reliable estimates in the presence of heteroskedasticity and autocorrelation (Gujarati, 2003). Correlation analysis between independent and control variables reveals that multicollinearity might not severely influence the regression results. Multicollinearity may be a problem when the correlation exceeded 0.80 (Gujarati, 2003).

### Empirical model

A panel data analysis is employed due to the fact that the corporate governance and financial data comprise both time series and cross-sectional elements. The panel data regression model for analysing the impact of corporate governance and a set of control variables on the cost of equity is shown thus:

$$\text{IndEP}_{it} = \beta_0 + \beta_1 \text{LNCGSC}_{it} + \beta_2 \text{LNNTA}_{it} + \beta_3 \text{LNLEV}_{it} + \beta_4 \text{LNROA}_{it} + \beta_5 \text{LNMTB}_{it} + \beta_6 \text{GDP rate}_{it} + \beta_7 \text{INDDUMMY}_{it} + \beta_8 \text{YRDDUMMY}_{it} + \mu$$

where the corporate governance and financial variables are as previously defined.  $B_0 \dots B_8$  represent regression coefficients and  $\mu$  represents the error term.

Additionally, this study analyses the individual effect of each of the corporate governance categories on the cost of equity. The purpose of this analysis is to determine the more significant predictors amongst the six corporate governance categories of the CG index on the cost of equity.

## EMPIRICAL RESULTS AND ANALYSES

### Descriptive statistical analysis

Table 4 Panel A provides the descriptive statistics results of the overall corporate governance score and six categories of the CG index based on pooled data across sample years. Overall, CGSC ranges from 41.26 to 86.71 with a mean and median of 61.08 and 60.43, and a standard deviation of 6.35. Based on the full sample, on average, firms have adopted slightly above 60% of the desirable corporate governance practices and structures. Whilst there are firms that have commendable standard of corporate governance, some have a rather deplorable quality as evidenced by the lowest score of 41.26.

Table 4, Panel B provides the annual descriptive statistics of the corporate governance variables from 2003 to 2007. Annual trend shows that CGSC ranges from 58.2 in 2003 to 62.96 in 2007. These results indicate that firms have shown steady but little improvement of about 8.17% in their corporate governance quality during the five-year period. It seems that despite the efforts expended to enhance the awareness of directors on the importance of corporate governance, in general, some

firms are still falling behind the desirable corporate governance practices.

Turning to the categories of the CG index, overall, firms show reasonably good scores in all categories except for CGM2 and CGM6. Overall, CGM1 ranges from 38.24 to 86.76, with a mean and median of 63.47 and 64.71, and a standard deviation of 7.53. Over the five-year period firms show a steady but slight improvement in CGM1 as evidenced by the increment in the mean scores from 59.87 in 2003 to 66.01 in 2007. These results suggest that more effort needs to be done to further improve this most important aspect of corporate governance in Malaysian listed firms. The performance in this category could have been better given the great emphasis given by the regulators and the MCCG (2000) on board of directors.

Overall, CGM2 ranges from 0 to 92.85 with a mean and median of 35.21 and 28.57 and a standard deviation of 17.48. A mean score of 35.21 indicates that firms seem to have poor quality of board compensation practices. In fact, there are firms having zero score for this category. All the items under this category are purely voluntary, which possibly explains the poor performance in this category. Firms may be taking advantage of the seemingly lack of supervision on this aspect of corporate governance. These results suggest that more effort needs to be expended to encourage firms to improve their compensation practices.

For the full sample, CGM3 ranges from 33.33 to 62.67, with mean and median of 62.67 and 66.67, and a standard deviation of 9.79. Annual trend shows that firms have inconsistent performance in observing shareholder rights and relations. But the overall performance is fair. CGM4 ranges from 35.29 to 94.12, with a mean and median of 78.28 and 82.35 and a standard deviation of 10.31. Overall, firms seem to perform best in this category as compared to the other five categories. However, an examination of annual trend reveals that firms do not make much improvement in their accountability and audit aspects of corporate governance over the five-year period under observation. Although the mean scores show increasing trend, the increment is actually negligible.

These results of CGM4 suggest that firms have made good progress in enhancing the accountability and audit aspects of corporate governance. Although the five-year trend shows little improvement, overall, the efforts to enhance firm accountability by focusing on internal control, risk management and audit seem to bear some fruit. CGM5 ranges from 52.17 to 95.65, with a mean and median of 77.15 and 78.26 and a standard deviation of 18.19. Overall, firms score relatively well in this category. Annual trend reveals that firms show little but steady progress in this category.

