



CORPORATE GOVERNANCE AND FIRM RISK: EVIDENCE FROM MALAYSIAN SHARIAH COMPLIANCE COMPANIES

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Article History

Received: 16 December 2019

Revised: 6 February 2020

Accepted: 11 March 2020

Published: 24 March 2020

Keywords

Corporate governance

Mechanisms

Firm's risk

Shariah compliance company

Cost of equity capital

CAPM

Agency theory.

ABSTRACT

The financial scandals that have hit financial markets and caused significant losses to investors have mainly been attributed to some defects in corporate governance systems. Hence, good corporate governance practices are ensured through several structures and mechanisms that merge the conflicting interests of managers, in one side, and shareholders and other stakeholders, in the other, toward the value maximization of the firm. Apart from this, the study focuses on the relationship between corporate governance and firm risk in Malaysia. Specifically, this study aims to investigate the corporate governance (CG) mechanisms (board independence, board size, existence of audit and nomination/remuneration committees, CEO duality, and independence of board committees) that influence firm's risk measured by cost of equity capital. The study provides several literatures on CG mechanisms, agency theory, and CAPM in order to achieve the objective designed for this particular research. In order to answer the research question and objective, this study employs a quantitative method (secondary data). The sample consists of 302 firms from Public Listed Companies traded in Bursa Malaysia which are practicing shariah compliance in Islamic Capital Market (ICM) from 2013 until 2016. The data were analyzed by using SPSS version 23 including descriptive statistics, correlation matrix as well as regression analysis to examine whether higher governance quality is associated with a lower cost of equity capital. The findings showed a mixed result between CG mechanisms associated with firm risk. However, the result is consistent with prior literatures in line with corporate governance and risk.

Contribution/Originality: This study contributes to existing literature by investigating the corporate governance (CG) mechanisms that influence firm's risk measured by cost of equity capital.

1. INTRODUCTION

Since the Asian financial crisis and the outbreak of the United States (US) major corporate scandals such as Enron, WorldCom, Megan Media, Port Klang Free Zone (PKFZ), Transmile and others, the issue of corporate governance has becoming paramount as organizations are dependably looking for competitive edge in an unpredictable environment. These crises have badly affected many Asian countries, including Malaysia, which has been inspired towards better improvement of corporate governance (CG) for instance composition of board of directors which is an important element in the corporate governance. Thus, the introduction and establishment of

Malaysian Code of Corporate Governance (MCCG) as well as the Bursa Malaysia Listing Requirement in 2001 highlight the important of corporate governance reformation in order to ensure that the organizations with lack of good practice of corporate governance will survive without guidelines.

Currently, most of the Malaysian companies are aware and comply with good ethics and conduct in their operation of business. This is due to the awareness and demand from Muslims to involve in the capital market investment. Therefore, Securities Commission of Malaysia has their own committee which is the Shariah Advisory Council (SAC) and traded at Bursa Malaysia. With the Shariah compliance, the companies can expand their investment in a better way as well as maximizing their shareholders' wealth. In fact, shareholders and investors are not only concerned about making profit but how and where the sources of investment are also being considered (Derigs & Marzban, 2008). Thus, with these compliances, a company would improve their governance practice in order to succeed in ethical conduct. It would enhance researchers to study the governance mechanisms with issues related to performance, risk taking and other agency problems (Agrawal & Knoeber, 1996).

The link between CG mechanisms and firm risk taking has been examined by Akhigbe and Martin (2008) whose found that short and long term risk taking measures inversely with the strength and characteristics of corporate governance. According to Reverte (2009) who studied the relationship between corporate governance and cost of equity capital (as proxy to firm's risk) suggests that stronger governance firms will be rewarded by lower cost of equity capital compared to weaker governance firms. Moreover, the result gathered from a study by Laeven and Levine (2009) in banking sector indicates that firms with more dominant board of directors (BOD) are likely tend to increase firms' risk.

Therefore, there are several studies which examined the relationship between shariah compliance companies with risk and return. For example, Dharani and Natarajan (2011) studied the relationship between shariah compliance and non-compliance companies in India and the result disclosed that low volatile (measured of firm risk) nature of shariah compliance compared to non-compliance companies. While Sadeghi (2008) proved that an introduction of shariah compliance index would improve performance and liquidity including shares using Malaysian listed companies sample in Bursa Malaysia. Hence, in complying with the issue of shariah, it is significant to analyze on the shariah companies whether different levels of companies' uncertainties (risks) would provide different outputs on the level of compliance (Mohd-Sanusi, Ismail, Hidayati, & Harjito, 2015).

1.1. Study Motivation

Good corporate governance requires more training and practice in the companies and ensure the best interest and ethical value provided for the benefits of their individual effective commitment in the long run (Appelbaum, Vigneault, Walker, & Shapiro, 2009). This is suggested by Demidenko and McNutt (2010) who found that good governance should ensure good ethical values, codes of ethic, roles and responsibilities are carried out in order to practice with clear risk management structure to achieve the targeted objectives and well defined set of accountabilities. Creating value for shareholders through good corporate governance has become the subject of intense interest in corporate finance research, especially after overabundance of corporate scams and debacles in recent times (Balachandran & Faff, 2015). Corporate governance issues flow from the concept of accountability and governance and assume greater significance and magnitude in the corporate form of organization where the ownership and management of organisation are distanced (Singhal, 2014).

In this study, a firm's risk measured by cost of equity capital reflects investors' required return which is based on the current risk of the firm's operations and thus is able to react more precisely to year to year changes to a firm's governance environments without being influenced by external factors that affect future growth and profitability (Bozec. & Bozec, 2011). Various studies such as Reverte (2009) and Gul, Rashid, and Muhammad (2016) suggest that firm's with weak governance perform particularly poorly during market recessions and thus should be subject to a higher cost of capital. For example, when external monitoring of insiders is inadequate,

managers may undertake excessive borrowings in order to expand their business operations. Thus, it will increase a firm's exposure to market-wide risk and ultimately increase the cost of equity capital. In addition, the cost of equity capital for poorly governed firms can also increase because of lack of corporate transparency. Therefore, it would lead to higher issuing and transaction costs (Singhal, 2014).

Furthermore, studies normally assume that corporate governance affects firm value through its impact on the expected future cash flows. Indeed, corporate governance may affect firm valuation by reducing the level of private benefits extracted by managers or controlling shareholders. Thus, it will increase the expected cash flows that can be distributed to shareholders which is cash flow effect (Groth, 2002). However, corporate governance may also have value implications through its effect on the firms' cost of equity capital, for instance the rate the investors apply to discount expected cash flows which is cost of capital effect (Feroz, Johnston, Reck, & Wilson, 2006). Theoretically, Jensen and Meckling (1976) show that firms with effective corporate governance should have higher valuation. Albuquerque and Wang (2008) generate a dynamic stochastic general equilibrium model to study the impact of shareholder protection affects investment magnitude, firm value and cost of capital. Their paper calculates a general equilibrium that indicates weaker shareholder protection will lead to higher cost of capital. On the other hand, a study conducted by Embong, Mohd-Saleh, and Sabri Hassan (2012) focuses on firm size, disclosure and cost of equity capital that show significant relationship between disclosure and cost of equity capital for large company however insignificant for small company. The issue of corporate governance that would influence cost of equity capital need to be further investigated. The argument has been made by Gul et al. (2016) in their study shows that the relationship between corporate governance and cost of equity capital is important for external financial capabilities and investment decision in term of financing cost. From theoretical perspective, agency risk would tend to increase as for badly governed companies (Jensen & Meckling, 1976) where agency risk is the risk of managers would run the business based on their own interest. Consequently, the lack of examining the relationship between corporate governance mechanism and firm risk in Malaysia provides a gap in the literature.

