Corporate Environmental Social Governance and Financial Performance: A Cross-sector Risk Analysis in Malaysia

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Abstract
This study contributes to the existing literature on corporate Environmental Social Governance (ESG) by examining the relationship between ESG performance and firm performance. The scope of ESG practices across Malaysian Public Listed Companies (PLCs) in various risk-level industries (i.e., high, medium, and low) is investigated in this study. The resource-based view (RBV) was applied to a sample of pioneer ESG companies with seven years of observations extracted from Bloomberg's ESG data. The quantitative method employed was panel data, specifically, the seemingly unrelated regression (SUR) model and comparison of different levels of risk sectors (high, medium, and low), with the aim of achieving robust results. Based on trend analysis, the medium-risk sectors and governance mean performance exhibited the best achievement in seven years of observation. Tobin's Q demonstrated that the market value and replacement value of physical assets are more reliable indicators of asset utilisation in the medium-risk sector than the ROA. While all PLCs across all industries receive green efforts, medium-risk sectors, such as housebuilders and developers, telecommunications, and consumer goods, are proactive in offering green products and services that directly impact consumers' daily lives. However, there is development potential and an extraordinary opportunity for both high-risk and low-risk industries. Improved planning and a more favourable business climate would enable all industries to widen their ESG objectives. Simultaneously, it is possible to identify and replicate the best practices in medium-risk ESGs to advance and attract investment in these two sectors. This study adds to the existing body of knowledge about the impact of business accountability and responsibility by examining cross-sector risk in Malaysia, a previously unstudied context.
Keywords: Corporate ESG, Financial Performance, Cross-Sector Risk, Sustainability

Introduction
Environmental Social Governance (ESG) has been a fundamental corporate approach across many developing countries, including Malaysia. Initiatives to promote greater sustainability for Public Listed Companies (PLCs) in Malaysia have been carried out for more than a decade, which began with the introduction of Bursa Malaysia Corporate Responsibility framework in 2006. The framework is a set of voluntary, flexible guidelines that outline critical focal areas and Corporate Social Responsibility (CSR) initiatives that include the environment,

community, workplace, and marketplace. Within the same year of 2006, PLC was made compulsory to report CSR practices in the annual report of all businesses. The FTSE4Good Bursa Malaysia (F4GBM) Index was established in 2014, which aimed to promote the profile of listed companies with high socially responsible practices, accountability, transparency, and sustainability.

In 2015, the Sustainability Reporting Guide and Toolkits were rolled out to all PLC. Subsequently, to counter the world's sustainability issues, the United Nations (UN) announced 17 global Sustainable Development Goals (SDGs) in the same year. The SDGs cover a wide range of goals to transform the world, specifically to end poverty, overcome inequality and injustice, and combat climate change. These goals are also working towards Agenda 2030, as 2030 is the deadline for the full implementation of the goals. Aligning with the international agenda, Malaysia is pursuing several national plans, i.e., the 11th Malaysia Plan (2016–2020) in advocating a green growth for sustainability and resilience, the subsequent 12th Malaysia Plan (2021–2025), in which the government has prioritised environmental sustainability, the New Economic Model (2011–2020) under the sustainability scope, and the Green Technology Master Plan Malaysia (2017–2030) in creating a low-carbon and resource-efficient economy.

Table 1 shows the initiatives that have been rolled out by the Malaysian Government towards sustainability over the years.

Table 1. The Development of ESG Initiatives in Malaysia Practices

Years	Events	Actions/Plans
2006	Bursa Malaysia Framework	A set of voluntary and flexible guidelines to outline CSR initiatives within critical areas of the environment, community, workplace, and industry
2010	Bursa Malaysia's Business Sustainability Program	Drive higher integration of sustainable practices amongst PLCs
2011–2020	New Economic Model	The economic model has emphasised the Sustainability scope
2014	ESG Index	Bursa Malaysia collaborated with the FTSE Group to establish the Index. Ideally, it aims to promote ESG practices to stakeholders.
2015	Sustainability Reporting Guide and Toolkits	Guidance and toolkits rolled out to Public Listed Companies (PLCs)
2016–2020	11th Malaysia Plan	Pursue green growth for sustainability and resilience
2017-2030	Green Technology Master Plan Malaysia	Create a low-carbon and resource-efficient economy
2021-2025	12th Malaysia Plan	Focus on environmental sustainability

Many researchers in Malaysia have focused on the quality of the environment (Amran et al., 2016; Amran et al., 2014; Yusoff et al., 2005) and governance of a company (Amran et al., 2014; Haat et al., 2008; Sadou et al., 2017). However, these studies often related legitimacy with the agency theory without aligning the concepts to profitability through content analysis. Few studies had focused on the disclosure pattern and company characteristics in specific industries within Malaysia (Janggu et al., 2007; Ahmad & Mohamad,

2014). Research on social aspects opted for only interview questionnaires (Darus et al., 2014; Sawani et al., 2010). A comparative study between Malaysia and Indonesia on anti-corruption disclosure had been conducted which highlighted a need for Malaysia to be more transparent. Moreover, existing literature regarding ESG–FINP Nexus within Malaysia is limited.