CGM6 ranges from 0 to 90.91, with a mean and median of 14.92 and 9.09 and a standard deviation of 18.19. Overall, firms demonstrate poor performance in social and environmental practices as evidenced by a

**Table 4.** Sample descriptive statistics of independent, dependent and control variables.

<b>Panel A: Pooled sample</b>					
<b>Independent variable</b>					
<b>Variable</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>Min.</b>	<b>Median</b>	<b>Max.</b>
CGSC	61.08	6.35	41.26	60.43	86.71
LN(CGSC)	0.76	0.10	0.58	0.76	0.93
<b>Categories of CG index</b>					
CGM1	63.47	7.53	38.24	64.71	86.76
CGM2	35.21	17.48	0.00	28.57	92.85
CGM3	62.67	9.79	33.33	66.67	100
CGM4	78.28	10.31	35.29	82.35	94.12
CGM5	77.15	6.66	52.17	78.26	95.65
CGM6	14.92	18.19	0.00	9.09	90.91
<b>Dependent variable</b>					
IndEP	0.06	0.05	0.0001	0.0456	0.2001
<b>Control variable</b>					
TA	2227.00	43.41	43.41	545.57	67724.60
LN(TA)	6.34	-2.78	-2.78	6.22	11.12
LEV	2.37	1.03	1.03	1.89	20.55
LN(LEV)	-0.12	-2.78	-2.78	-0.09	2.97
ROA	0.064	0.01	0.001	0.055	0.844
LN(ROA)	-2.96	-4.80	-4.80	-2.92	-0.16
MTB	1.50	0.10	0.10	0.92	34.05
LN(MTB)	-0.18	-5.75	-5.75	-0.19	3.53
GDP rate	5.52	0.96	4.20	5.20	7.10
<b>Panel B: Means for the annual observations from 2003 to 2007</b>					
<b>Corporate governance variable</b>					
<b>Year</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>
<b>Overall CG score</b>					
CGSC	58.2	60.41	61.50	62.47	62.96
<b>Categories of CG index</b>					
CGM1	59.87	62.58	63.77	65.23	66.01
CGM2	33.88	35.00	35.99	36.28	34.87
CGM3	63.20	63.70	61.88	62.38	62.21
CGM4	74.72	77.64	79.03	79.80	80.02
CGM5	75.25	76.63	77.57	77.96	78.35
CGM6	10.80	13.50	13.95	16.47	19.89
<b>Financial variable</b>					
IndEP	0.05	0.05	0.06	0.07	0.06
TA	1892.70	2048.26	2136.65	2394.97	2661.78
LEV	0.63	0.58	0.55	0.55	0.53
ROA	0.06	0.06	0.06	0.06	0.07
MTB	1.64	1.43	1.16	1.40	1.83
GDP rate	4.20	5.20	7.10	5.20	5.90



**Table 5.** Estimation results of the FGLS regression analysis using industry-adjusted earnings-price ratio (IndEP) as the dependent variable.

Variable	Model 1	Model 2
Log corporate governance score	-0.047** (1.95)	
Board structure and procedures score		-0.001** (-2.56)
Board compensation practices score		-0.0003 (0.40)
Shareholder rights and relations score		-0.008** (-2.22)
Accountability and audit score		-0.002**(-1.85)
Transparency score		-0.0004 (-0.27)
Social and environmental score		-0.001 (-1.68)
Log total assets	-0.002** (-2.42)	-0.002 (-1.46)
Log leverage	0.0002 (0.15)	0.002(1.08)
Log return on assets	-0.003 (-1.75)	0.003 (1.64)
Log Market-to-book ratio	-0.007*** (-5.28)	-0.009***(-4.40)
GDP Rate	0.007*** (4.37)	0.007*** (3.26)
Industry dummy included	Yes	Yes
Year dummy included	Yes	Yes
Chi-square	11366.38	377.14
Prob > Chi-square	0.00***	0.00***
Probability level of significance of the Breusch-Pagan heteroskedasticity test		0.00***
Probability level of significance of the Wooldridge autocorrelation test		0.00***
N		505

\*\* Significant at 5% level, \*\*\* Significant at 1% level, z-statistics are in parenthesis.

by a relatively low average score of 14.92. On average, firms show steady but little improvement over the five-year period. The result of this study is comparable to a similar prior study of Mohd Ghazali and Weetman (2006).