Thus, such limitation warrants this study to be conducted on the relationship between corporate governance mechanisms and risk that is measured by cost of equity capital among companies with shariah compliance in Malaysia. This group of companies will be evaluated based on board independence, CEO duality, existence of audit and nomination or remuneration committee, board committee independence and board size (as proxies to corporate governance mechanisms) which either they are in good governance or otherwise. Hence, this study will further examine the relationship between corporate governance mechanisms and firm's risk as well as to prove the previous literatures that claim good governance practice should lead to lower risk.

2. LITERATURE REVIEW

2.1. Good Governance Practice and Shariah Compliance in Malaysia

Good governance implies that firms are able to create intention from investors, gain their confidence through the practice of clear roles and transparent, fairness, accountability, good code of conduct in accordance with well-defined set of accountabilities (Demidenko & McNutt, 2010). Moreover, good corporate governance is a set of mechanism which is distinct between firm and management (Claessens, 2006) hence, it deals with agency problem with regards to the separation of ownership and control (Fama & Jensen, 1983). Thus, firms with good governance should enhance the shareholders' wealth consistent with the economic performance and growth of the firm. The study by Alexakis, Balios, Papagelis, and Xanthakis (2006) examines the context of corporate governance practices in reducing agency cost and empirical relationship between corporate governance mechanisms and the economic performance and growth of the firms, the cost of equity capital, the equity prices and its expected return as well as other performance measures of those firms.

In order to ensure the efficiency and the effectiveness of growth constantly with the economic performance, the firms are persuaded to invest in good capital market that provides better return in the future. In Malaysia, there is

the Islamic Capital Market (ICM) which carries out investment activities regulated along with the principles of Muslims and the religion of Islam (Mohd-Sanusi et al., 2015). The clarity of investment and market return are consent by stakeholders in which they have an interest on conscientiously managed their investment, with a balance of efficiency and resiliency (Kimmel & Anderson, 2011).

ICM provides Shariah compliance securities trades on Bursa Malaysia which are supervised by Shariah Advisory Council (SAC) of the Securities Commission (SC) of Malaysia. Shariah refers to the Islamic laws that are derived from the holy Qur'an and Hadith through Prophet Muhammad (p.b.u.h). The Islamic law has clearly and strictly forbidden any wrongdoings such as usury (riba), gambling (mysir) and uncertainty (gharar) as well as the selling of non-halal goods to Muslims. Hence, any investment made by the company should ensure the sanctity of resources invested. In Malaysia, ethical investments for Muslims are the investments in economic products or services which are permitted by the Shariah. Therefore, by having an ethical investment, this should contribute to the excessive expected return, effect of risk taking, competitive environment and governance structure (Hamza, 2016). Thus, the next section will be further explaining on the corporate governance and cost of equity capital as proxy to firm risk taking.

2.2. Corporate Governance and Cost of Equity Capital

Most academicians, practitioners and regulators have their own interest whether a higher quality of corporate governance will affect the firm's cost of equity capital that will enhance firm valuation and shareholders interest. Generally, better corporate governance will enhance the firm value as well as shareholders interest through its effect on cost of capital (Bozec. & Bozec, 2011). Recent theoretical literature has been concerning on the relationship between corporate governance and cost of equity capital. In this regard, Reverte (2009) finds that a firm with strong corporate governance will enjoy lower cost of equity capital compared to a firm with weak corporate governance. On the other hand, a firm with strong corporate governance would lead to greater transparency, less misleading of financial statement, increase amount of reliable information as well as reduce uncertainty that related to firm risk (Li, Jahera, & Yost, 2013). In addition, Mitton (2002) finds that better firm-level governance would result in better stock price and reduce expropriation of firm risk.

In relation to corporate governance and firm risk, corporate governance envelops an expansive range of mechanisms to diminish agency problems by restraining opportunistic behavior by managers, increasing monitoring of managements' actions as well as reducing the information asymmetry of shareholders (Ashbaugh, Collins, & LaFond, 2004) and reducing implied cost of capital (Byun, Kwak, & Hwang, 2008). It means that the extent of corporate governance mechanism would give effect on firm's cost of equity capital. Hence, the relationship between corporate governance and cost of equity capital were examine in this study.

2.3. Agency Problems and Corporate Governance

According to Jensen and Meckling (1976), an agency relationship is defined as a contract between principal and agent in order to perform some services on their behalf. Agency theory suggests that managers may continue their stated own goals rather than maximizing shareholders' wealth unless they are being monitored by the respective board (Fama, 1980). Jensen and Meckling (1976) has also stated that the conflict of interest between shareholders and the CEO of the firm is an example of principal-agent problem. Hence, Agency Theory suggests that providing equity to agents is an effective way to mitigate agency problems by aligning the interests of managers with those of their principals. Moreover, Ittner and Keusch (2015) in their study further suggest that this theory predicts that oversight risk by the board which can benefit companies' stakeholders by easing the risk-related agency conflict.

Reverte (2009) has concluded that corporate governance and risk (cost of equity capital as a proxy) is regulated based on the theoretical literature which recognizes and links with specific elements of governance in order to reduce in agency problems. Within the Agency Theory, a separation of ownership and control would create

information asymmetry that exposes agency risk to the shareholders (Jensen & Meckling, 1976). In this respect, corporate governance symbolizes a set of mechanisms that is anticipated to reduce agency risk that arises from information asymmetries. Reverte (2009) and Byun et al. (2008) have further explained that good governance mechanism would result in lowering the cost of equity. Meanwhile, weak governance represents shareholders with a greater agency risk prominent to a higher cost of equity. In light of this study, good corporate governance practices can reduce the cost of equity capital through a reduction in agency problems and information asymmetry (Byun et al., 2008).

2.4. Capital Asset Pricing Model (CAPM)

The Capital Asset Pricing Model (CAPM) model was developed by Sharpe (1964) and Lintner (1965). CAPM model shows the trade-off between risk and return by relating the risk and expected returns of listed firms to the market. CAPM is often used to estimate the market risk or systematic risk of a firm (Amihud & Mendelson, 1989; Lintner, 1965; Sharpe, 1964). CAPM predicts that the cost of equity is positively associated with the market beta (Chen, Chen, & Wei, 2009). Beta is the market risk measurement and can be defined as the “extent to which stock return for company, including dividends and capital gains/losses, vary with the return in the broader financial market” (Elmoatasem Abdelghany, 2005). On the other hand, Beta measure is useful tool in financial analysis and becomes an essential measure in determining firm risk and comparing market risk between firms.

Da, Guo, and Jagannathan (2012) provide empirical evidence in supporting the use of the CAPM for calculating the cost of equity capital represents the firm’s risk. The rationale of using CAPM would add economic insights on a higher expected return and growth return. CAPM also offers a powerful prediction on how to measure risk and explain the relation between expected return and firm’s risk (Fama. & French, 2004). In respect with this study, CAPM method is used in order to calculate cost of equity capital as a measurement of firm’s risk.

3. DEVELOPMENT OF HYPOTHESES

Corporate governance mechanisms would enhance equity, increase transparency and firm’s performance to the stakeholders (Shil, 2008). It also leads to legally maximizing the value of the shareholders, conduct ethically with sustainable basis (Norwani, Zam, & Chek, 2011). Good corporate governance also boost the firm value as well as shareholders’ interest through its effect on cost of capital (Bozec. & Bozec, 2011). With this regard, Reverte (2009) discloses that firm with strong corporate governance will enjoy lower cost of equity capital compared to firm with weak corporate governance. On the other hand, Li et al. (2013) also assume that a firm with strong corporate governance would lead to greater transparency, less misleading of financial statement, increase amount of reliable information as well as reducing uncertainties that are related to firm risk. In addition, Mitton (2002) finds that better firm-level governance would result in better stock price and reduce expropriation of firm risk. Hence, from the literatures, it is clear that good corporate governance will affect the cost of equity capital.