Table 2 shows the ESG–FINP relationship in Malaysia for the past three years (Abdul Wahab et al., 2017; Atan et al., 2018; Kweh et al., 2017; Nor et al., 2016; Zabri et al., 2016). Currently, many researchers intend to examine sustainability reporting from financial databases such as Bloomberg and Thomson Reuters, which provide extensive statistical analysis using in-depth study for impact research.

Table **Error! No text of specified style in document.**. Recent ESG–FINP Studies in Malaysia

No	Author(s)	Sample	ESG components	ESG measure	Company performance	Findings
1.	Atan, Alam, Said, and Zamri (2018)	54 PLCs	ESG	Sustainalytics ESG research data (Bloomberg) for 2010–2013	ROE Tobin's Q WACC	Combined ESG and WACC positive and significant
2.	Kweh, Alrazi, Yee, and Wan Abdullah (2017)	387 GLCs	ESG	Sustainalytics ESG data (Bloomberg) for 2006–2012	DEA ROA	Company efficiency for G, but E and S had no similar effect
3.	Abdul Wahab, Ahmad, and Yusoff (2017)	69 PLCs	E, S, Marketplace, Workplace	Sustainability report 2003–2013	ROA Tobin's Q	S and FINP: positive and significant; ENV/MKT and FINP: positive and significant; Workplace with FINP (ROA): positive and significant for consumer product
4.	Md Nor, Shaiful Bahari, Adnan, Sheh Kamal, and Mohd Ali, (2016)	Top 100 PLCs	E	Environmental disclosure – Annual Report 2011	ROA EPS ROE Profit Margin	Profit margin significant, others insignificant
5.	Zabri, Ahmad, and Khaw (2016)	86 PLCs	G	Sustainability report 2008–2012	ROA ROE	ROA: Negative; ROE: Insignificant

The level of ESG performance is uncertain (D'Amico et al., 2016) because it is influenced by several variables, such as the time needed to achieve sustainable growth (Lu, Ye, Chau, and Flanagan, 2018) and organisational preparedness (internal) (Grewatsch & Kleindienst, 2017; Laamanen & Wallin, 2009). In the Malaysian context, studies are limited to certain industries or generalisation of study (Atan et al., 2018; Kweh et al., 2017); thus, comparison between the different sectors is needed for a more robust results performance (Buallay, 2019b; Miralles-Quirós et al., 2018; Mukherjee & Nuñez, 2018). This study attempts to conduct comprehensive studies of the relationship between ESG performance and financial performance across sectors in the Malaysian context. Therefore, this study sought to address the differences in the relationship between Environmental Social Governance (ESG) performance and financial performance across risk-level sectors of Malaysian PLCs.

The study is organised as follows: In the next section, we provide background literature and set out the hypothesis of this study. Then, the research methodology is presented in the subsequent section, followed by research methods and a discussion of findings. The conclusion is set out in the final section.

Literature Review

Resource-Based View (RBV) theory is the underpinning theory of this study, known in the literature as the most imperative view for gaining sustainable competitive advantage in accounting and strategic management (Bansal, 2005; Zhao et al., 2017). The RBV considers both the resources and capabilities of a company (Wernerfelt, 1984). This notion has been demonstrated to be a leading theoretical framework in determining how competitive advantage and extension of financial performance are obtained (Corbett & Claridge, 2002). In this theory, resources refer to the internal resources owned and controlled by the company, including tangible and intangible resources that drive business strategy and performance (Ray et al., 2004). For instance, financial, technology, information, and knowledge resources (Galbreath, 2005; Russo & Fouts, 1997).

This study's goals are consistent with the RBV, which uses company resources as a measure of performance (Guillamon-Saorin et al., 2018; Qiu et al., 2016). By applying the RBV, each element of ESG is examined in relation to its ability to improve financial performance through ESG performance. This study responds to the RBV literature, addressing the need to examine the impact of the collection of resources (financial, human capital and technology, and innovation) on the relationship of ESG–FINP performance. It also attempts to identify factors that improve their capability to enhance performance (Jos et al., 2016; Longoni & Cagliano, 2018)

A significant amount of empirical studies have analysed the link between ESG performance and financial performance, which associated the grouping of environmental, social, and governance performance with value creation (Jitmaneeroj, 2018; Miralles-Quirós et al., 2018). In regard to the relationship, companies gain external benefits through shareholders' perception and corporate reputation. A study by Albitar, Hussainey, Kolade, and Gerged (2020) on FTSE 350 between 2009 and 2018 indicated the expectation of 'good companies', that is, those with the best ESG performance have the potential of enhancing productivity and market valuation. Similarly, apart from enhancing market values, Saini and Singhania (2019) explained that investors consider good ESG performance less risky, leading to a lower discount rate. Many studies have shown that market-based investors appreciate

companies' commitments, whereby ESG has been found to be positively associated with market-based performance (Tobin's Q) (Albitar et al., 2020; Buallay, 2019a; Gerged, Al-Haddad, & Al-Hajri, 2020; Humphrey et al., 2012; Jitmaneeroj, 2018; Saini & Singhania, 2019).

