



Board Effectiveness and Firm Risk: The Moderating Role of ESG Performance

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Abstract

Improved firm governance in terms of board effectiveness can lower firm risk through the adoption of less risky financial policies. ESG (environmental, social, and governance) performance can strengthen the impact of board effectiveness on firm risk as companies are motivated to act in stakeholders' interests. This research provides empirical evidence on these premises in the Southeast Asian context. This study used 380 observations from 76 non-financial companies in the Philippines, Malaysia, and Singapore for the 2015–2019 period. The data were analysed using the fixed-effects panel data method. The results show that the board effectiveness has a marginally significant effect in reducing company risk. In addition, when the effectiveness of the board interacts with ESG performance, the moderating role of ESG can strengthen its influence in reducing corporate risk. The results have implications for policymakers, investors, corporate executives, and those charged with governance to include ESG in corporate strategy with continuous monitoring from the board to help reduce corporate risk. Corporate sustainability initiatives in the form of ESG performance become more important, especially in the Anthropocene era. This study provides empirical evidence on the link between ESG, firm risk and the role of the board monitoring function.

Keywords: Board Effectiveness, Corporate Risk, ESG, Sustainability

JEL: M40, G32, Q56

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Introduction

Research on corporate governance has become a concern in the last decade given its significant role in improving firm performance as well as protecting shareholders' and other stakeholders' interests. Many studies have investigated various measures of corporate governance associated with firm performance and value. Various measures of governance, such as board structure, compensation and ownership structure, have a strong influence on company performance (Jensen and Meckling, 1976). Previous research has confirmed that governance related to company performance occurs indirectly, meaning that there is a role for corporate risk in it (Baulkaran, 2014; Nguyen, 2011). The company's risk has a role in the company's performance, as companies that take more risks will generally have a higher rate of return (even in a state of volatility). This volatile situation causes company-specific risks that can hinder company policymakers in estimating and planning related activities, cash flows, and other factors. The importance of investigating corporate risk in relation to corporate governance is also for the interests of investors and other stakeholders who must always consider firm risk in making investment decision. Likewise, when a company operates, the risk is attached to every business process. Company risk is the potential for loss of company value due to uncertainty from results or events that may occur in the future (Sassen et al., 2016).

From a practical perspective, shareholders and management tend to have concerns on the risk level of their companies (Bloom and Milkovich, 1998). From an organization-theory perspective, the increasing importance of firm risk is described in portfolio theory (Donaldson, 1998), which suggests that risk plays a central role in firm performance. Company risk can be classified into two types: accounting risk and market-based risk (Orlitzky and Benjamin, 2001). This research focuses on market-based risks and considers the research objectives to investigate the impact of board effectiveness, strengthened by ESG performance, on investor decision-making that will ultimately affect market risk. Specifically, this study is focused on the total risk which is the standard deviation of daily stock returns reflecting the stock volatility.

The management of corporate risk in this study is associated with the Three Lines of Defense (3LD) model. The 3LD model distinguishes between business functions which address risks, oversee risks, and provide an independent assurance provision. The three functions play different roles in supporting the implementation of good corporate governance. However, when viewed in the 3LD model, the board does not enter into these three layers. The board plays the role of assigning an internal audit (third tier) to ensure that the first two lines operate effectively and provide advice on how to improve it. The internal auditor is responsible for reporting to the board, and the board of directors is responsible for creating goals, developing strategies to achieve goals, creating governance structures, and mitigating risks. The 3LD model will work effectively if there is support and direction from the board of directors (Anderson and Eubanks, 2015).

Board effectiveness is an important internal mechanism of corporate governance. An ineffective board of directors can cause various scandals in the company such as massive earnings restatement (Agrawal and Chadha, 2005). Various governance ratings have been developed around the world to measure the role of board effectiveness in reducing agency problems. However, the association between board effectiveness and firm risk has not been given the appropriate concern in the academic research. One of the studies that have analysed this relationship is that of Baulkaran and Bhattarai (2020), which found significant negative results. This means that when the board is effective, the company risk is low. The research focuses on the use of the BSCI (Board Shareholder Confidence Index) governance ranking developed by

the Clarkson Centre for Business Ethics and Board Effectiveness in Canada. This rating score can be used as a proxy of market response to the role of the effective board. However, some literature has reported mixed results on the use of this ranking. The question remains whether the governance ratings issued by these rating agencies are effective at capturing how a company operates.

Governance ratings may not reflect accurately the real practice of corporate governance as the rating agencies also use public information. With the increasing focus on governance issues, companies with poor governance may manipulate financial and non-financial information about their companies for the sake of the ratings (Dechow, Sloan and Sweeney, 1996). Furthermore, in the absence of a definite formula for measuring governance, each ranking index is prone to errors when measuring governance due to differences in the rating methodology. For example, Daines et al. (2010) found a weak relationship between the various ratings produced by various rating agencies. Sonnenfeld (2004) stated that rating companies rely more on myths to obtain objective assessments. Therefore, this study will try to see the relationship between board effectiveness and company risk in several ASEAN countries using the ACGS (ASEAN Corporate Governance Scorecard). The ACGS is a corporate governance initiative of the Association of Southeast Asian Nations (ASEAN) in the implementation plan of the ASEAN Capital Market Forum (ACMF), which was held to promote ASEAN as an investment target and increase global investor confidence in the quality of companies in the ASEAN region. In the period 2010–2015, the ACGS became a recognized tool for measuring corporate governance in ASEAN member countries. This recognition emerged due to the collaboration and cooperation of capital market regulators and domestic rating agencies from each participating country who had worked to create awareness of the ACGS and the value of governance (ADB, 2015). The ACGS contains several multidimensional criteria, one of which includes an assessment of the effectiveness of the board. It is well known that the relationship between board effectiveness and company risk has been documented in previous research (Baulkaran, 2014; Litov and Yeung, 2008; Nguyen, 2011), but no previous research has examined the relationship between the effectiveness of boards with corporate risk in ASEAN using the ACGS indicator. This also motivates researchers to conduct this study.