3.1. Board Independence

Previous literatures have made an argument on the proportions of independent directors associated with firm risk. Ashbaugh-Skaife, Collins, Kinney, and Lafond (2009) show a negative relationship between board independence and unsystematic risk, beta and cost of equity. The result is consistent with Nodeh, Anuar, Ramakrishnan, Rafatnia, and Nodeh (2015) whereby in their study they have investigated the relationship between board independence, board size and concentrated ownership as board structure determinants with level of risk taking by using ordinary least square (OLS). The result illustrates a negative relationship between board independence and firm’s risk.

In relation to board independence and risk taking, Minton, Taillard, and Williamson (2012) in their study has concluded that independent directors with financial capability would increase risk-taking in the firm and tempt to

enhance stock return volatility level (Cheng, Cheok, & Rasiah, 2016). Moreover, McNulty, Florackis, and Ormrod (2012) find that the higher proportions of non-executive directors in the board are not found to have any major effects on corporate risk. Lotfi and Malgharni (2013) also produce similar result to McNulty et al. (2012) in which no significant correlation between the independence of the board of directors and risk-taking. On the other hand, Ni and Purda (2012) in their study concluded that greater board independence in the board would result in lower degree of operating risk. Bradley and Chen (2015) suggested that cost of debt would be decrease accordingly in increasing board independence considering when level of operating leverage is low.

With regards to the previous empirical findings, it is suggested that board of directors should be structured as more independent figures to ensure the degree of effectiveness in monitoring and promoting transparency in their functions. This would consequently ensure the firm performance could be improved and firm risk could be reduced. Hence, the first hypothesis is developed based on the findings from prior literatures.

H1: There is a negative relationship between the proportion of board independence and firm risk.

3.2. Board Size

Board size has been discussed as affecting board monitoring ability to the board. The previous literatures demonstrate that larger board size is denied to have the ability to monitor the top management's behavior since larger board size requires more difficulties for the CEO to dominate and control the board (Cheng, 2008) and Cheng et al. (2016). In a similar vein, Singh and Harianto (1989) suggest that a larger board size would find it difficult to perform well and their decision would harm shareholders' interests. In addition to these, there are disadvantages as regard to larger board size in which it will decrease the ability to control and monitor managements' behavior (Shijun, Evans, & Nagarajan, 2008) and tendency to make irrelevant decision (Vafeas, 1999). Moreover, a large board size is would contribute to directors to spread around the responsibility and have greater tendency to distribute over workload which is less monitoring and less controlling over them (Anderson, Mansi, & Reeb, 2004). Likewise, Lipton and Lorsch (1992); Jensen. (1993) agree that large board is generally less effective and less efficient compared to small one. This is because; large board would severely deter the ability of talented board members to contribute effectively and efficiently to the monitoring and evaluation (Jensen., 1993). Moreover, Shijun et al. (2008) also claim that a large board will contribute to the increasing of problems inside the company.

Therefore, a small board size is highly believed to be more effective compared to the large board size. Raheja (2005) concludes that a small group of board size may have the advantage of lower coordination costs and avoiding free riding members. Similarly, Lau, Sinnadurai, and Wright (2009) claim that small board will be more efficient and effective especially when it comes about imposing disciplinary measures. In addition, Lipton and Lorsch (1992) suggest that the adoption of small board size is to be limited to seven or eight members. This is supported by Jensen. (1993) who also notices that as small board should consist of seven or eight members because when there are too many members within a board, it would be likely to be less in coordination and difficult to control.

Moreover, a large board of directors generally would result in fewer corporations, increase information costs and contribute to increase of duration in decision making (Yermack, 1996). Many studies in corporate governance literature have examined board size has called for smaller board of directors (Mak & Kusnadi, 2005; Rahim, Yaacob, & Alias, 2007; Vafeas, 2000). These studies argue that a small board size is more cohesive and therefore, could monitor the any opportunistic behavior and make decision more effectively as well as to avoid free riders and less coordination cost. However, there are studies that suggest a large size of board would enhance disclosure of risk information about future earnings (Moumen, Othman, & Hussainey, 2016) and is likely to mitigate sensitivity of cash flow by reducing information asymmetry among capital providers and managers (Ji, 2016). Moreover, Mathew and Hill (2013) suggest that firms with a large board size would decrease firm risk.

In respect with the issue of board size, it is important to reveal that corporate governance mechanism influences sensitivity of investment (John, Litov, & Yeung, 2008) which could affect firm risk as well as in order to improve economic decision (Ji, 2016) and enhance the quality of investor protection (John., Litov, & Yeung, 2005). Based on the above argument and literatures regarding to board size, this study develops the second hypothesis;

H2: There is a negative relationship between small board size and firm risk.

3.3. CEO Duality

It is widely argued that the principal-agent problem is more obvious when the same person holds both positions as the CEO and chairperson (Kim & Buchanan, 2008). The argument is that, CEO who is also the chairman of the board would have a concentrated power base which would allow the CEO to make decision based on their own interest at the expense of shareholders. There is a rationale of the need to have the separation of CEO and chairman's position (Fama & Jensen, 1983). They posit that when CEO duality exists, there would be an "absence of separation of decision making and monitoring function" (Fama & Jensen, 1983). In fact, in the absence of clear separation of decision making and monitoring functions, the board is ineffective caused by the existence of CEO dominance. Relating to these issues, since the arising of CEO duality would result in ineffective decision making, CEO duality might compromise the quality of the firm's strategic decisions (Tang, 2017). Firm's strategic decision effectiveness would influence the riskiness in certain decisions made. The firm tends to be risky when there are board members who are able to manipulate the earning for their own interest (Core, Hail, & Verdi, 2015). According to Reverte (2009) good corporate governance should ensure the effectiveness and high quality in governance practice as well as reduce the risk.

However, a study by Kim and Buchanan (2008) provide the existence of dual positioning on both CEO and chairperson positions leads to reduced tendency of firm risk-taking. While Sampson-Akpuru (2010) in his study implies that a firm with a dual CEO will practice an international acquisition in their decision-making. Moreover, Sampson-Akpuru (2010) finds that firms with a dual CEO are expected to announce an international acquisition, with superior and high-sales-growth firms as well as lower leverage and lower cash levels. Davidson, Goodwin-Stewart, and Kent (2005) investigate the role of firm's internal governance structure in the constraint of earning management. They have found that there is a significant negative relationship between earning management and the presence of a board of directors that consists of the majority of non-executive directors. However, the findings fail to support the hypothesis pertaining to the association between independent chairman and earning management. Hence, based on the above discussion and previous literature review, the next hypothesis is developed.

H3: There is a positive relationship between CEO duality and firm risk.

3.4. Existence of Audit and Nomination/Remuneration Committee

The need for an independent remuneration committee has been highlighted in MCCG Code 2000 which is stated that board should appoint remuneration committee consists of non-executive directors to recommend all matters about the remuneration as non-executive directors encounter independent opinion. The appointment of remuneration committee should be in knowledge or consent of boards as a whole (Effective Corporate Governance p. 133). On the other hand, nomination committees function to adopt formal procedure in appointing of board. MCCG 2000 clears out the responsibilities of nomination committee as identifying, nominating, appointing and orienting new directors in order to enhance and promote good governance (Effective Corporate Governance p. 134). A study conducted by Puni (2015) in analyzing the presence of both committees on corporate performance has indicated that board committees have no statistical significant effect, while, nomination committees have negative significant on corporate financial performance.