However, the relationship between ESG success and financial performance found in the literature is inconsistent in terms of operation-based performance (ROA) and market-based performance (Tobin's Q). For instance, Velte (2017) focused on German PLCs between 2010 and 2014. The study found a positive association of ESG with operation-based performance (ROA) but has no impact on market-based (Tobin's Q). The analyses of three different ESG performance components reveal that governance performance has the strongest impact on FINP compared to environmental and social performance. Meanwhile, Jitmaneeroj (2018) utilised data of the US companies between 2002 and 2014. The outcome indicated that market-based performance, the PE ratio improved due to the combined effect of ESG rather than the ESG measure alone. Similar to Velte (2017), Jitmaneeroj (2018) reported that governance performance has a strong positive association with company value compared to environmental and social performance.

Many empirical studies have investigated the relationship between ESG performance and financial performance that considers the comparison of different sectors for more robust results (Buallay, 2019b; Miralles-Quirós et al., 2018). A study by Miralles-Quirós et al. (2018) in a Brazilian context between 2010 and 2015 found that the market did not significantly value the three ESG pillars. Specifically, the market positively and significantly values the environmental practices carried out by companies not related to environmentally sensitive industries. In contrast, the market positively and significantly values the social and corporate governance practices carried out by the companies of the sensitive sectors. Meanwhile, Buallay (2019a) compared two sectors, namely manufacturing (sensitive industry) and banking (less sensitive industry), which involved a sample from 932 manufacturers and 530 banks listed in 80 countries for ten years from 2008 to 2017, leading to 11,705 observations. The study's findings demonstrate that each ESG pillar positively affects the operational, financial, and market performance in the sensitive industry. In contrast, ESG negatively affects the operational, financial, and market performance in the less sensitive sector. Correspondingly, Mukherjee and Nuñez (2018) claimed that high-risk experience companies have a more significant relationship than low-risk companies with financial performance (alpha, beta, and Sharpe ratio). Their sample was based on 173 companies from a combination of secondary sources, including the 2015 GRI database firms' annual reports for the 2012–2015 period.

Meanwhile, a study in Malaysia by Atan et al. (2018) found no relationship between ESG and ROA, which is consistent with the findings on the insignificant effects of ESG performance towards financial performance within the context of Malaysian companies. Another study in Malaysia by Shakil et al (2019) believed that one of the reasons for such an outcome could be that managers potentially overinvest in ESG to fulfil personal interests. Managers used media attention and news of ESG performance to recover personal image in the market, which did not improve financial performance.

In line with the previous literature and theories supporting the relationship between ESG performance and financial performance, this study presents the following hypothesis:
 Environmental Social Governance performance is associated with financial performance in different risk-level sectors of the Malaysian PLCs.

Research Methods

The Malaysian context was selected for this study because since the 2008/2009 financial crisis, the Malaysian Stock Exchange has actively guided Malaysian companies with the reporting process to improve stakeholders' confidence. Meanwhile, the study's scope was 200 best-performing Malaysian PLCs voluntarily listed in DJSI, reflecting a financially strong position and sufficient resources to expend on ESG-related activities (Waddock & Graves, 1997).

This study identified sector characteristics according to sectors risks (see: Buallay, 2019b; Yoon, Lee, & Byun, 2018; Lu & Taylor, 2018). This study employed the ESG matrix from S&P Global Ratings 2019 and categorised the companies according to three risk levels: high risk as "2", medium risk as "1", and low risk as "0". Table 3 presents risk levels and the related sector classification in this study.

Table 3. Risk Levels and Related Sector Classification

Risk Levels	Applied in this study	Sectors
High Risk Risk score > 6	"2"	Oil and gas, metals and mining, power generation (coal), refining and marketing, chemicals, technology hardware and semiconductor, power generation (excl. coal), autos and autos parts, agribusiness and commodity business, transportation, forestry, environmental services
Medium Risk Risk score = 6	"1"	Consumer products, telecom, retail, regulated utility network, midstream, media, leisure, home builders and developers, engineering and consultation, containers and packaging, building materials, aerospace and defence
Low Risk Risk score < 6	"0"	Transportation infrastructure, technology software and services, insurance, healthcare, capital goods, banks, real estate operators, business and consumer services, asset managers, supranational and development institutions

Source: S&P Global Ratings (2019)

The target population was narrowed down to PLCs with ESG data available in RobecoSAM on Bloomberg Professional Services. Next, the sampling frame was selected from the database, and a list of PLCs with ESG data was utilised, which consisted of 64 PLCs. A subset of the population became the sampled population of this study. Therefore, 53 PLCs with ESG data were recognised, which excluded finance and sensitive (tobacco and liquor) companies. Following that, this study utilised convenience sampling to select the sample, which was a subset of the sample population; 24 PLCs with 7 years (2009–2015) of observations were selected. There were a few considerations in deciding the time frame for this study.

First, 2007–2008 was when the world financial crisis took place, and the crisis resulted in transparency and integrity issues. Hence, 2009 was the post-impact crisis year that became a turning point for many conglomerate companies to improve their reputation by initiating ESG to enhance their trust and credibility. Although there were PLCs listed in DJSI before 2009,

the number of companies was very low. This study decided to observe 7 business years for ESG performance (2009–2015) and 7 business years for financial performance (2010–2016). An appropriate time coverage is important to establish a relationship between ESG performance and financial performance. This suggests that it takes time for ESG regulations to materialise in the form of financial performance (Konar & Cohen, 2001; Horváthová, 2010).