Company risk mitigated by the effectiveness of the board can be contingent upon ESG performance (Sassen et al., 2016). ESG can be explained by stakeholder theory and legitimacy theory. From a stakeholder theory perspective, social performance to fulfil stakeholder interests can shape corporate governance mechanisms as social capital provide the motivation for member behaviour and the board effectiveness. In the end, sustainability performance represents one of the board's efforts to monitor actions to reduce company risk. In addition, legitimacy theory also underlies the urgency of ESG performance, emphasizing that companies can only survive if stakeholders believe that the company operates according to their expectations. Stakeholders in this context include shareholders. ESG performance is then considered to be one of the tools companies can use to show that they have social awareness and behave in accordance with stakeholder expectations (Deegan and Unerman, 2011). The results of the above legitimacy have had a positive impact as seen in the increasing number of investors willing to invest in the company. When the number of investors increases, the opportunity for investors to diversify will also increase. This affects the cost of equity that is charged to the company, as it is known that the cost of equity is influenced by company risk (Kim et al., 2017). So, when the cost of equity is also influenced by ESG performance, it is related to the risks that will arise. This explanation underlies this research with the expectation that the legitimacy of stakeholders through ESG performance

will mitigate corporate risk. As is known, legitimacy is an important factor considered by the board as a top-level decision-control tool in risk management. And in practice, the ESG performance is carried out by the company management which is supervised by the board. The implementation of ESG has moral benefits and can reduce the risk to the company. So, it is expected that an effective board can reduce corporate risks and can be strengthened by the existence of a good ESG performance.

In the last decade, the urgency of non-financial performance, especially in the sustainability aspect, has been increasing. Fayers et al. (2000) and Orlitzky (2003) showed that investors are interested in companies' environmental and social performance. Furthermore, governance is considered to play an important role in the development of the company, and this is becoming evident to stakeholders (BusinessWire, 2019). These three performance factors are referred to as ESG (environmental, social, and governance). ESG has the same goal as CSR (corporate social responsibility), which is to make companies contribute positively to stakeholders.

Based on the research motivation above, the researchers formulated the following research questions: 1) Is the board able to reduce the company's risk arising from the transfer of control from shareholders to the board? 2) Does ESG have a moderating role in the association between board effectiveness and the company's risk?

This research focuses on Singapore, Malaysia, and the Philippines as research subjects that are included in the ASEAN 5 and have a one-tier system arrangement of corporate governance. In addition, the three selected countries have participated in the formation of ASEAN and have implemented best disclosure practices (Gray et al., 2014). They have also shown significant levels of economic growth, and their member countries are the main players in society. The results of this study confirm the hypothesis that board effectiveness reduces firm risk, and ESG can strengthen this association. The next section will discuss the theoretical perspective followed by an explanation of the methodology. Results and discussions are then presented before reaching conclusions.

Theoretical Review and Hypothesis Development

Agency Theory

Jensen and Meckling (1976) argued that the separation of ownership and control in a firm can create agency problems due to decisions made by managers that benefit themselves at the expense of shareholders. Competitive forces inside and outside the firm force companies to develop mechanisms to monitor firm performance and reduce agency problems Fama (1980). Other research has focused on the role of governance structures in agency problem reduction (Frydman and Saks, 2010; Holmstrom, 1979; Murphy, 1999; Shleifer and Vishny, 1997). This study seeks to present empirical evidence on the structure of governance associated with the effectiveness of the board of directors in reducing corporate risk.

Stakeholder Theory

Stakeholder theory has been used as a reference in CSR, triple bottom line, and sustainability research. This research extends the application of stakeholder theory to explain how this theory, which underlies the emergence of corporate involvement in sustainability activities, will lead to good corporate performance. This sustainability performance can affect corporate

governance mechanisms because it motivates the behaviour of board members and the effectiveness of the board. Sustainability performance is used by the board of directors in mitigating corporate risks to achieve the stakeholders' interests.

Legitimacy Theory

The understanding that underlies the existence of legitimacy theory is the suitability of stakeholder expectations with company operations that can help the company survive. This is supported by Maurer (1971), who states that the conformity of companies with accepted social norms and behaviours is a way for organizations to show their existence and be able to continue their operational activities.

Legitimacy from stakeholders through the existence of ESG performance will have a positive impact on the company. This positive impact can be seen with the increasing number of investors willing to invest in the company. When the number of investors increases, the opportunity for investors to diversify will also increase. This affects the cost of equity that is charged to the company, as it is known that the cost of equity is influenced by company risk (Kim et al., 2017). So, when the cost of equity is also influenced by ESG performance, it is related to the risks that will arise. This explanation underlies this research with the expectation that the legitimacy of stakeholders through ESG performance will mitigate corporate risk. This legitimacy is an important factor considered by the board of directors as a top-level decision-control tool in risk management.