Prior research by Tsui and Gul (2003) has focused on the issues related to the effectiveness of remuneration committees. They find that a higher proportion of outside directors on the remuneration committee would convince

management to act in the shareholders' best interests and promote the pay and performance relationship. However, the study on the effectiveness of nomination committee is limited and no evidence provided to prove if there is any impact of that committee on the purpose of CEO pay levels. In fact, the establishment of audit committee would lead to investors' expectation that enriches financial reports which would be resulting in the increasing of earnings response coefficients (Amer, Ragab, & Shehata, 2014).

Moreover, firms that have established audit committees tend to experience fewer errors and less misconduct cases that would result in unreliable financial reporting. In addition, audit committees would be useful in monitoring serious fraudulent issues practiced by the management as audit committee will be an indicator for any form of information asymmetries (Edogbanya & Kamardin, 2015).

Hence, the establishment of audit committee would reduce opportunistic behavior by management, strategize firm disclosure policy (Embong et al., 2012) and lead to reduce risk of the firm (Reverte, 2009). Last but not least, a study executed by Kercher (2013) with regard to the factors that determine the voluntary adoption of remuneration committees in 2008 show the presence of remuneration committee is significantly associated with the insider share ownership, institutional shareholding and slightly associated with the change in CEO. Hence, the fourth hypothesis is developed.

H4: There is a negative relationship between the existences of audit and nomination or remuneration committee with firm risk.

3.5. Independence of Board Committee

In order to ensure the effectiveness and adequate performance in the firm, it is important to the board with the majority of independent non-executive directors. Board and audit committee with a higher composition of non-executive independence directors seem to be more objective in their decision making and judgment compared to more executive directors (Klein, 2002a). Klein (2002a) also suggests that the independent board structure tends to be more effective in monitoring corporate financial accounting process. If the board is not truly independent, it would be less support to issue going concern report when audit has been made (Carcello & Neal, 2000).

As such, audit committee's roles and responsibilities have become crucial in order to safeguard firms' performance and its effectiveness in decision making.

A study by Zábajníková (2016) finds that the structures of audit committees appear to be negatively correlated to UK firm performance. However, his study has found a significant positive relationship between the audit committee size, frequency of its meetings and its financial experience and firm financial performance.

In this context, audit committee structure may be related to the firm that could engage in earnings management (Xie, Davidson, & DaDalt, 2003) and the entirely independent committee should reduce earning management (Saleh, Iskandar, & Rahmat, 2007) with at least one financial expert in the audit committee is found to be negatively associated with aggressive earnings management (Bédard, Chtourou, & Courteau, 2004). While majority of audit committees independence lead to lower debt financing cost (Anderson et al., 2004). In fact, Bursa Malaysia Listing Requirement 2001 requires PLCs to maintain audit committees with a minimum of three members with the majority of them are independent non-executive directors. Thus, the following hypothesis is developed.

H5: There is a negative relationship between the proportion of board independence on the audit committee and firm risk.

3.6. Theoretical Framework

Figure 1 presents the framework constructed from the findings on prior literatures. The independent variable is corporate governance mechanisms consist of board independence, board size, CEO duality and existence of audit and nomination and independence of audit committee. The independent variable is initially adopted from Reverte (2009) which has been constructed from related previous literature. Then, the dependent variable which is firm risk is measured by cost of equity capital. The same measurement used by Gul et al. (2016) in their study in the

argument of higher corporate governance leads to lower cost of capital in small, medium and large firms in Pakistan Stock Exchange.

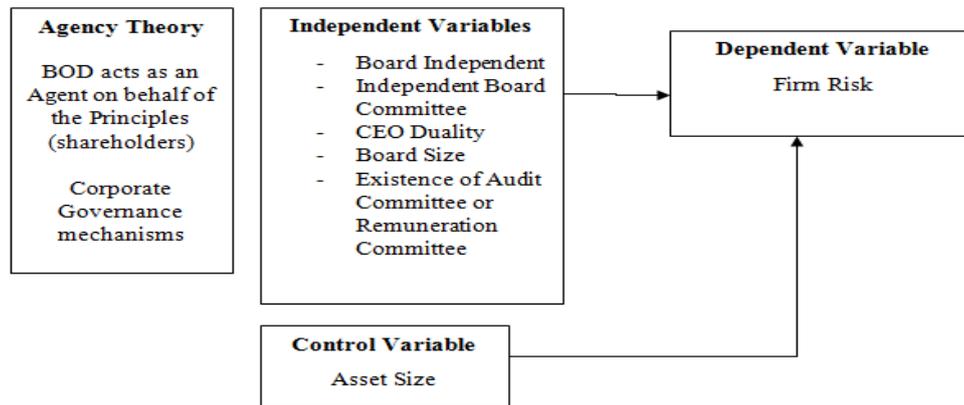


Figure-1. Theoretical framework.

4. METHODOLOGY

4.1. Sample Selection

Population can be defined as the entire group or people that the researcher wishes to investigate (Uma, 2003). In this study, sample is selected from the population of Public Listed Companies (PLCs) from Main Market Bursa Malaysia which comply with the shariah in the Islamic Capital Market (ICM) consisting of various sectors such as construction, consumer product, industrial product, plantation, properties, technology, trading and service. The sample is chosen from 302 companies from year 2013 until 2016. Reverte (2009) used data from 2000 to 2004 because the researcher suggest that firms should have the necessary data to compute the cost of equity capital, such as analysts forecasts for one-year and two-year ahead earnings per share. However, Kevin, Wei, and Chen (2003) only used two-years period from 2001 to 2002 based on their argument where they only focus on different effects of disclosure and non-disclosure corporate governance on the cost of equity capital, the certain data are not been used. Hence, in this study the data from 2013 until 2016 are consider enough according to previous studies on cost of equity capital and corporate governance mechanisms.

4.2. Sampling Technique

The selection of sample in this study is employed through systematic sampling which is one of the probability sampling techniques. In this study, systematic sampling is used by selecting of sample every third company starting from a random number from 1 to 3. Then company number 3 is selected, so the sequence are 3, 6, 9, 11, and etc, would be sampled until the 302 companies are selected (Sekaran, 2013). From this viewpoint, it will be assumed that each sample has the same probability of being selected (Barreiro & Albandoz, 2001; Sekaran, 2013). The samples selected are shown in Table 1:

Table-1. Summary of sample selected.

Sectors	No. of Companies	Percentage (%) of Sample
Construction	26	8.7%
Consumer Product	50	16.4%
Industrial Product	85	28.2%
Plantation	15	4.9%
Properties	45	14.9%
Technology	13	4.4%
Trading and Service	68	22.5%
Total	302	100%

Source: Sampling techniques (Sekaran, 2013).

4.3. Data Collection Method

The main source of information analysis employed in this study is the secondary data. The secondary data is used in order to generate new insights from previous analyses. This study uses the data related to companies classified as shariah compliance of Main Market in Bursa Malaysia. Moreover, the data of this study consists of financial data which is obtained from firm's annual reports which are downloaded directly from Bursa Malaysia website and partly from Osiris website for each individual sample firms. Whereas for the dependent variable data, the market return rate and risk free rate are obtained from Treasury Bills rate and Amanah Saham Nasional (ASNB) rate for the year 2013 until 2016. Last but not least, Beta of the companies is estimated from share's return on the market's return.

4.4. Measurement of Variables

4.4.1. Dependent Variable (Firm Risk)

The dependent variable for this study is firm risk. Generally, the risk for any security is divided into two parts which are systematic or market risk and unsystematic or specific risk. The systematic risk is the component of total risk and it cannot be eliminated through portfolio diversification. Whereas, the unsystematic risk is specific to individual shares which could be diversified away when an investor decides to increase the number of shares in the portfolio. A firm's specific performance relates to unsystematic risk (Sällebrant, Hansen, Bontis, & Hofman-Bang, 2007).