Therefore, this study intended to consider company effects via OLS with panel-corrected standard errors (OLS–PCSEs), which utilises seemingly unrelated regression (SUR). The SUR model is an attempt to utilise a joint estimation procedure that is better than separate OLS, suggesting a generalised least squares estimation procedure. Contemporaneous correlation is when the error terms in the two equations are correlated at the same point in time. SUR is adequate in explaining cross-sectional factors and accurate in estimating coefficients and standard deviation of model parameters (Xiao et al., 2018) while needing a minimal sample size compared to other panel models (Franzese, 1996; Fraser et al., 2005). It is noteworthy that this study employed ESG data accessed from Bloomberg Professional Services, which may be quite limited in the Malaysian context; hence, the SUR model is suitable for robust analysis.

Findings & Discussion

The sample of this study consisted of 24 companies with seven years of observations. Table 4 provides an overview of the descriptive statistics for the ESG performance (ESGP) (independent variables), the financial performance (FINP) (dependent variables), and the control variables. The mean scores in the sample were 99.768 for ESG performance, 16.748 for environmental performance (ENVP), 28.212 for social performance (SOCP), and 54.809 for governance performance (GOVP). The GOVP (mean) score was the highest of the three factors, followed by SOCP and ENVP. Meanwhile, ESGP was the highest for standard deviation, followed by SOCP, ENVP, ROA, GOVP and Tobin's Q. A higher standard deviation indicated that the data is more spread out. The negative minimum values for ROA and Tobin's Q imply the losses sustained by the sampled companies during the corresponding period of this study.

Table 4. Descriptive Results

Variables	Mean	Standard Deviation	Minimum	Maximum
ESG performance (Independent variables)				
ESGP	99.768	31.478	54.830	179.240
ENVP	16.748	12.526	0.780	53.490
SOCP	28.212	15.657	3.260	64.060
GOVP	54.809	6.491	33.930	73.210
Financial performance (Dependent variables)				
ROA	7.798	8.742	−32.610	50.430
Tobin's Q	1.822	2.010	−0.120	11.269
Control Variables				
DEBT	23.963	16.307	0	62.86
SIZE	9.447	1.095	6.266	11.010
IND	1.822	2.010	−0.120	11.269

Trend Analysis Based on Sector Risk Level

The companies were categorised into three levels of risks: high risk, medium risk, and low risk. Figure 1 shows the proportion of companies according to sector risks within the sample. In this study, 12 companies (50%) were in the high-risk sector, and eight (8) companies (33%) were in the medium-risk sector. Meanwhile, the low-risk sector was represented by four (4) companies (17%).
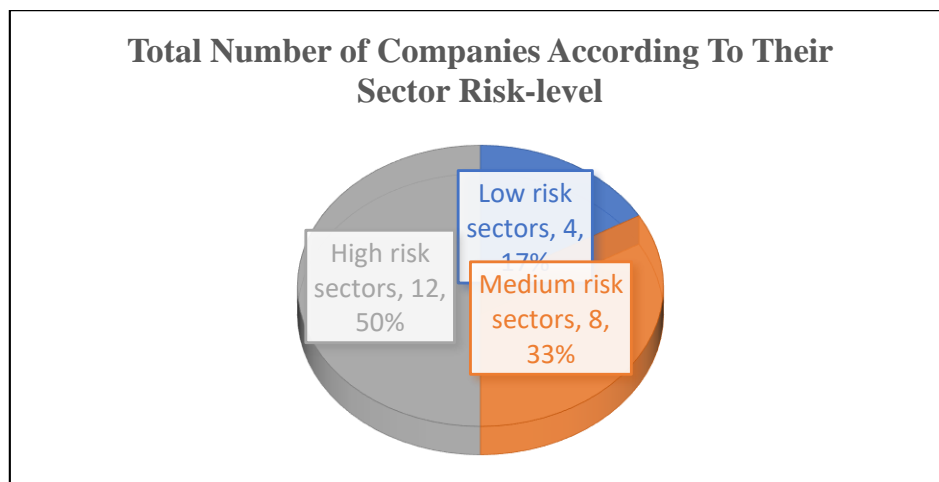

Total Number of Companies According To Their Sector Risk-level

High risk sectors, 12, 50%

Low risk sectors, 4, 17%

Medium risk sectors, 8, 33%

Figure 1: Total Number of Companies According to Their Sector Risk Level

Accordingly, Figure 2, Figure 3, and Figure 4 show the trends of performance and sector risks within the seven years of observation. The x-axis depicts the risk of the sectors and years, while the y-axis represents the performance of the dataset. Figure 2 compares the environmental performance in three sector risks: high (H), low (L), and medium (M) between 2009 and 2015. The high-risk sector increased gradually between 2009 and 2015. The low-risk sector dipped in 2011 and 2012 but gradually improved over the years, reaching its peak