Hypothesis Development

In the implications of agency theory, initially, there are agency problems that stem from the separation of ownership and control (Berle and Means, 1932). In practice, companies are faced with such agency problems (Jensen and Meckling, 1976), and BOD is expected to play a role to mitigate governance problems and affect company performance (Fama and Jensen, 1983). In resolving agency conflicts, what is called an agency fee arises. One of the agency costs is the monitoring cost, which aims to control the opportunistic actions of management. This monitoring mechanism consists of two types of supervision, namely internal and external. Internal supervision is the supervision carried out by the governance apparatus within the company, namely the board of directors and supporting committees (Ruigrok et al., 2006; Firth and Rui, 2007; Chen et al., 2009). Meanwhile, external supervision involves an external auditor (Subramaniam et al., 2009).

In addition, this theory comes under the perspective of shareholders when it is stated that the purpose of corporate governance mechanisms is to increase shareholder value and protect owner interests (Letza et al., 2004). Therefore, the researchers focused on the effectiveness of boards, which depends on how well boards carry out their monitoring and strategic objectives. Researchers expect that effective boards have lower corporate risk. This is evidenced in the research of Baulkaran and Bhattarai (2020) which shows that an effective board will be able to reduce company risk. In line with that, Garmaise and Lui (2005) showed that ineffective governance leads to higher corporate systematic risk. Furthermore, Albuquerque and Wang (2008) showed that the low effectiveness of the board of directors gave rise to various scandals and company failures such as earnings presentation problems, excessive CEO compensation, and suspension of stock options (Agrawal and Chadha, 2005; Boyd, 1994; Collins, Gong and Li, 2009).

Good corporate governance can reduce firm risk in the form of market-based risk. This considers the research objectives in determining the influence of the board of directors, which is strengthened by ESG performance, on investor decision-making so that in the end, the measure seen from the investor's perspective is on market risk. Market-based risk is the risk caused by fluctuations in the financial performance of share prices. This market-based risk can be measured by looking at total risk, systematic risk, and idiosyncratic risk. Therefore, the researcher built the following hypothesis:

H1: There is a negative relationship between the effectiveness of the Board of Directors and the total risk to the company

The role of ESG as a moderating variable can be explained by two theories, namely stakeholder theory and the legitimacy theory. Stakeholder theory implies that stakeholder interests can influence corporate governance mechanisms because social capital can induce the effectiveness of the board. In the end, this sustainability performance is one of the factors in the BOD's activities to mitigate company risks. In addition, legitimacy theory also underlies the urgency of ESG performance and emphasizes that companies can only survive if stakeholders believe that the company is operating according to their expectations. Stakeholders in this context include shareholders. ESG performance is then considered to be one of the strategies by which companies can show that they have social awareness and behave in accordance with stakeholder expectations (Deegan and Unerman, 2011). Furthermore, in addition to being accepted by stakeholders, ESG performance is also considered a way for companies to maintain or improve the trust of stakeholders (Patten, 1992; Lindblom, 1994) so that they can continue to carry out operational activities for a long time.

The theory of legitimacy implies that the legitimacy of stakeholders through ESG performance will be one of the efforts to mitigate company risk. As is known in these efforts, legitimacy is an important factor considered by the board as a top-level decision-control tool in risk management. In practice, the ESG performance is carried out by the company management, which is supervised by the board. Here there is a moral benefit because if the management is applying the principles of good ESG practices, then it will ease the task of the board in supervising such practices in an effort to reduce the risk to the company. This is supported by Voegtlin and Greenwood (2016), who found that there is an important role for human resource management in how CSR is understood, developed, and enforced. This is supported by the research of Tamara et al. (2015) on CSR practices which states that CSR is a managerial practice that is adopted gradually. CSR is the responsibility of company management, starting from the introduction of CSR—which requires a review of the company's vision, mission, and core values—to determining a budget for CSR activities, implementing it, and reporting it to the boardroom. In addition, this process must go through a long process, which includes the assignment of each management division in CSR practices, so that the commitment by top management to the introduction of social responsibility in the organization can be realized.

It is expected that an effective BOD will have a lower level of corporate risk that is reinforced by good ESG performance. This is because good ESG reflects the external relationship between the company (company and stakeholders), which can make the BOD act in accordance with what is socially desirable (fulfilling its legitimacy function), and management practices that help ease the duties of the board in overseeing ESG practices in reducing risks. Based on the explanation above, the researcher builds the following hypothesis:

H2: ESG performance strengthens the association between the effectiveness of the board of directors and the total risk of the company.

Research methods

This research is a quantitative study that aims to test the hypothesis using the ESG combined score data, the standard deviation of daily stock returns, and data on the effectiveness of the board of directors based on ACGS to analyse the relationship between the effectiveness of the board of directors and company risk. The data used in this research is secondary data.

The population comprises all companies listed on the stock exchanges of the Philippines, Malaysia, and Singapore during the period 2015–2019. ESG data has been available since 2011; however, if we take the data from the beginning of 2011, the total of the samples will be reduced as there is still a low number of companies that consistently get ESG votes from Thomson Reuters at the beginning of the period. ESG investment trends saw an increase in 2015. A purposive sampling method was used to select the sample, resulting in 76 companies (a total of 360 observations) that met the criteria.