Firm risk also can be measured by cost of equity capital. The cost of equity capital actually refers to the expected return on a firm's shares. Hence, in order to calculate this expected return, CAPM model is the one of the methods used to determine the cost of equity (Lambert, Leuz, & Verrecchia, 2007). In a similar scope of study, Albuquerque and Wang (2008) concluded that asset pricing model or CAPM used to determine stock volatility and covariation between stock return of the firm and systematic risk. For this particular study, it applies the CAPM method developed by Sharpe (1964) and Lintner (1965). CAPM is related to the realized return (average return or cost of equity capital) that will be used as measurement to firm risk. Firms with internal control problems emphasized on greater information risk which affecting investors' risk assessments as well as firms' cost of equity (Ashbaugh-Skaife et al., 2009). In calculating the cost of equity capital, CAPM method is widely used in previous study such as from Graham and Harvey (2001), Welch (2003), Bozec. and Bozec (2011), Da et al. (2012) and Gul et al. (2016). In this study, the cost of equity capital is calculated as follows:

$$rE = Rf + \beta [E(Rm) - Rf]; \text{ Where:}$$

rE ; cost of equity

β ; the estimation of the sensitivity of the stock returns to changes in market returns - the beta coefficient

Rf ; the risk-free rate

And the equity premium ($E(Rm) - Rf$), which quantifies the expected excess return on the market ($E(Rm)$) over the risk-free rate (Rf).

In addition, Beta values are obtained from linear regression between monthly KLCI return and company return.

4.5. Independent Variables (Corporate Governance Mechanisms)

There are five corporate governance mechanisms work as the independent variables in this study namely board independence, board size, Chief Executive Officer (CEO) duality, existence of audit and nomination or remuneration committee and finally, independence of board committee. This study categorizes two independent variables which are CEO duality and existence of audit and nomination or remuneration committee of the corporate governance mechanism into a binary variable using Reverte (2009) framework on governance measure. Binary variables which only take two values. For example, Male or Female, True or False and Yes or No (Field, 2013). According to Reverte (2009) the binary variable only consider the dummy variable for CEO duality and existence of audit and

nomination or remuneration committee (EARC) where if sample firm have dual position it will take value 1 and value 2 if otherwise. Same as EARC, when firm have both committees it take value 2 and 1 if otherwise.

For each firm, percentage of board of directors made up of independent directors (INDBRD) is calculated. Following the previous study, used a dummy variable (DINDBD) and took the value of “1” if board is independent and “0” which indicates otherwise. In this study, INDBRD calculated using the percentage of independent directors over total board members same as previous study by [Reverte \(2009\)](#). The number of independent non-executive directors over total number of directors in a company is used as a proxy for board independence which is a measure of good corporate governance ([Singhal, 2014](#)).

4.6. Control Variables

Asset size (ASIZE) is used as a control variable in this study. It is widely recognized as proxies of size ([Botosan, 1997](#)). Asset size has been used in most studies relating with cost of equity. According to [Embong et al. \(2012\)](#) stated that asset size, growth and risk are most common factors that might influence required rate of return. Larger firms consider more diversified and pose less chance of default ([Khemakhem & Naciri, 2015](#)). So, a positive relationship can be expected between the firms’ size and capital structure. Moreover, large firms also require resources and pose the ability to reduce level of risk associated with their stock investment. In contrast to small firms, large capital companies are usually more diversified, potentially reducing firm risk and consequently cost of equity capital and cost of debt. In this study, asset size measured by logarithm (log) of total asset of the sample’s firm. [Table 2](#) shows the summarisation of the measurement for the variables used in this study.

Table-2. Abbreviation and measurement of variables.

Variables	Abbreviation	Measurement
<u>Dependent Variable</u>		
Firm Risk	FRISK	Cost of equity capital
<u>Independent Variables</u>		
Board Size	BRDSIZE	Number of directors on the board
Board Independence	INDBRD	Percentage of independent directors on the board
Board Committee Independence	IBRDC	Percentage of non-executive independent directors
CEO Duality	CDUAL	Dummy variable used where value “1” if firm have dual position and value “2” if otherwise
Existence of audit and remuneration committee	EARC	If firm have either audit nomination or remuneration committee will take value “1” and value “2” if both committee are exist
<u>Control Variable</u>		
Asset Size	ASIZE	Logarithm (Log) of total assets

4.7. Data Analysis

The data collected for this study will be analyzed by using the SPSS Statistics version 23.0 in order to execute both descriptive and inferential analyses. The descriptive analysis is employed to describe the basic features of the data in the study by providing summaries on the sample and the measures. However, by using the analysis alone, a conclusion and decisions on the hypotheses cannot be made. This is when the inferential analysis comes in where its function is to derive inferences from data and make judgments or conclusions as well as to test the interactions between the variables. In order to examine the interactions between the variables, the correlation coefficient analysis is used. One of the statistical methods used for the purpose of this study is the Pearson correlation. It is used to test whether there is a significant positive or negative correlation among the variables. While the regression model is employed to determine the significance of the relationship between the corporate governance mechanisms and firm risk. Regression model is as follow:

$$\text{Firm's risk} = \beta_0 + \beta_1\text{INDBRD} + \beta_2\text{IBRDC} + \beta_3\text{BRDSIZE} + \beta_4\text{CDUAL} + \beta_5\text{ASIZE} + \epsilon$$

5. RESULT AND DISCUSSION

5.1. Description of Data

This study employs the quantitative technique which is using the numerical data. Quantitative technique involved numerical representation and manipulation of observations for the purpose of describing, explaining, and testing hypotheses. There is one dependent variable; firm's risk and five independent variables which focus on board characteristics namely board independence, board size, Chief Executive Officer (CEO) duality, existence of audit and nomination committee and also independence of board committee. All of the variables are categorized as numerical data. According to a prior study, in order to choose appropriate tests, one should first classify the type of data used in the study (Culén, 2010). Table 3 below list the variables used for the study.

Table-3. Types of variables.

Variables	Name of Variables	Type
Dependent	Firm's Risk	Numerical
Independent	Board Independent	Numerical
Independent	Board Size	Numerical
Independent	Independent Board Committee	Numerical
Independent	CEO Duality	Numerical
Independent	Existence of Audit Committee / Nomination or Remuneration Committee	Numerical
Control	Asset Size	Numerical

5.2. Dependent Variable

Firm's risk is the dependent variable for this study. The data was obtained from Treasury Bill Rates in order to determine risk free rate (rf) for the year 2013 to 2016. While the expected market return (rm) (normally in percentage) was obtained from Amanah Saham Nasional Berhad (ASNB) rate. The descriptions of the data are as in the following Table 4.

Table-4. Descriptive statistics for dependent variable.

	N	Minimum	Maximum	Mean	Std. Deviation
FRISK	1208	-2.9375	3.0256	.000054	.9949347

The analysis includes the maximum value, minimum value, mean and standard deviation. Referring to Table 4, samples in this study covering data of 1208 companies (302 companies for 4 years period) from shariah compliance in the Main Market of Bursa Malaysia. The maximum value for firm's risk is 3.0256 and the minimum value is -2.9375. While the mean which represents the average risk for the samples is 0.000054.

5.3. Independent Variables

Table-5. Descriptive statistics for independent variables.