This result implies that, in general, Malaysian firms do not place great importance to fulfilling their CSR to various stakeholder groups. Further, these results indicate that much needs to be done to encourage Malaysian firms to actively engage in activities that promote social and environmental well-being that may be affected due to their activities. On this note, it appears that the regulators move to promote CSR activities among Malaysian corporations beginning 2006 is a step in the right direction.

It is worth noting that the Malaysian regulators such as the ACCA Malaysia, the Bursa Malaysia and the Malaysian government have only begun to introduce a few initiatives to encourage firms to engage in CSR activities during 2006 to 2007. The full impact of these initiatives, particularly, the extent of firms' involvement in CSR activities would probably be seen after 2007, which period was not included in this study.

In summary, the overall standard of corporate governance is fair and has not improved much during the five-year period under investigation. Firms have been performing well in enhancing accountability and audit aspects of corporate governance. It seems that firms have established most oversight mechanisms in relation to accountability and audit. Further, firms fared reasonably

well in various aspects of board monitoring, but there is still much to do to further strengthen this most important aspect of corporate governance.

The descriptive statistics results suggest that despite numerous efforts undertaken to strengthen the standard of corporate governance ever since the financial crisis in 1997 to 1998, firms are still lagging behind in terms of board compensation practices and social and environmental activities. There is much room for improvement in these aspects of corporate governance, which both the regulators and firms should give greater attention to.

### Regression results and analysis

Table 5 Model 1 presents the regression results on the impact of LN(CGSC) on IndEP after controlling for the effects of firm size, firm performance, leverage, market-to-book ratio, growth domestic product rate, industry sectors and time period. LN(CGSC) is found to have a significant negative relationship with IndEP at five percent level. This finding suggests that better corporate governance quality predicts lower cost of equity; thus, supporting the hypothesis of this study. The findings of Bhattacharya and Daouk (2002), Ashbaugh et al. (2004), Cheng et al. (2006), Hail and Leuz (2006), Derwal and Verwijmeren (2007), Byun et al. (2008), Chen et al. (2009) and Gupta et al. (2010) are similar to this result.

Firm size [LN(TA)] and market-to-book ratio [LN(MTB)]

have significant negative relationships with IndEP. Larger and high investment opportunities firms are likely to enjoy lower cost of equity. Meanwhile, GDP rate is found to have a significant positive link with the cost of equity. This finding is in line with the expectation that during high growth period it is relatively more expensive to raise capital.

Table 5, Model 2 shows the FGLS regression results of the impact of CGM1, CGM2, CGM3, CGM4, CGM5 and CGM6 on IndEP after controlling for the control variables. CGM1, CGM3 and CGM4 are significant at five percent level in explaining the level of cost of equity. CGM2, CGM5 and CGM6 are not significant, indicating that these categories of corporate governance do not influence the level of cost of equity. LN(MTB) and GDP rate have significant relationships with IndEP.

The finding of this research supports the theoretical proposition of the agency theory. It appears that equity holders are responsive to the robustness of firms' corporate governance mechanisms in protecting their interest against expropriation by managers or controlling shareholders. They are willing to accept a lower risk premium if firms put in place corporate governance mechanisms that enhanced board monitoring, accountability and audit as well as those practices that promote shareholder rights and relations.

Market participants seem to perceive that firms having robust oversight mechanisms would be able to curb managerial opportunism and eventually have lower agency problems. Consequently, they demand lower cost of equity from those firms. These findings also suggest that board monitoring, shareholder empowerment, credible financial reporting process and internal control system are integral aspects of a robust corporate governance system.

In terms of the effect of a specific category of the CG index, this study documents a few interesting findings. Firstly, this study finds that board structure and procedures category has a significant negative effect on firm cost of equity. This finding underscores the point that an effective board structure and procedures is a primary determinant of a strong board monitoring and by extension, corporate governance as a whole.

Further, boards that have the ingredients to provide independent monitoring of management are better able to protect investors against opportunistic management behaviour. Rational investors consider this aspect of corporate governance as crucial; thus, willing to impose lower cost of equity financing if they have good impression on boards' capability to exercise effective monitoring of management. The significance of board structure and procedures category underpins the findings of prior studies (Ashbaugh et al., 2004; Byun et al., 2008; Chen et al., 2009).