Southeast Asian countries are the focus of this study due to the great economic potential of emerging markets, an increasing trend in ESG from year to year, fast economic growth, and similar characteristics and regulations among countries in one region. One of the reasons is emphasized in a report entitled “ESG Investment: Toward Sustainable in Japan and ASEAN” from the ASEAN-Japan Centre Organization (2018) which states that the demand for ESG investment is increasing worldwide, including in Asia, particularly Southeast Asia. In particular, ASEAN 5 is starting to show a promising trend in ESG investment, while other ASEAN member countries have not shown a similar trend. Furthermore, the selection of three countries in this study was also based on the research objectives of focusing on a one-tier governance model, the unique characteristics of ESG investment in each of these countries, and the higher GDP per capita of the three countries compared to other ASEAN countries. In addition, other countries do not show the same involvement and commitment to ESG issues. The ASEAN-Japan Center (2018) summarizes that stock exchanges in countries other than Indonesia, Thailand, Malaysia, Singapore, and the Philippines do not require ESG reporting, have not written guidelines on ESG reporting, have not conducted ESG related training, and have not had a sustainability index.

The following research model is developed to test the hypotheses:

$$\text{TOTALRISK}_{it} = \beta_0 + \beta_1 \text{BODEffectiveness}_{it} + \beta_2 \text{ESG}_{it} + \beta_3 \text{BODEFF}_{it} * \text{ESG}_{it} + \beta_4 \text{SIZE}_{it} + \beta_5 \text{ROA}_{it} + \beta_6 \text{LEVERAGE}_{it} + \beta_7 \text{BOARDSIZE}_{it} + \beta_8 \text{FIRMAGE}_{it} + \beta_9 \text{GDPCAPITA}_{it} + \varepsilon$$

This model is used to test hypotheses 1 and 2. The total risk variable is measured by the standard deviation of the log stock return in the fiscal year for 12 months. BODEffectiveness is measured using the assessment of the 51 board responsibility indicators in the ACGS (Asean Corporate Governance Scorecard). ESG performance is obtained from the ESG combined score provided by Thomson Reuters. As for the control variables, SIZE is measured using the natural logarithm of the total assets, ROA is the ratio of net income before tax to total assets, and LEVERAGE is the ratio of long-term debt to total equity of the company. The other control variables are BOARDSIZE, which is measured as the number of BOD members (board of directors), FIRMAGE, which is the age of the company, and GDPCAPITA, which is the state-level control variable. STATA 14.1 software is used in this

study to perform various tests. Winsorization is applied to several variables containing outliers in the data.

Results and Analysis

Results of sample selection

We use purposive sampling with the following criteria in selecting the sample:

1. Public companies listed on the Malaysia, Singapore, and Philippines stock exchanges (Philippine Stock Exchange [PSE], Singapore Exchange [SGX], and Kuala Lumpur Stock Exchange [KLSE]).
2. Financial firms are excluded because of differences in regulations for the financial industry which can cause differences in corporate policy and governance.
3. The company has complete ESG scores from Thomson Reuters for the period 2015–2019.
4. The company has complete data for research variables during the 2015–2019 period.

Based on the sample selection processed through the Thomson Reuters database, the following results were obtained:

Table 1. Sample Selection

Criteria	Number of companies	Percentage
Population (companies)	2,024	100%
Less: Companies that have not published the 2019 annual report	(18)	(0.89%)
Less: Companies in the financial sector	(146)	(7.21%)
Less: Companies that do not have an ESG score at Thomson Reuters	(1,784)	(88.14%)
Final research sample consists of the companies in:	76	3.76%
Philippines	8	10.52%
Malaysia	37	48.69%
Singapore	31	40.79%
Total	76	100%

Malaysia has the largest number of companies in the research sample. This is also supported by the AJC (ASEAN Japan Centre), which in 2019 stated that Malaysia has shown a high increase in ESG and its public companies have the highest ranking on the assessment and reporting using the ASEAN Corporate Governance Scorecard. The Malaysia Securities Exchange has been a strong supporter of sustainability and ESG in creating long-term value. Initially, the stock exchange in Malaysia required CSR disclosure for every publicly listed company, and each company had to provide detailed information on CSR activities in its annual report. In addition, Malaysia initiated the increase in ESG performance by introducing the Sustainable and Responsible Investment (SRI) Sukuk Framework in 2014 and the Environment Quality Act which provides a framework to mitigate pollution and emissions.

The country with the least number of companies in the research sample is the Philippines. Based on the AJC report on ESG investment in 2019, the Philippines is a country that

is less active in ESG issues than other ASEAN countries. The AJC (2019) also reports that elements of governance in the Philippines are good but still need improvements. The Philippine Stock Exchange requires publicly listed companies to report on aspects of governance, although there are no complementary requirements for environmental and social aspects. As in the beginning, the charter issued by the Philippines, namely the Corporate Social Responsibility Act, is devoted to making companies responsible and disclosing activities related to CSR. However, in many cases, companies avoid fully implementing CSR in their corporate strategy.

The distribution of the sample based on the GICS (Global Industry Classification Standard) is depicted in Table 2. The Global Industry Classification Standard is an industry taxonomy developed in 1999 by the MSCI and Standard & Poor's for use by the global financial community.