	N	Minimum	Maximum	Mean	Std. Deviation
INDBRD	1208	.00	18.00	.4674	1.02456
IBRDC	1208	.00	1.00	.6507	.21887
BRDSIZE	1208	4.00	39.00	8.6722	4.06433
CDUAL	1208	1.00	2.00	1.0497	.21735
EARC	1208	2.00	2.00	2.0000	.00000

As shown in Table 5 above, the descriptive statistics for independent variables illustrate the minimum, maximum, mean and standard deviation respectively. Independent board (INDBRD) shows a value of minimum (0.00), maximum (18.00) and mean (0.4674). The result for INDBRD indicates that overall sample firms consist of at least 2 persons or 1/3 of the independent directors (Embong et al., 2012). Meanwhile, Independent Board Committee (IBRDC) indicates (0.00) for minimum value, (1.00) of maximum value and mean of (0.6507). Likewise,

CEO Duality (CDUAL) indicates (1.00) of minimum value, while maximum value is (2.00) and mean (1.0497). This result indicates that almost 95% of the sample firms practiced duality among their board members. Moreover, Board Size (BRDSIZE) presents (4.00) of minimum value, (39.00) maximum and (8.6722) mean value. BRDSIZE in this study consist of small size of 4 members and large size of 39 members of total boards. This shows that even though firms in the sample are all listed under the main board, the size still varies considerably (Embong et al., 2012). Finally, Existence of Audit and Nomination or Remuneration Committee (EARC) discloses (2.00) for minimum, maximum and mean value. It indicated that EARC consist of 100% of sample firm have both audit committee or remuneration committee and it seem that EARC are delegated to be responsible for monitoring accounting and financial process.

The next section will be explaining on the inferential analyses consist of normality test, correlation and regression analysis in order to examine the relationship between corporate governance mechanisms with firm's risk.

5.4. Normality Test

In this study, skewness and kurtosis are used in order to test the normality of the data gathered. Skewness is a measure of symmetry and to know whether the data is skewed to the left or to the right of the center point. While kurtosis is a measure of whether the data are peaked or flat relative to a normal distribution. However, after performing normality test the distribution of data for this study not normally distributed. Thus, in order to enhance the normality level, the data has been transformed by using Vander Waerden method because most of the prior research on risk disclosure applied this test in transforming their data (Amran, Bin, & Hassan, 2009; Haniffa & Cooke, 2002; Haniffa, & Cooke, 2005). The data for independent board (INDBRD), board size (BRDSIZE) and firm risk (FRISK) variables also need to be transformed since the data is abnormal. This is in line with past study by Haniffa and Cooke (2002) and Ahmed Haji (2014) who had transform their variable data to normalize the abnormal data. By using Vander Waerden method, the data are transformed by using rank analysis. There is no transformation needed for size (ASIZE) since it being log from company's total asset. Table 6 below present the data after transformation process done by using Vander Waerden method. Table 6 shows the test of normality for the skewness and kurtosis in this study.

Table-6. Normality test.

Variables	N	Skewness	Kurtosis
INDBRD	1208	.002	-.138
IBRDC	1208	-.462	.469
BRDSIZE	1208	.081	-.190
FRISK	1208	.001	-.094

Table 6 has indicated the value of skewness and kurtosis for every variable. For independent board, skewness = 0.02 and kurtosis = -0.138; independent board committee, skewness = -0.462, kurtosis = 0.469; board size specifies the skewness value of 0.081 and kurtosis = -0.190 and firm risk show the skewness of 0.001 and kurtosis = -0.094. The result shows that all values are within the range of +/-1, hence, according to Pallant (2005) the data used for this study is normally distributed. Thus, the parametric test can be further carried out in this test.

However, in respect with other independent variables which are the existence of audit committee and nomination or remuneration committee (EARC) and CEO duality (CDUAL) have violated the normality test and became omitted due to the constant of the data. CDUAL is a dummy variable because CEO duality only considers whether the sample of the companies practice dual role or not. It will be rank as one (1) if the sample have duality role such as the same person functions as both, a chairman and a CEO position at the same time. In contrast, if sample companies do not have duality roles, it will be ranked as two (2). In this study, the majority of samples have been practicing the duality roles, hence, ranked as one (1).

In fact, all of the 1208 companies have both audit and remuneration committees in their board. Thus, EARC is ranked as two (2) since all of the samples have both committees. This may lead to data being omitted. Hence, Table 7 and 8 show the descriptive statistic for CDUAL and EARC in this study.

Table-7. Frequency table for CEO duality.

CDUAL					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	1148	95.0	95.0	95.0
	2.00	60	5.0	5.0	100.0
	Total	1208	100.0	100.0	

Table 7 illustrates the frequency for CEO duality among 1208 samples gathered from this study. It indicates that 95% of samples practice with duality roles. While only 5.0% of the samples have different individuals as a chairman and a CEO at the same time.

Table-8. Frequency table for existence of audit and nomination committee or remuneration committee.

EARC					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.00	1208	100.0	100.0	100.0

Table 8 indicates the frequency for the existence of audit and nomination or remuneration committee. The table shows all of the samples have established both committees in the board. The existence of audit and remuneration committee would enrich financial report (Amer et al., 2014) reduce opportunistic behavior by management (Embong et al., 2012) and lead to reduce firm's risk (Reverte, 2009). Next section will further explain on the inferential analyses consist of Pearson correlation, and regression analysis from this study.

5.5. Correlation Analysis

Table 9 presents the Collinearity Statistics. According to the results obtained from the analysis, the Variance Inflation Factor (VIF) values are all more than 0.1 and less than 10 in which it shows that there is no collinearity or multicollinearity (O'brien, 2007) existed among the independent variables and the analyses do not contain non-normality or multicollinearity (Demam, Jorissen, & Laveren, 2018).

Table-9. Collinearity statistics.

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	INDBRD	.447	2.236
	IBRDC	.606	1.651
	BRDSIZE	.661	1.513
	CDUAL	.983	1.017
	ASIZE	.971	1.030

Based on the collinearity statistics in Table 9 above, VIF presents the value between 0.447 and 2.236 for all variables used in this study. INDBRD (2.236), IBRDC (1.651), BRDSIZE presents (1.513) and CDUAL shows (1.017). Control variable ASIZE indicates (1.030) for VIF. From the result gathered, there is no multicollinearity exists among these variables. Normally the Correlations analysis is used to identify the associations among variables as well as to determine the direction for a linear relationship and also the strength of relationships (Pallant, 2005). In this study, the Pearson Correlation was performed to examine the relationship between independent variables for INDBRD, IBRDC, BRDSIZE, CDUAL, EARC and ASIZE to FRISK. This is consistent with (Abdullah, Ma'aji, & Khaw, 2016) who also used Pearson correlation to test the correlation among variable.

Table-10. Pearson correlation.

		Frisk	Indbrd	Ibrdc	Brdsize	Cdual	Earc	Asize
Frisk	Pearson Correlation Sig. (2 tailed) N	1.000 . 1208						
Indbrd	Pearson Correlation Sig. (2 tailed) N	-.019 .504 1208	1.000 - 1208					
Ibrdc	Pearson Correlation Sig. (2 tailed) N	.085** .003 1208	.187** .000 1208	1.000 . 1208				
Brdsize	Pearson Correlation Sig. (2 tailed) N	-.005 .873 1208	-.117** .000 1208	-.168** .000 1208	1.000 . 1208			
Cdual	Pearson Correlation Sig. (2 tailed) N	-.040 .164 1208	-.021 .463 1208	-.004 .885 1208	.131** .000 1208	1.00 . 1208		
Earc	Pearson Correlation Sig. (2 tailed) N	- - 1208	- - 1208	- - 1208	- - 1208	. . 1208	- - 1208	
Asize	Pearson Correlation Sig. (2 tailed) N	-.028 .332 1208	.002 .954 1208	-.064* .026 1208	.040 .160 1208	-.067* .020 1208	- - 1208	1.000 - 1208

Note: **. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Based on the result acquired in Table 10 above, the result show the correlation between board independent (INDBRD) with firm's risk (FRISK) demonstrates a negative relationship among them (-0.019). The result indicates that when firms have a majority of independent board, the less risky the firms are. This finding such consistent with (Cheng et al., 2016; Minton et al., 2012; Ni & Purda, 2012; Nodeh et al., 2015). However, there result contradict from previous literatures with McNulty et al. (2012) and Shirouyehzad, Hosseinzadeh Lotfi, and Dabestani (2014) where higher proportion of non-executive directors are not initiate to have any major effect on corporate risk. Meanwhile from correlation analysis done, there is no significant effect between board independent and firm's risk in this study. According to correlation analysis conducted, the significant value shows (0.504) and it is not significant where p value is above 0.05. In this study, Hypothesis 1 in this study assumes that there is a negative relationship between the proportion of board independence and firm risk (FRISK). As a result, this shows insignificance for both variables (INDBRD and FRISK), Hypothesis 2 should be accepted due to the negative correlation among them. Wang and Oliver (2009) in their study also came up with a same result when they concluded that there is no significant influence between board independent with performance risk. Therefore, the study made by Ashbaugh-Skaife et al. (2009) and Nodeh et al. (2015) also show a negative relationship between board independence and unsystematic risk, beta, cost of equity and risk taking.