Secondly, shareholder rights and relations category is found to have a significant reducing effect on the cost of equity. This finding suggests that greater shareholder

rights should reduce agency costs and cost of equity because shareholder empowerment increases the likelihood of investors disciplining errant managers. This finding reinforces the findings of prior studies (Ashbaugh et al., 2004; Cheng et al., 2006; Byun et al., 2008; Chen et al., 2009; Huang et al., 2009) and appears to confirm the views of Gomper et al. (2003) and Bebchuk et al. (2005) that shareholder rights increases investors' ability to monitor and discipline managers; thus, reducing the potential agency costs. With regards to shareholder relations, the finding suggests that investors view this aspect as an important determinant of cost of equity. So, it seems that the MCCG's (2000) step to emphasise on maintaining effective shareholder communication is a move in the right direction.

Thirdly, accountability and audit category is significant in explaining the cost of equity, indicating that greater financial reporting oversight and robust internal control system are associated with lower cost of equity. Further, equity investors trust firms' financial reports if they are confident with the independence and fairness of the external auditor, which is a crucial element of a credible accountability process. The finding of this study in this respect is in line with the results of Khurana and Raman (2004), Li and Stokes (2008), and Hope et al. (2009). Further, this result appears to reinforce Power's (1997) view that internal control system is an important aspect of board accountability.

Board compensation practices, transparency and social and environmental category do not have an influence on firm cost of equity, indicating that equity investors do not consider these aspects of corporate governance as important in equity pricing. In the context of MCCG (2000), the finding of this study indicates that the step taken by the regulators in their pursuit to improve the standard of corporate governance of the listed entities may be seen as a step in the right direction. The introduction of the MCCG (2000) and its subsequent revision in 2007 have provided the necessary guidance to the boards of directors to improve their accountability to shareholders and supervision of the management team.

Although the agency conflicts that arise in Malaysian corporations are predominantly between the controlling shareholders and the minority shareholders, corporate governance standards as espoused by the MCCG (2000) are still much relevant and beneficial as evidenced by the finding of this study. The finding of this study also implies that in a country that has highly concentrated corporate ownership, reducing the expropriation risk by strengthening overall corporate governance may lower the cost of equity. Further, higher quality corporate governance brings about significant economic benefits in terms of lowering cost of equity, and thereby making access to capital easier. Easier access to capital increases chances for development in a particular emerging country.

In summary, the results indicate that investors in Malaysia seem to impose lower cost of equity on firms

with higher quality corporate governance. The result of this research confirms the market's awareness of the implication of corporate governance on firm value, in this instance, cost of equity. Overall, this study shows that consistent with agency theory; corporate governance can reduce the cost of equity through the reduction of agency problems and information asymmetry.

## Conclusions

This paper has examined the impact of corporate governance quality on firm's cost of equity of 101 listed firms on the Main Board of the Malaysian Bourse from 2003 to 2007. This study is based on the theoretical argument of agency perspective. According to the agency theory, robust oversight mechanisms constraint managerial opportunism and mitigate the agency conflicts between concentrated owners and other equity holders; thus, better protects the latter's interest. In turn, equity holders are willing to accept a lower risk premium, effectively lowering the cost of equity.

Corporate governance quality is assessed using a self-developed corporate governance index comprising a large set of quality measures in six categories. The quality measures are derived from the provisions of the MCCG (2000) and various prior studies. Regression results indicate that firms having high quality corporate governance practices have lower cost of equity. Further, this research finds that firms' board structure and procedures, practices that promoted shareholder rights and enhanced accountability and audit process have significant reducing impact on the cost of equity.

There are a number of policy implications related to this study. First, the findings help to establish a starting point for understanding the influence of corporate governance mechanisms on the cost of equity financing in Malaysian corporations, an area that has received little attention to date. Although corporate finance and accounting literature have highlighted the important of corporate governance in influencing firm value, very little focus has been given to examine it from the perspective of cost of equity, especially in the Malaysian context.

Secondly, this research shows that listed firms could benefit from adopting the MCCG's (2000) recommendations and other global standards of corporate governance in terms of board structure and procedures, shareholder rights and relations and accountability and audit. Third, this study further confirms that equity holders are concerned about the quality and type of corporate governance that a firm employs to better protect their interests. The practical relevance of this research is also large for which it helps to shed some lights on the desirable corporate structure that creates value for firms in Malaysia.