Table 2. Research Samples by Industry

Type of Industry	Philippines	Malaysia	Singapore
Aerospace & Defense			1
Air Freight & Logistics			2
Airlines			1
Automobiles		1	
Chemicals		1	
Construction & Engineering		2	
Construction Materials			1
Distributors			1
Diversified Telecommunication Services		1	1
Electric Utilities		1	
Electronic Equipment, Instruments & Components			2
Energy Equipment & Services		4	
Equity Real Estate Investment Trusts (REITs)			4
Food & Staples Retailing			1
Food Products		4	4
Gas Utilities		1	
Health Care Equipment & Supplies		1	
Health Care Providers & Services		1	1
Hotels, Restaurants & Leisure		3	1
Independent Power and Renewable Electricity Producers	1		
Industrial Conglomerates	3	2	1
Machinery			1
Marine		1	
Media		1	1
Multiline Retail		1	
Multi-Utilities		2	
Oil, Gas & Consumable Fuels		1	
Pharmaceuticals			1

Type of Industry	Philippines	Malaysia	Singapore
Real Estate Management & Development	1	3	5
Road & Rail			1
Tobacco		1	
Transportation Infrastructure		2	1
Water Utilities	1		
Wireless Telecommunication Services	2	3	1

Three industries are in the top positions in terms of having ESG scores: 1) real estate management and development; 2) tobacco; 3) electric equipment, instruments, and components. These industries are in the top positions because their business operations are in direct contact with the environment and the exploitation of natural resources.

The details of data collection for each variable are as follows:

Table 3. Details of Data Collection

Variables	Observations	Data source
Company Risk (total risk)	380	Eikon Thomson Reuters Database
Effectiveness of the Board of Directors (bodeffectiveness)	380	Hand collected from Annual Report / Integrated Report, CG Report
ESG performance (esgperformance)	380	Eikon Thomson Reuters Database
Company Size (size)	380	Eikon Thomson Reuters Database
ROA (roa)	380	Eikon Thomson Reuters Database
Leverage (leverage)	380	Eikon Thomson Reuters Database
Board Size (boardsize)	380	Hand collected (Annual Report)
GDP (gdpcapita)	380	World Bank Database

Descriptive Statistics

The data in this study used the Winsorization treatment for several variables where extreme values were found from observations (outliers). Lien and Balakhrisnan (2005) state that outliers are quite common in regression analysis practice and that Winsorization can be used for data cleaning before parameter estimation. This study uses the Winsorization method to overcome the outlier problem by setting an upper and lower limit of the outer 10% of each variable. The variables that use the method are Total risk, BODEffectiveness, Size, ROA, and leverage. This is because the outliers are detected in the Stata application when using the graph box formula. This method is proven to overcome outliers by improving the skewness value of each variable to the safe limit of $-2 < \text{skewness} < 2$.

Furthermore, the descriptive statistical analysis explains the information on the mean, standard deviation, minimum value, and maximum value of all research variables. The total number of observations from all research variables was 380 observations. The following is the descriptive statistics information:

Table 4. Descriptive Statistics

Variable	Before winsorization				After winsorization			
	Mean	Std. Dev	Min	Max	Mean	Std. Dev	Min	Max
totalrisk	0.2559	0.1044	0.0798	0.8285	0.2498	0.0808	0.1242	0.4591
bodeffectiveness	85.2735	9.1421	45,098	100	85,8308	7.3134	68.2745	96.0784
esgperformance	46.1280	18.2568	4,368	87,445	No winsorization was performed			
size (total assets in USD)	9,126,131,578.95	9,611,846,199.90	250,000,000	61,000,000,000	8,026,184,210.53	6,478,235,648.41	1,010,000,000	24,900,000,000
roa	0.0665	0.0975	-0.1986	1.0198	0.0573	0.0392	-0.0093	0.1475
leverage	0.7704	0.9809	0	8,982	0.6356	0.5006	0.0172	1,885
boardsize	7,4806	2,5756	3	16	No winsorization was performed			
gdp capita (USD)	30344.14	25688.62	3001.04	66188.8	No winsorization was performed			

Information:

Total risk = total company risk; bodeffectiveness = effectiveness of the board of directors; esgperformance = ESG performance; size = company size which is proxied by ln of the company's total assets; roa = return on company assets; leverage = level of debt in the company's capital structure (ratio of long-term debt to total equity); boardsize = number of boards of directors at the company; gdpcapita = GDP per capita growth.

The total company risk in this study has been calculated using the stock volatility for one year. Based on Table 4 before the Winsorization, it can be seen that the smallest value of all company risk data is 0.0798. The company with the lowest risk value was Kuala Lumpur Kepong (KLKK.KL) in the consumer staple industry in Malaysia in 2017. Meanwhile, the highest risk value was 0.8285 for Sapura Energi Bhd (SAEN. KL) in the energy industry in 2018. This data is in line with the research of Vo et al. (2018) which also found that at that time in Malaysia, the industry with the lowest risk was consumer services and the one with the highest risk was the energy industry. The average total risk of companies in the three sample countries is 0.2559 with the detail for each country depicted in the following graph.