Board size (BRDSIZE) demonstrates a negative relationship with firm's risk which is (-0.005). The result examines that large board size would reduce the risk. As believed by Moumen et al. (2016) larger board size would reduce risk as well as enhance disclosure of risk. While Mathew and Hill (2013) further suggested that larger board size would reduce firm's risk. However, the result not significant between both variables where (0.873) was gathered from correlation analysis. Ji (2016) found an insignificant relationship between board size and risk. The study conducted to reveal whether board structure affects the important firm economic decisions. Regarding the issue of board size and risk, Yermack (1996) show a large board would result in fewer corporations; increase

information costs and lead to increase decision making time. While Ji (2016) indicated larger size is likely to mitigate sensitivity of cash flow by reducing information asymmetry among capital providers and manager as well as decrease firm risk Mathew and Hill (2013). The finding in this study also consistent with Moumen et al. (2016) that claimed larger board size would enhance disclosure of risk information about future earnings. Hence, from the result gathered from the analysis, Hypothesis 2 was developed in order to investigate negative influence between small board size and firm's risk. In fact, after analysis was made, the hypothesis has been rejected.

Next, there is a negative relationship between CEO duality (CDUAL) with firm's risk. The result show inverse relationship between both variable (-0.040). It is assumed that when the firm have CEO duality, the risk will be lower compared to firm with non-duality director. As proved by Kim and Buchanan (2008) and Tang (2017) in their study, they found that the existence of CEO duality would reduce the risk of the firm. In this study, Hypothesis 4 predicted the positive correlation between CEO duality and firm risk. According to the analysis conducted, Hypothesis 3 was rejected due to inverse relationship gathered. However, the significant value shows (0.164) and it violates the rule of thumb for significant value $p < 0.05$. Kim and Buchanan (2008) in their study also found that there is no significant moderating effect between CEO duality and risk-taking behavior. Kim and Buchanan (2008) also further explained that their hypothesis was developed based on the agency theory perspective concerning agent equity ownership was not supported the finding in their study. In summary, Hypothesis 3 in this study was rejected.

Besides that, the existence of audit and nomination or remuneration committee (EARC) does not have any correlation since it is a dummy variable. EARC was measured by using (2) if a firm has both audit and remuneration committees. While (1) is considered when a firm only has one committee. In fact, in this study, the samples used practice both committees. Therefore, from the result gathered in this analysis, there is no significant relationship between the existence of audit and nomination or remuneration committee and firm's risk. Hence, Hypothesis 4 could also be rejected. Finally, the relationship between board committee independent (IBRDC) and risk of the firm has a significant positive relationship which is the value shows (0.085) in Table 10 above. The significant value shows (0.003) and it is significant where p value is below 0.05 ($p < 0.05$). From this analysis, it is anticipated that higher proportion of board independence in audit committee would lead to the firms to more risks. The result is contradict with Anderson et al. (2004) and Saleh et al. (2007) in their study that suggested higher proportion of independent directors would use their talent and expertise in order to reduce earning management and lower the debt financing cost as well as to reduce firm's risk. However, the result consistent with Reverte (2009) where there is a significant positive relationship between IBRDC with firm risk. Klein. (2002b) indicates that there is no significant relationship between these two variables. The result found by Klein. (2002b) is similar with this study which is not significant (0.887) and it is assumed that there is no significant correlation between IBRDC and firm's risk. Therefore, for the purpose of this study, Hypothesis 5 has been rejected due to positive relationship from the correlation analysis conducted. The following Table 11 is the summary of the result gathered from correlation analysis and supported articles in this study.

Table-11. Summary of the result from correlation analysis.

Hypotheses	Result from Correlation Analysis
H1: There is a negative relationship between the proportion of board independence and firm risk.	Negative relationship / Not significant
H2: There is a negative relationship between small board size and firm risk.	Negative relationship / Not significant
H3: There is a positive relationship between CEO duality and firm risk.	Negative relationship / Not significant
H4: There is a negative relationship between the existences of audit and nomination or remuneration committee with firm risk.	No correlation
H5: There is a negative relationship between the proportion of board independence on the audit committee and firm risk.	Positive relationship / Significant

5.6. Multiple Regression

Multiple regression analysis is the most widely used in the linear regression analysis (Mason & Jr, 1991). As a predictive analysis, the multiple regression is used to describe and explain further on the relationship between one dependent variable and two or more independent variables. The multiple regression analysis of this study employs the following model:

$$\text{Firm's risk} = \beta_0 + \beta_1\text{INDBRD} + \beta_2\text{IBRDC} + \beta_3\text{BRDSIZE} + \beta_4\text{CDUAL} + \beta_5\text{ASIZE} + \varepsilon$$

Where:

Firm's risk = Risk of the firm measured by cost of equity capital

B_n = the slope of independent variable

ε = represents error term for the relationship

Below are the results gathered from multiple regression analysis conducted among the dependent and independent variables. Table 12 show the correlation between the predicted and observed values of the outcome. The large value represents the large correlation.

Table-12. Multiple regression analysis.

Variables	Standardized Coefficients Beta	t-statistics	Sig. (p-value)
Constant		1.110	.267
INDBRD	-.041	-.945	.345
IBRDC	.110	2.992	.003**
BRDSIZE	.009	.253	.801
CDUAL	-.044	-1.534	.125
ASIZE	-.028	-.962	.336
R			.104 ^a
R Square			.011
Adjusted R Square			.007

Note ^a: Dependent Variable: FRISK.

**Correlation is significant at the 0.01 level (2-tailed).

Table-13. Multiple regression analysis (ANOVA).

ANOVA ^a						
	Model	Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	282.721	5	56.544	2.628	.023 ^b
	Residual	25866.448	1202	21.520		
	Total	26149.169	1207			

Note ^a: Dependent Variable: FRISK.

^b: Predictors: (Constant), ASIZE, IBRDC, CDUAL, BRDSIZE and INDBRD.

As displayed in the Table 12, the R value is 0.104 suggesting a weak linear correlation between the predicted and observed values of outcomes. While, R square of 0.011 indicates that 1.1% of variation in the firm risk is influenced by variation in the independent variable. As defined in the literature, R square is the indicator that shows the amount of variance explained in the endogenous variable by its exogenous variable. According to Hair, Black, Babin, and Anderson (2010) it reflects the quality of the variables included in the model. However, there are many criteria that can be used as guidelines in assessing the level of R square. The value for adjusted R squared is relatively low at 0.7%, signifying that there are other variables that may explain the variation in firm risk (Atan, Maruhun, Abdul, & Jusoff, 2010). For instance, Cohen (1988) criterion state that R square value equal 0.26 or more is considered substantial, 0.13 moderate, and 0.02 weak. Hence, in this study, the result show a weak result with R² = 0.11 and adjusted R² = 0.07. In addition, Table 13 show F value of 2.628, sig = .023.