Notwithstanding the findings, the current study suffers from the following limitations, which would potentially represent opportunities for future research. This study

examines Malaysian firms only, which belong to a fairly progressive capital market, but a relatively weak investor protection regime. Future studies may investigate the impact of corporate governance on the firm's cost of equity under different investor protection environments. Future studies may also examine the effect of corporate governance across countries in the merging market economies where corporate governance has been receiving greater attention. Perhaps a better understanding of the value creation role of corporate governance from the perspective of the cost of equity can be established in those markets.

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## APPENDIX

## The CG index.

Number	Board structure and procedures category
1.	Firm has 1/3 independent directors
2.	Firm has ½ (50%) independent directors
3.	Firm has more than ½ (50%) independent directors
4.	Firm has minority shareholder representation in the board
	<b>The board has at least one director with any of the following:</b>
5.	Qualifications in accounting/finance
6.	Working experience in accounting/finance
7.	Business/senior management experience
8.	Industry knowledge
9.	Strategic planning experience
10.	Firm has a nomination committee
11.	Nomination committee has at least 50% independent directors
12.	Nomination committee composed of more than 50% independent directors
13.	Firm has remuneration committee
14.	Remuneration committee has at least 50% independent directors
15.	Remuneration committee consists of more than 50% independent directors
16.	Firm has an audit committee
17.	Audit committee has at least 3 directors as mandated by the Bursa Malaysia Listing Requirements (BMLR)
18.	Audit committee has at least 50% independent directors
19.	Audit committee has 100% independent directors
20.	Firm has at least 2 members of the audit committee having accounting or related financial management expertise or experience
21.	Firm has at least an additional specialised committee other than nomination, remuneration and audit committees e.g. risk committee and/or governance committee.
22.	Independent directors meet without CEO
23.	Independent directors disclose the number of times they meet without CEO
24.	Firm indicates that no former CEO serves the board
25.	Directors term limit exists
26.	Shareholders vote on directors to fill selected vacancies
27.	Firm discloses the size of the board
28.	Board reviews the size of the board and comments on its appropriateness
	<b>Firm discloses that annual review on the board in terms of the following aspects of the board has been performed:</b>
29.	Skills and Experience
30.	Diversity
31.	Composition
32.	Firm provides directors an independent access to company secretary services
33.	Firm has a procedure for directors to access independent professional advice
34.	Firm indicates that independent directors can obtain outside advice at firm expense
	<b>Firm defines the terms of reference of:</b>
35.	The audit committee
36.	The remuneration committee
37.	The nomination committee
38.	Any other committees

**The CG index. Contd.****Firm discloses the names of members of the below committees in the Director's Report:**

39. Audit
40. Remuneration
41. Nomination
42. Any other committees
43. Firm explains independent director's responsibilities
44. Firm indicates the number of board meetings held per year
45. Firm discloses the number and % of attendance of each individual director to board meetings.
46. All directors attended at least 75% of board meetings on average or had a valid (e.g. medical, attending official business functions, absence is approved by the board) excuse for non-attendance
47. Firm discloses the type of transaction requiring board's approval
48. CEO and Chairman are different people
49. Chairman is an independent director
50. Firm indicates that Chairman and CEO are independent of each other
51. Firm indicates that the current Chairman is not a former CEO

**Firm discloses:**

52. the orientation program for new directors
53. education programme for new directors
54. Firm indicates that each director has completed in at least one module of the Mandatory Accredited Programme (MAP)
55. Firm indicates that all directors have completed all the nine modules of the MAP as mandated by the Malaysian Bourse
56. Directors attend at least one Continuing Education Programme (CEP) annually
57. Nomination committee makes recommendation to the board for new nominees
58. Firm has or plans to have a system for evaluating all directors
59. Firm discloses individual director's performance appraisal
60. Firm discloses report on activities of the audit committee
61. Firm discloses the number of meetings the audit committee held per year
62. Audit committee meets two or more times per year
63. Firm discloses details of attendance of each director in the audit committee (e.g. number of meetings attended over total meetings)
64. Audit committee members attend 75% of meetings, on average
65. Firm gives an explicit authority to the audit committee to investigate any matters within its terms of reference
66. The audit committee holds an annual meeting with the internal audit team to review internal control and risk management system
67. The audit committee holds an annual meeting with the external audit team without the presence of firm's management team to review financial statements
68. Board has its own code of ethics or business conduct