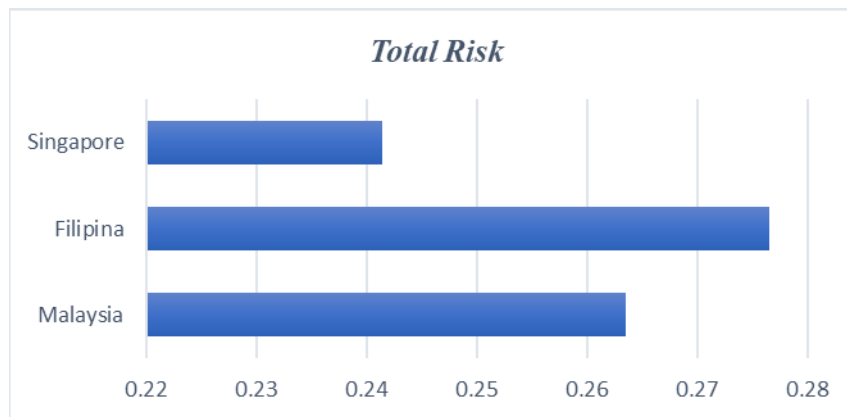


Figure 1. Average Total Risk Value

The effectiveness of the board of directors is measured using the content analysis of the indicators from ACGS (2017), specifically in the fifth parameter regarding the responsibilities of the board. This parameter contains five sub-indicators, namely board duties and responsibilities, board structure, board processes, people on the board, and board performance. The mean value of BOD effectiveness in the sample country before Winsorization was 85.2735 and 85.8308 after Winsorization. Meanwhile, the maximum value (100) for BOD effectiveness was achieved by Ayala Corp and Globe Telecom in the Philippines. Ayala Corp and Globe Telecom are also the two companies in the 2019 ACGS Award for the "Country Top 3 Public Listed Companies" category in the Philippines and are included in the "ASEAN Top 20 Public Listed Companies" category. The 2019 ACGS Award was published in December 2020 in Hanoi. The award is given based on the assessment of governance implementation against the ACGS and was held by the ASEAN Capital Markets Forum (ACMF) supported by the Asian Development Bank (ADB).

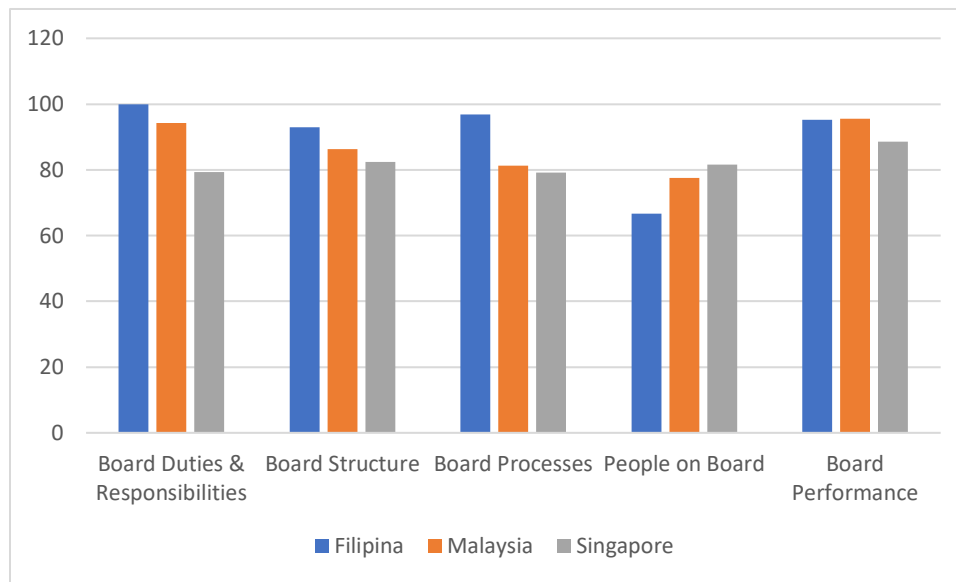


Figure 2. ACGS BOD Components in Sample Countries

The ESG performance variable proxied by the ESG combined score, which is the combined value of the ESG score and the ESG controversial score, shows the lowest value of 4,368 for Suntec Real Estate Investment Trust, a Singapore company for the period of 2016. This company is in the equity real estate investment trusts (REITs) industry which is included in the non-extractive industry group. Meanwhile, the maximum value is owned by Capitaland Ltd., which is located in Singapore, with a score of 87,445 in 2016. The real estate sector is a concern based on the statistics above. It is not surprising that the sector has good ESG performance scores due to the increasing focus on environmental issues. For example, according to the information from CodeGreen (2019), commercial and residential buildings account for about 40% of total energy consumption in America. Historically, real estate companies have focused their ESG efforts on reducing energy use and related emissions. As more stringent emission reduction targets are adopted, more and more real estate owners and operators are integrating environmental performance as part of their business strategy. In addition, investors also ensure that they invest in companies that integrate environmental factors. In addition to demand-driven investors, successful ESG programs enable real estate entities to optimize operational performance, identify and mitigate risks, and gain a competitive advantage in the industry.

Prior to testing the hypothesis, we conduct the Pearson correlation test to gain an understanding of the relationship between variables. The results are presented in Table 5, which shows that most of the variables are correlated at a marginally significant level of 10%. The main variable, BOD Effectiveness, is positively correlated with total risk. To explore the impact of the BOD Effectiveness on the total risk, a regression test was performed and is presented in the following section.