The reason for a poor fit to the data and associated to low adjusted R squared is that there are critical variables that have not been included in the model. Another reason for a low adjusted R squared value is that wrong model was fit to the data. If a model does not fit the data well, thus implications based on the model may not be reliable.

Besides that, the other reasons that can cause lack of fit are outliers in the data in order to enhance normality of the data itself.

In addition, to support this finding, the result is obtained equivalent to [Reverte \(2009\)](#) who also found the lowest value for R square at 1.16% for model 1 and 0.77% for model 2. Furthermore, [Tarraf \(2012\)](#) also obtained Adjusted R Square = 0.004 which considered relatively low in his study on the relationship among corporate governance and risk taking. [Tarraf \(2012\)](#) used corporate governance factors such as audit, board of directors, charter/bylaws, director education, executive and director compensation, ownership, progressive practices, and state of incorporation as independent variables. Thus, it can be concluded that the model from previous study are not fit and the risk is not significantly influenced the corporate governance mechanism.

However, there are studies that shows strong relationship which consist of high value of adjusted R squared of 0.740 such as [Bozec. and Bozec \(2011\)](#) and [Singhal \(2014\)](#) and it is considered as fit model in their research. Due to inconsistency of the result from previous studies regarding the relationship and model between corporate governance and firm risk, this study has confirmed that the result of this model is not fit as it provides low relationship. Hence, in this study, researcher is testing the model which has been used from previous study and there is study that resulted low R value. Then, this will be considered as the limitation of the study.

In relation to t value and significant value, [Table 12](#) shows the insignificant negative relationship between INDBRD and FRISK whereby the ($\beta = -.041$, $t = -.945$, $p\text{-value} = .0345$). Hence, the Hypothesis 1 was accepted. The result is in line with [Minton et al. \(2012\)](#), [Cheng et al. \(2016\)](#), [Ni and Purda \(2012\)](#) and [Nodeh et al. \(2015\)](#) which suggested that more independent directors would enhance consistent and transparent decision making as well as reduce the risk of the firm.

The following result for BRDSIZE was found positively influenced the decision on FRISK. However, the significant value is violate from the rule of thumb $P > 0.05$. As prescribed in [Table 12](#), the result shows the ($\beta = .009$, $t = .253$, $p\text{-value} = .801$). The insignificant relationship for this study is similar with previous study, [Ji \(2016\)](#) that larger size is likely to mitigate sensitivity of cash flow by reducing information asymmetry among capital providers and manager. Thus, the Hypothesis 2 was rejected since the larger board size would result in fewer corporations; increase information costs and lead to increase decision making time ([Yermack, 1996](#)). However, according to MCGG 2012, a small board would influence decision making and increase transparency.

Next, the regression result for company CDUAL has negative influence on the firm risk but not significant between both variables. As exhibited in [Table 12](#) the result shows ($\beta = -.044$, $t = -1.534$, $p\text{-value} = .125$). The result for p-value is 0.125, which is not significant since the value is more than 0.05. In this study, Hypothesis 3 should be rejected due to existence of duality roles in the board. In fact, [Fama and Jensen \(1983\)](#) when CEO duality exists, there would be an absence of separation of decision making and monitoring function. Hence, in the absence of clear separation of decision making and monitoring functions, the board is ineffective caused by the existence of CEO dominance.

Hypothesis 4 in this study also should be rejected since EARC used dummy variable in order to determine the existence of audit committee and nomination or remuneration committee. Referring to [Table 8](#) before this, the frequency table shown 100% of sample firms have both committees in their board. Hence, Hypothesis 4 also been rejected.

The regression result for IBRDC in [Table 12](#) shows ($\beta = .110$, $t = 2.992$, $p\text{-value} = .003$) indicated significant positive relationship between IBRDC and FRISK. Hence, as the result posits significant relationship between these two variables, therefore the Hypothesis 5 was rejected due to more independent board committee lead to riskier of firm risk. The finding in this study is parallel with [Reverte \(2009\)](#), [Klein. \(2002b\)](#) and [Brick and Chidambaran \(2005\)](#) whose suggested that entirely independent committee should reduce earning management and reduce firm risk.

Lastly, ASIZE which is control variable for this study are not significantly influence the risk disclosure by companies. As the result presents the (beta = -.028, t-value -.962, p = .336,), indicated insignificant negative relationship for asset size and firm risk. According to Embong et al. (2012) in testing the relationship, this study included size of firms as one of control variables. This is because size has been found to influence returns. Returns required by investors are cost of equity from firm's point of view. The effect of size on return is, however, not consistent.

In summary, the overall analysis result found that the board committee independence is highly influenced the firm risk among companies at 1% (0.01) level. Based on the above discussion, the following interpretation in Table 14 was constructed based on the result gathered after the analysis was performed.

Table-14. Results on Hypotheses.

Hypotheses	Interpretation
H1: There is a negative relationship between the proportion of board independence and firm risk.	Accepted
H2: There is a negative relationship between small board size and firm risk.	Rejected
H3: There is a positive relationship between CEO duality and firm risk.	Rejected
H4: There is a negative relationship between the existences of audit and nomination or remuneration committee with firm risk.	Rejected
H5: There is a negative relationship between the proportion of board independence on the audit committee and firm risk.	Rejected

6. CONCLUSION

There are several contributions relating to this study. Firstly, the study conducted would provide literature on the corporate governance mechanism concerning to firm's risk in Malaysia. It would give insights on the firm's current practice regarding the importance of strong and good corporate governance in order to reduce the risk in the firm.

Next is with reference to the agency theory described in literature review earlier. A better disclosure of good corporate governance means that the firms are enlightening the investors as well as other stakeholders about the quality of their corporate governance. This study also provides some literature on corporate governance mechanisms practiced. It gives more information in practicing the good corporate governance and how those mechanisms would influence firm's risk. As proven by Reverte (2009) that strong corporate governance does not only reduce risks of the firm but also would influence opportunistic behavior of management as well as enhance disclosure policy. This practice would boost an effective shareholder protection as well as decrease the potential of large shareholder in order to mitigate agency problems (Laeven & Levine, 2009).

6.1. Limitation of this Study

This study is subjected to several limitations. Firstly, the time constraint in gathering the information as well as to generate the result. It may be insufficient to gather as much input to make the study's coverage wider. This study has only considered four years calculating the cost of equity capital as proxy to firm's risk. Hence, it may be insufficient since the result found that there is only one variable was relatively significant with dependent variable. Even though the sample firm was enough according to population chosen, Sekaran (2013) stated that the variability in the population is one of the conditions to choose a sample. Hence, this study used population Public Listed Companies (PLCs) from Main Market Bursa Malaysia which complies with the shariah in the Islamic Capital Market (ICM) and consists of various sectors such as construction, consumer product, technology and other sector.

The second limitation is the variables used in this study might not be reliable since the results are not consistent with prior studies that have significant influence between variables. The other variables might be tested for further research in order to get significant result. In addition, the model used from previous study also needs to

be review in order to get better result since that model not suggested the strong relationship between each variable used.

Lastly, dependent variable in this study is cost of equity capital. In fact, this measurement of firm's risk is an unobservable measure and need to be estimated. Thus, the results gathered might be sensitive towards the estimation method chosen (Reverte, 2009).

Funding: The authors wish to thank the Institute of Quality and Knowledge Advancement and the Institute of Research Management and Innovation of Universiti Teknologi MARA for their support and funding.

Competing Interests: The authors declare that they have no competing interests.

Acknowledgement: All authors contributed equally to the conception and design of the study.

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