in 2015. The medium-risk sector climbed rapidly between 2009 and 2013 but fell sharply in 2014 before slightly recovering in 2015. Of the three sectors, the medium-risk sector had the best environmental performance throughout the seven years (2009 to 2015).
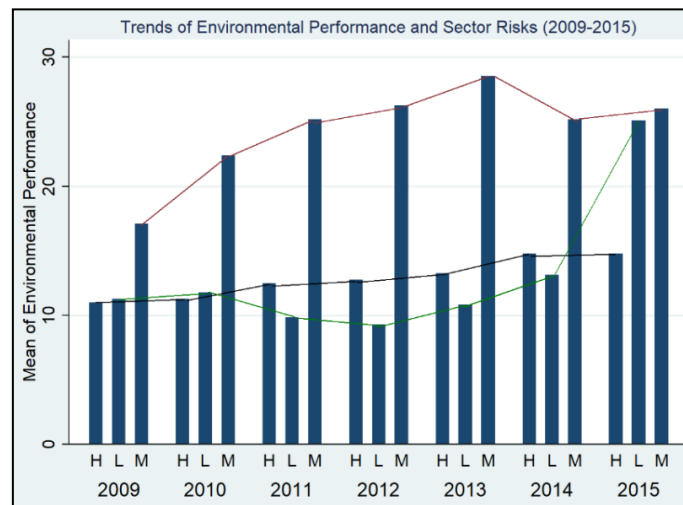

Figure 1: Trends of Environmental Performance and Sector Risks (2009–2015)

Figure 3 shows the changes in social performance within the three sector risks: high (H), low (L), and medium (M) based on seven years (2009 to 2015) of observation. The high-risk sector rose gradually between 2009 and 2015, while the low-risk sector declined briefly in 2011 before improving significantly in 2015. The medium-risk sector climbed sharply in 2010 and remained unstable throughout the years. Overall, the low-level sector that soared and peaked in 2015 had the highest performance throughout the seven years.
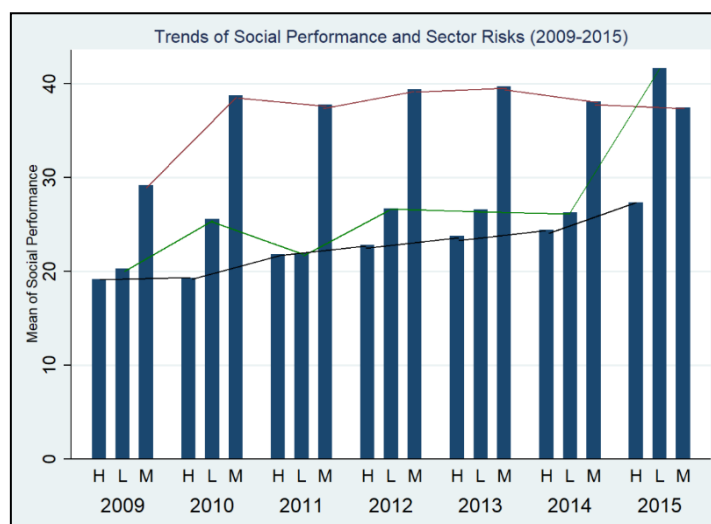

Figure 2: Trends of Social Performance and Sector Risks (2009–2015)

Figure 4 shows changes in governance performance in the three sector risks: high (H), low (L), and medium (M) within the seven years (2009 to 2015) of observations. The high-risk sector rose and declined interchangeably between 2009 and 2015. On the other hand, the low-risk sector declined sharply in 2010 before improving and remained consistent throughout the years. The medium-risk sector rose rapidly between 2010 to 2013 but declined steadily since 2014. However, the results indicate that the medium-risk sector had

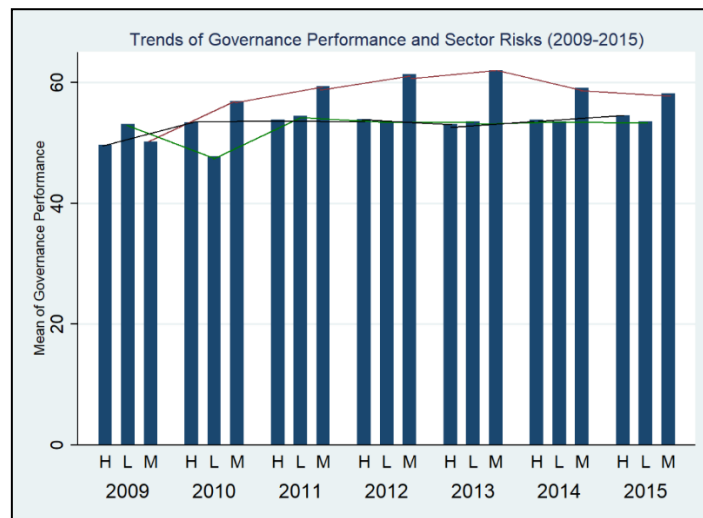the highest governance performance between 2010 and 2015.