Table 5. Pearson Correlation Test Results

	TOTALRISK	BODEffectiveness	ESG	SIZE	ROA	LEVERAGE	BOARDSIZE	FIRMAGE	GDPCAPITA
TOTALRISK	1								
BODEffectiveness	0.1171*	1							
ESG	-0.0513	0.4366*	1						
SIZE	-0.1043*	0.0433	0.2237*	1					
ROA	-0.2790*	0.0352	0.0072	-0.3766*	1				
LEVERAGE	0.1417*	0.0660	0.0149	0.2708*	-0.0917	1			
BOARDSIZE	-0.1484*	0.2392*	0.2079*	0.1303*	-0.0569	-0.0893	1		
FIRMAGE	-0.0243	0.1737*	-0.0395	0.0536	-0.0495	0.0894	-0.1033*	1	
GDPCAPITA	-0.1338*	-0.3472*	-0.0730	0.0634	-0.0984	-0.3280*	0.2476*	-0.1013*	1

Results of the regression test

To test the hypothesis, we run the regression test using STATA 14.1. The results are depicted in Table 6.

Table 6. Regression Test Results

Variables	Prediction	Coef	Prob	Sig
BODEFFECTIVENESS	-	-0.2893	0.087	*
ESGPERFORMANCE	-	-0.5635	0.060	*
BODEFF * ESG	-	-0.5639	0.090	*
SIZE	-	-0.0218	0.143	
ROA	-	-0.5155	0.002	**
LEVERAGE	+	0.0191	0.131	
BOARDSIZE	-	-0.0042	0.422	
FIRMAGE	-	-0.0507	0.091	*
GDPCAPITA	-	-0.3094	0.000	***
Cons		-1.8293	0.002	
N (Number of Observations)		380		
Adjusted R- squared		0.1403		
Prob (F- statistic)		0.0000		

Discussion

The first hypothesis in this study aims to see the impact of the effectiveness of the board of directors on the company's risk. The test results show that the effectiveness of the board has a significant negative coefficient at α level of 10% on company risk. It can be concluded that hypothesis 1 is not rejected. This means that an effective BOD can reduce the risk to the company. The result is in line with agency theory, which implies that there are agency problems stemming from the separation of ownership and control (Berle and Means, 1932). In such situations, the BOD is expected to play a role as a top-level decision control tool to mitigate problems in corporate governance and in turn can affect the company's performance (Fama and Jensen, 1983). This theory comes under the perspective of shareholders when it is stated that the purpose of corporate governance mechanisms is to increase shareholder value and protect owner interests (Letza et al., 2004). In addition, agency theory also explains the need for the cost of supervision which aims to control the agent's opportunistic actions. Therefore, the existence of an effective BOD may be seen as a stronger form of investor protection.

The result also supports the research of Baulkaran and Bhattarai (2020), which shows that an effective board will be able to reduce company risk. The result is also consistent with Sila, Gonzalez, and Hagendorff (2016), who state that effective boards are better able to monitor and control larger investments and can therefore encourage more efficient risk-taking. In practice, this result means that when there is better board oversight, the BOD's discretion to select projects that are too risky will be limited. It can be concluded that a more effective BOD can monitor a company's risk-taking behaviour. However, if the company does not have an effective BOD, the effect can lead to various scandals and company failures such as problems with presenting earnings, excessive CEO compensation, and suspension of stock options (Agrawal and Chadha, 2005; Boyd, 1994; Collins, Gong and Li, 2009).

The second hypothesis aims to describe the role of moderation of the ESG performance on the association between BOD effectiveness and the company's risk. Based on the results of the regression test, the moderating variable of $BODEFF * ESGPERFORMANCE$ strengthens the relationship between BOD effectiveness and firm risk. Garmaise and Lui (2005) stated that the company's risk will increase due to the transfer of control from stakeholders to the BOD. The result of the first hypothesis, which shows that an effective BOD is able to reduce company risk, implies that the risk should decrease because the BOD has been able to accommodate stakeholder interests as reflected in good ESG performance. Involvement in ESG practices to produce good performance shows that there is an increase in the company's external relations between the company and its stakeholders, and the company can therefore make the BOD act in accordance with what is desired by the stakeholders as predicted by legitimacy theory.

Legitimacy theory implies that the legitimacy of stakeholders through ESG performance will mitigate company risk. Legitimacy is an important factor considered by the board as a top-level decision-control tool in risk management. In practice, ESG performance is carried out by the company management and is supervised by the board. In this context, there is a moral benefit because if the management applies the principles of good ESG practices then it will ease the task of the board in supervising such practices in an effort to reduce the risk. This is supported by Voegtlin and Greenwood (2016), who found that there is an important role for human resource management in how CSR is understood, developed, and enforced. In addition, the research of Tamara et al. (2015) on CSR practices stated that CSR is a managerial practice that is adopted gradually. CSR is the responsibility of the company's management, starting from the introduction of CSR—which requires a review of the company's vision, mission, and core values—to determining a budget for CSR activities, implementing it, and reporting it to the boardroom. In addition, this process must go through a long process involving the assignment of each management division in CSR practices so that the commitment from top management to the introduction of social responsibility in the organization can be realized.