**Board compensation practices category**

69. Firm has established Key Performance Indicators or a similar instrument for each director
70. Firm uses industry benchmarks to determine the remuneration of all directors

**Firm's compensation plan is linked to:**

71. Individual director's KPIs
72. Corporate performance
73. Performance of peer companies
74. Firm has the long-term incentive plans for executive directors e.g. share option scheme
75. Firm discloses the policy for directors' remuneration in the corporate governance statement
76. The performance-based component makes up > than 50% of executive directors' remuneration
77. Remuneration committee makes recommendation to the board the remuneration package of the executive directors in all its forms
78. Board approves the remuneration plans of all directors

**The CG index. Contd.**

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- 79. Firm discloses the remuneration of each director (from the company and from the subsidiary)
  - 80. Firm discloses the total and breakdown of remuneration of each director
  - 81. Firm discloses separate fee for independent director's additional contributions
  - 82. Independent directors do not receive retirement pay

**Shareholder rights and relations category**

- 83. Firm gives profile of directors standing for re-election on the notice of shareholder meetings
- 84. Board approval is required for related party-transactions
- 85. Shareholders approve the appointment/removal of external auditor
- 86. Firm discloses minutes of shareholder meetings
- 87. Shareholders approve appointment/approval of directors
- 88. Firm has a designated officer to handle investor relations matters

**Accountability and audit category**

- 89. Firm discloses internal control compliance
- 90. Firm has risk management statement
- 91. The board comments on the adequacy of internal controls
- 92. Firm has an internal audit function (internally set up or outsourced to audit firm/other firm)
- 93. Audit committee approves the appointment of internal audit head or outsourcing/audit firm performing an internal audit function
- 94. Internal audit head reports directly to audit committee
- 95. Audit committee supervises internal audit procedures
- 96. The audit committee evaluates the internal audit function annually
- 97. Firm's internal/external auditor conducts an annual review of internal control and risk management system

**Firm reports on an assessment of the following:**

- 98. Performance of the company
- 99. Prospect or position of the company
- 100. Firm has an independent external auditor
- 101. Audit committee recommends the appointment of external auditor at shareholder meeting
- 102. Audit committee reviews the work of external auditors
- 103. Audit committee reviews financial statements together with external auditor
- 104. Consulting fees are less than the audit fees paid to the external auditors
- 105. Firm discloses that it has a written policy on auditor rotation

**Transparency category**

- 106. Firm has corporate governance guidelines
  - 107. Firm discloses corporate governance guidelines
  - 108. Firm provides discussion on corporate strategy
  - 109. Firm discloses its plans for investment in coming years
  - 110. Firm provides segment analysis, broken down by business lines
  - 111. Firm discloses financial targets
  - 112. Firm discloses key products
  - 113. Firm discloses main markets
  - 114. Firm provides any efficiency indicators (e.g. ROA, ROE etc)
  - 115. Firm discloses its accounting policy
  - 116. Firm discloses accounting standards it uses for accounts
  - 117. Firm discloses methods of asset valuation
  - 118. Firm discloses information on method of fixed asset depreciation
  - 119. Firm provides consolidated financial statements
  - 120. Firm provides list of related party transaction
  - 121. Firm discloses the name of auditing firm
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- 122. Firm reproduces the auditor's report
- 123. Firm discloses the amount of fees paid to external auditors
- 124. Firm discloses any non-audit fees paid to auditors
- 125. Firm discloses directors' shareholdings
- 126. Firm discloses management's shareholdings
- 127. Firm discloses names of shareholders with 5 percent or more shares
- 128. Firm discloses the names of top ten shareholders

**Social and environmental category**

- 129. Firm has code of ethics
  - 130. Firm discloses the terms of employees' safety and welfare
  - 131. Firm has a CEO statement on environmental policy
  - 132. Firm has a policy on environmental responsibility
  - 133. Firm provides an assessment on key environmental impacts of its business
  - 134. Firm discloses management systems and procedures dealing with environmental issues
  - 135. Firm discloses the estimated total future environmental liability
  - 136. Firm has statements on current/potential environmental actions against its operations
  - 137. Firm has a board or executive level special committee responsible for monitoring environmental regulations and the environmental impact of operations
  - 138. Firm provides a sustainable development report
  - 139. Firm has employee share ownership schemes (ESOSs) or other long-term employee incentive plans
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