Figure 3: Trends of Governance Performance and Sector Risks (2009–2015)

Figure 5 compares the return of assets in the three sector risks: high (H), low (L), and medium (M) based on seven years (2010 to 2016) of observation. The high-risk sector declined sharply in 2014 but improved in 2015 before dropping in 2016. Meanwhile, the low-risk sector decreased rapidly in 2014, improving in the following years. The medium-risk sector reached its peak in 2014 but declined gradually by 2016. Overall, the medium-risk sector showed the highest return of assets between 2010 and 2016.
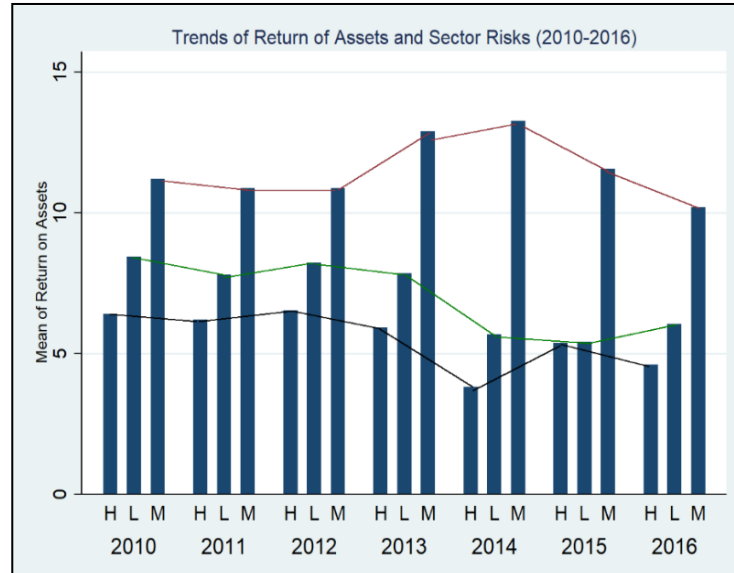

Figure 4: Trends of Return of Assets and Sector Risks (2010–2016)

Figure 6 depicts the changes of Tobin's Q in the three sector risks: high (H), low (L), and medium (M) based on seven years (2010 to 2016) of observation. The high-risk sector rose steadily from 2010 to 2013 before a gradual decline from 2014 to 2016. On the other hand, the low-risk sector fluctuated from 2010 to 2016, with the steepest decline recorded in 2014. The medium-risk sector climbed sharply in 2012 and maintained its performance for three years before declining between 2014 and 2016. Overall, the medium-risk sector had the
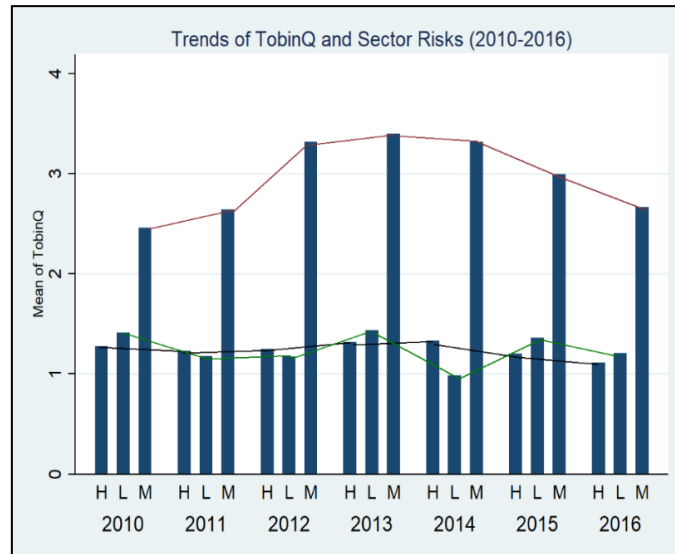
highest Tobin's Q results between 2010 and 2016.

Figure 5: Trends of Tobin's Q and Sector Risks (2010–2016)

Figure 7, Figure 8, and Figure 9 present the performance of sectors based on the level of risk (high, low, medium) throughout the seven years of observation. The x-axis represents the years of observation, while the y-axis represents the mean performance of the dataset. Figure 7 provides the mean values of Environmental Performance (ENVP), Social Performance (SOCP), and Governance Performance (GOVP) for the high-risk sectors. The results show that ENVP and SOCP rose gradually between 2009 and 2015. However, GOVP had minimal fluctuations between 2009 and 2015. Overall, GOVP had the highest mean performance compared to ENVP and SOCP.
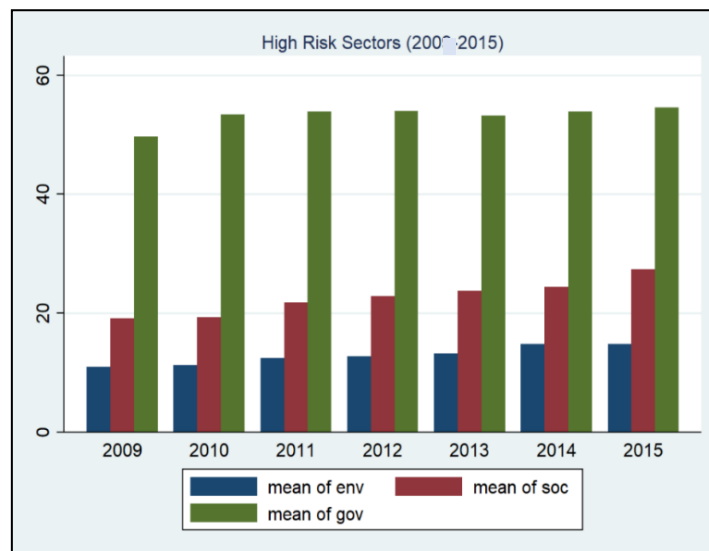