Regarding the control variables, the results show that only the variables ROA, FIRMAGE, and GDPCAPITA are in accordance with the predictions that have been built into the model. The results show that there is a negative relationship between ROA and company risk. This means that when a company has high profitability, it tends to have a lower risk. Company age (FIRMAGE) has a negative result, which confirms the research of Baulkaran and Bhattarai (2020) which found that the older a company is, the less risky it will be compared to companies that are still young. The final control variable for inter-country effects in the study sample is GDPCAPITA. The results show a negative relationship, meaning that with a higher GDP, the value of the welfare state is considered high. When the state is considered prosperous, it is hoped that it can reduce the risk of the company in the country.

Sensitivity Test

We performed a sensitivity test on the moderating variable to see the extent of the role of the ESG Controversy score as an ESG proxy that involves the company controversy. After changing the measurement for the ESG Score, it turns out that the role of ESG moderation does not affect the relationship between board effectiveness and company risk. This indicates that investors consider the controversial aspects of the company in assessing the ESG practices that affect investment decision-making. The result confirms the Ernst and Young (2017) survey which found that the third source of information, namely news, is relied on by investors.

Additional Analysis

The Philippines has the fewest number of samples in this study, and it also has different practices in implementing corporate governance, namely, the chairman is not an independent director. This motivated the researchers to conduct additional tests to see the relationship between board effectiveness and company risk by excluding the Philippines data. The results show that there is a difference in the value of goodness of fit. This additional test has a higher goodness of fit value than the main test, while the test of the hypothesis reaches consistent results. This reflects the insignificant role of the Philippines data to test the hypothesis.

Conclusions

The purpose of this study is to provide empirical evidence on the effectiveness of the board of directors relative to company risk and the moderating role of ESG performance on that relationship. Consistent with the hypothesis, the findings show that an effective BOD is able to reduce company risk, which in this study is measured by the standard deviation of stock volatility. ESG performance also has a moderating role, meaning that ESG performance has been carried out by the company, which is supervised by the board. This implies a moral benefit to the principles of good ESG practices in supporting the board in monitoring activities that reduce the risk of the company.

This research is based on agency theory, stakeholder theory, and legitimacy theory and is proven to support the research results. The BOD, which is one of the governance mechanisms, plays an important role in a company, namely as an internal supervisor for investors. In the BOD, some members are responsible for monitoring and having control rights over the company, especially in terms of corporate risk. That is why in the concept of three-line defense in risk management, the BOD plays an important role. It is proven that an effective BOD is able to reduce company risk, which in this study is measured by the standard deviation of stock volatility.

Furthermore, stakeholder theory and legitimacy underlie the company's ability to carry out its sustainability strategy until it achieves a good performance. This strategy will later strengthen the BOD's efforts to reduce risk effectively. The results of the research cannot prove this. Apart from the benefits provided by the practice of ESG, it does not necessarily have a positive effect on the BOD relationship in reducing company risk. This is because ESG is only considered a means of reversing the situation or restoring the negative impact of the company's controversy. That is, it cannot provide moral benefits which have implications for BOD behaviour in reducing company risk.

This study has several implications. The findings empirically support the research of Ali et al. (2019) which states that CSR can moderate the relationship between governance and company performance. This research focuses on the CSR aspect while it develops the ESG aspect. These

three areas are interesting to research because the topic of sustainability shows great urgency in practice. This research represents a new idea for future research.

It can be seen that in practice these results will have an impact, as when there is better BOD oversight, the flexibility of the board to select projects that are too risky will be limited. This means that a more effective BOD can monitor risk-taking behaviour. In addition, companies need to create a soft structure such as a board manual containing the duties and responsibilities of the BOD in accordance with the applicable regulations. This becomes a reference for the BOD in carrying out its role effectively. It is important for companies to have an effective BOD in order to reduce company risks that arise.

In addition, it is important for companies to include ESG in their corporate strategy which the BOD continues to monitor. The role of the BOD, which turned out to be quite large, was seen as safeguarding investors as an internal line of protection aimed at maximizing investor value. A good ESG performance is considered to be able to mitigate company risks in the future. This risk comes from market conditions that cannot be overcome by means of diversification. Apart from that, from the comparison of the robustness test with the main test, it is found that it is important to consider the value of the company's controversy in the ESG calculation.

Another implication for investors is that in making investment decisions, investors need to consider the aspect of sustainability because empirically this has proven to strengthen the relationship between BOD effectiveness and reduced company risk. This implies that when looking at the sustainability aspect, one of the aspects of governance in an effort to reduce company risks is the legitimacy function.

This research has a limitation in terms of measuring BOD effectiveness which might contain inherent subjectivity. Further research can carry out further analysis by separating sensitive and non-sensitive industries and using other indicators or measurements of the effectiveness of the BOD. The indicators can be developed by considering the applicable regulations in a specific country or using the level of implementation such as the level of good, fair, and poor. Another limitation is that there is no analysis of industry segregation when describing the role of ESG performance in the relationship between BOD effectiveness and firm risk, as in sensitive industries. As has been found in previous studies, CSR performance can reduce the cost of corporate equity, and it is found that this relationship is stronger in sensitive industries such as nuclear energy (El Ghouli et al., 2011). In addition, each industry is believed to have a different risk profile. Therefore, further research can carry out an analysis by separating sensitive and non-sensitive industries.

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