Figure 6: High-risk sector mean performance

Figure 8 illustrates the mean values of ENVP, SOCP, and GOVP for the low-risk sectors within the observed seven years (2009 to 2015). Both ENVP and SOCP had a fluctuating mean performance from 2009 to 2014, with a sharp increase in 2015. Meanwhile, the mean performance for GOVP fell slightly in 2010 but remained stable from 2011 to 2015. Thus, GOVP had the highest mean performance compared to ENVP and SOCP.
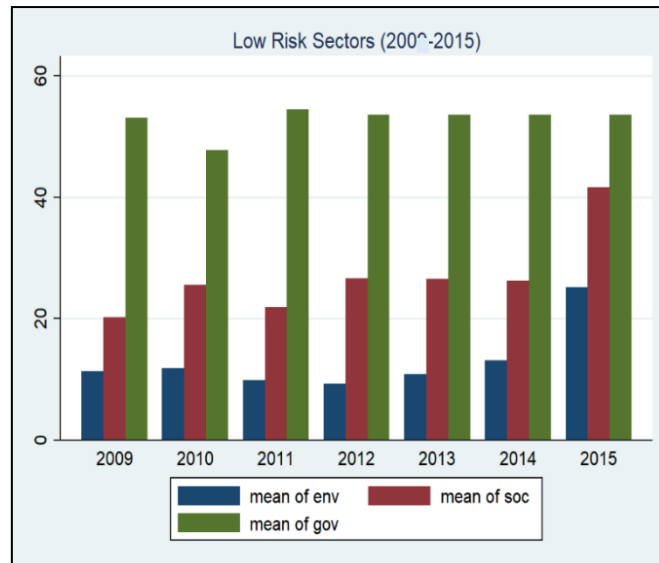
Figure 7 Low-risk sector mean performance

Figure 9 shows the mean performance of ENVP, SOCP, and GOVP for the high-risk sectors within the seven years (2010 to 2016) of observation. The mean performance for ENVP, SOCP, and GOVP fluctuated between 2009 and 2015. Overall, GOVP showed the highest mean performance compared to ENVP and SOCP.
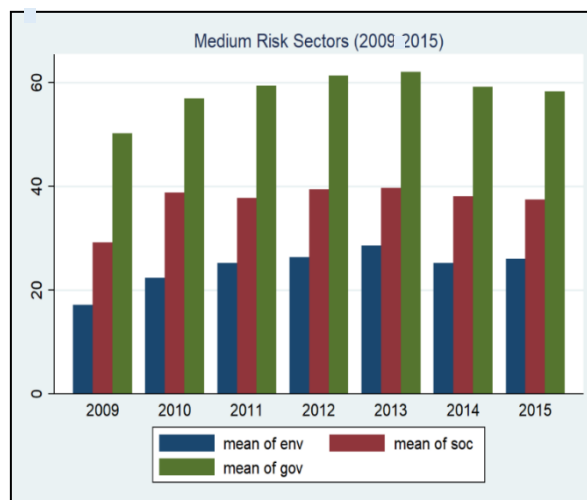

Figure 8 Medium-risk sector mean performance

In conclusion, the medium-risk sectors and GOVP mean performance showed the best achievement in seven years of observation based on the trend analysis.

In addition to the descriptive analysis results, this study used Pearson's Correlation matrix and Spearman's correlation coefficients in a two-tailed setting for the dependent, the independent, and the control variables, as shown in Table 5. Correlation statistics are widely used to measure the degree of the relationship between linearly related variables. The results show that ESGP and ENVP had a significant positive correlation with ROA. Hence, ESGP and ENVP were entirely, positively, and linearly related to ROA. Since no relevant relationship was found between SOCP and GOVP with ROA, these variables may have a nonlinear relationship. Meanwhile, ESGP, ENVP, SOCP, and GOVP had a significant positive correlation with Tobin's

Q. Therefore, these variables were entirely, positively, and linearly related to Tobin's Q.
Table **Error! No text of specified style in document.**. Correlation results

Variables	ROA	Tobin's Q	ESGP	ENVP	SOCP	GOVP	DEBT	SIZE	SEC
ROA	1								
Tobin's Q	0.852***	1							
ESGP	0.300***	0.442***	1						
ENVP	0.418***	0.556***	0.922***	1					
SOCP	0.187	0.321***	0.947***	0.789***	1				
GOVP	0.196	0.294***	0.787***	0.636***	0.658***	1			
DEBT	-0.2665***	-0.172*	0.060	0.075	-0.015	0.186	1		
SIZE	0.256***	0.306***	0.139*	0.159*	0.105	0.114	0.046	1	
SEC	−0.154	−0.129*	−0.186**	−0.140*	-0.222***	-0.096	0.261***	0.134*	1

Notes: indicate significance at the *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

ESG Performance and Financial Performance

The overall results indicate that the ESGP has no relationship with the operation-based performance (ROA) with consistent findings for all three sectors. Meanwhile, in the medium-risk sector, the ESGP has a positive and significant relationship at 5 per cent with FINP (Tobin's Q). The medium-risk sector has potentially influenced the estimated coefficient on the ESGP. These results suggest that the market-based performance (Tobin's Q) is more reliable than operation-based performance (ROA) in determining the relationship between ESGP and FINP. Hence, H1 is partially supported. Table 6 presents the results of panel data analyses (ESGP–FINP).

Table 6. The Results of Panel Data Analyses (ESGP–FINP)

Hypothesis	Variable Name	Expected Sign	Sectors	Actual Sign (ROA)	Actual Sign (Tobin's Q)	Results
Environmental Social Governance performance is associated with financial performance in different risk-level sectors of the Malaysian PLCs.	ESGP–FINP	(+)	Overall	Insignificant relationship	Significant relationship (+)**	Market-based supported, operation-based not supported
			High-risk	Insignificant relationship	Significant relationship (-)*	Market-based supported, Operation-based not supported
			Medium-risk	Insignificant relationship	Significant relationship (+)**	Market-based supported, Operation-based not supported
			Low-risk	Insignificant relationship	Insignificant relationship	Market-based and Operation-based not supported

Notes: *$p < 0.01$, **$p < 0.05$, ***$p < 0.001$.

This study found no relationship between ESG performance and ROA, which is consistent with the findings on the insignificant effects of ESG performance on financial performance within the context of Malaysian firms. Shakil et al (2019) believed that one of the reasons for this outcome is that managers sometimes overinvest in ESG to fulfil individual interests. For instance, managers who need to conceal depraved news about their company or recover personal image in the market would attempt to catch the media attention using ESG performance, which may not lead to any improvement in financial performance. Nonetheless, these results contradict studies that have reported ESG performance with a positive linear impact on ROA (Velte, 2017). Moreover, Mukherjee and Nuñez (2018) claim that the high-risk sector is more significant than other sectors.

The results from this study offer evidence that ESGP is associated with market-based performance (Tobin's Q) in the medium-risk sector and overall result, which is consistent with

past studies (Albitar et al., 2020; Buallay, 2019a; Jitmaneeroj, 2018). Albitar et al (2020), indicating that companies gained external benefits through corporate reputation. Besides, the findings from this study demonstrate that investors appreciate the grouping of environmental, social, and governance performance. Similarly, Jitmaneeroj (2018) argued against focusing on these components in isolation due to the underestimation of benefits for corporate value creation. In this study, the high-risk sector is shown to be negative and significant, which suggests that these companies have overinvested in specific ESG projects, with investors neglecting the efforts. Furthermore, the low-risk sector has minimal significant results on Tobin's Q, similar to findings from Velte (2017) in Germany and Atan et al (2018) in Malaysia.

Conclusion

This study assessed the efficiency of ESG performance associated with financial performance in different risk-level sectors of Malaysian PLCs. The results indicate that the hypothesis is supported by a combination of all sectors and a medium-risk sector (positive market-based association) and the high-risk sector (negative market-based association).

The results of this study show that ESG performance is correlated with market-based performance (Tobin's Q) in the medium-risk sector and the overall effect. This is consistent with past studies, suggesting that corporate credibility received external benefits (Albitar, Hussainey, Kolade, & Gerged, 2020; Buallay, 2019a; Jitmaneeroj, 2018). Furthermore, this study shows that investors appreciate grouping environmental, social, and governance efficiency and do not concentrate on these components in isolation due to underestimating corporate value-creating benefits. In addition, this study shows that the high-risk sector is negative and important, indicating that these companies have overinvested in certain ESG ventures, with investors neglecting the efforts.

No relationship between ESG performance and ROA was found from the analysis, consistent with findings on the negligible effects of ESG performance on financial performance in the context of Malaysian companies (Shakil et al., 2019). The probable reason for the outcome could be that managers often overinvest in ESG to satisfy individual interests. For example, managers who need to hide depraved news about their business or regain personal market reputation would try to grab media attention using ESG results, which might not lead to changes in financial performance. Nonetheless, these findings contradict studies documenting ESG success with positive linear effects on ROA.

This study fills the gap in research on the relationship between ESG performance and financial performance in empirical studies across risk-level sectors of Malaysian PLCs. In these findings, Tobin's Q shows that the physical asset's market value and the replacement value should be more accurate in terms of asset utilisation within the medium-risk sector than the ROA. Although green initiatives are being provided to all PLCs across all industries, medium-risk sectors, such as homebuilders and developers, telecommunications, and consumer goods, are proactive in delivering green products and services, which directly affect consumers' everyday lives. Nevertheless, there is potential for growth and an exceptional opportunity for the high-risk and low-risk industries. Better preparation and improving the business climate would allow all sectors to broaden the goals of ESG. At the same time, it is also possible to recognise and replicate the best practices of medium-risk ESGs in these two sectors as a means to progress and attract investment.

Furthermore, the implication of this study highlights the relationship between companies and stakeholder groups and the alignment of interests. Based on this point of view,

strategic decisions on resource allocations are considered supporting value development by stakeholders outside the standalone approach. The full integration of ESG activities during strategic decision-making processes supports managerial effectiveness; thus, contributing to ESG results. Besides, a company behaving constructively to give back to society and the community and gain long-term competitive advantages is more valued by businesses and customers.

Future research could also explore other settings and the low-risk sector or small-medium enterprise, with more participants. Another possible area for future research would be to perform a study using research surveys or examine the longitudinal studies of ESG and financial performance with moderation effects. It would be interesting to reveal new findings on the development of ESG, particularly among Malaysian companies.

Acknowledgement

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