

THE RELATIONSHIP BETWEEN DIRECTORS' AND OFFICERS' LIABILITY INSURANCE AND ESG PERFORMANCE OF FTSE4 GOOD BURSA MALAYSIA COMPANIES

A RELAÇÃO ENTRE O SEGURO DE RESPONSABILIDADE CIVIL DE DIRETORES E ADMINISTRADORES E O DESEMPENHO ESG DAS EMPRESAS FTSE4 BURSA MALAYSIA COM CLASSIFICAÇÃO "GOOD"

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Abstract

This study will analyze the correlation between Directors and Officers Liability insurance (D&O insurance) and Environmental, Social and Governance (ESG) performance among the listed companies under FTSE4 Good Bursa Malaysia Index. It is aimed at evaluating how D&O insurance promotes sustainability of corporate practices through improving governance systems or, on the contrary, results in moral hazard and opportunistic actions. Through the Ordinary Least Squares (OLS) regression analysis, the study relies on the annual report and ESG ratings on the financial year 2021 to assess how D&O insurance affects the ESG performance. The results show a high positive correlation, which means that the D&O insurance can help to reinforce corporate governance through responsible decision-making and sustainable business strategies. Nevertheless, the research also contains the possibility of risks, since the D&O insurance may create complacency in corporate executives, which may jeopardize the long-term ESG goals.

Resumo

Este estudo analisará a correlação entre o seguro de Responsabilidade Civil de Diretores e Administradores (seguro D&O) e o desempenho ambiental, social e de governança (ESG) entre as empresas listadas no índice FTSE4 Good Bursa Malaysia. O objetivo é avaliar como o seguro D&O promove a sustentabilidade das práticas corporativas por meio da melhoria dos sistemas de governança ou, ao contrário, resulta em risco moral e ações oportunistas. Por meio da análise de regressão de Mínimos Quadrados Ordinários (MQO), o estudo utiliza o relatório anual e as classificações ESG do exercício financeiro de 2021 para avaliar como o seguro D&O afeta o desempenho ESG. Os resultados mostram uma alta correlação positiva, o que significa que o seguro D&O pode ajudar a reforçar a governança corporativa por meio da tomada de decisões responsáveis e estratégias de negócios sustentáveis. No entanto, a pesquisa também apresenta riscos, uma vez que o seguro D&O pode gerar complacência nos executivos corporativos, o que pode comprometer as metas



The insight can be added to the existing body of knowledge regarding corporate governance and sustainability since it offers empirical data on the dual impact of D&O insurance in the Malaysian corporate environment. The originality of the study is in the fact that the novel monitoring and opportunistic hypotheses of the insurance are addressed in the framework of ESG, which proves to be highly beneficial in the context of businesses, investors, and policymakers. Knowing the subtle connection between D&O insurance and ESG performance, stakeholders will be able to come up with more constructive governance models that would maximize sustainable benefits and reduce the occurrence of unintended consequences.

Keywords: Directors' and Officers' Liability Insurance. ESG. Performance. Malaysia.

ESG de longo prazo. A análise pode ser adicionada ao corpo de conhecimento existente sobre governança corporativa e sustentabilidade, uma vez que oferece dados empíricos sobre o duplo impacto do seguro de Responsabilidade Civil de Diretores e Administradores (D&O) no ambiente corporativo da Malásia. A originalidade do estudo reside no fato de que as hipóteses inovadoras de monitoramento e oportunismo do seguro são abordadas na estrutura ESG, o que se mostra altamente benéfico no contexto de empresas, investidores e formuladores de políticas. Conhecendo a conexão sutil entre o seguro D&O e o desempenho ESG, as partes interessadas poderão desenvolver modelos de governança mais construtivos que maximizem os benefícios sustentáveis e reduzam a ocorrência de consequências não intencionais.

Palavras-chave: Seguro de Responsabilidade Civil de Diretores e Administradores. ESG. Desempenho. Malásia.

1 INTRODUCTION

The modern business environment of corporate regulation lays increasing stress on the overlap of Directors' and Officers' Liability Insurance (D&O insurance) and the Environmental, Social, and Governance (ESG) performance. This connection presumes an increased importance in the framework of the Malaysian listed companies, which is why the investigation of the correspondence between D&O insurance and the need to influence the ESG policies and practices should be properly developed.

D&O insurance works as a defense system to the executives of a company, providing financial protection against any legal claims that come as a result of their managerial choice (Adams & Ferreira, 2007). As a risk management tool, it provides the directors and officers with a safety net that increases their ability to execute their duties with greater confidence. Conversely, the ESG criteria have become essential standards of assessing the devotion of a company to sustainable and socially sensitive business operations (Eccles, Ioannou, & Serafeim, 2014). Such criteria include the environmental impact, social responsibility and the governance practices thus this is a holistic approach to corporate responsibility.

The hypothesis that has been examined most often in previous studies is the monitoring hypothesis, according to which D&O insurance is an efficient tool in controlling the actions of directors and managers, through the control of insurers (Holderness, 1990; Jia & Tang, 2018; Chang, Ren, & Yeh, 2018; Xu & Zhao, 2022; Tang et al., 2024; Yang et al., 2024). According to such studies, D&O insurance can soothe risky practices and encourage compliance on good governance practices. However, there is a significant void in the literature in terms of opportunistic behavior hypothesis, which presupposes a potential risk of D&O insurance to allow directors and officers to take more risky actions, as the insurance cover is a fallback (O'Sullivan, 1997; Wang et al., 2023).

The current research will attempt to illuminate multi-dimensional relationships between D&O insurance and ESG performance in a unique environment of Malaysian corporations. The main hypothesis is that D&O insurance affects ESG performance in both ways: by reducing risks, which is similar to the monitoring hypothesis, and possibly by encouraging opportunistic behavior in the directors and officers. Due to the changing regulatory environments, changing shareholder requirements and international need to practice sustainability, it is important to understand the overlap between these aspects. Stakeholders such as directors, officers, insurers, investors and regulatory bodies are key to the shaping and maneuvering of this complex interplay.

It is against this context that this research aims to shed light on implications, challenges and opportunities that arise as a result of interaction between D&O insurance and ESG performance, which is set in the uniqueness of the Malaysian economic, legal and social environment. The changing regulatory environment in Malaysia, coupled with the various stakeholder expectations creates a dynamic environment where business firms have to juggle between risk management, governance practices and sustainable business practices.

Through the enlightenment of this dynamic interaction, the research aims at contributing to the current argument on corporate governance, risk management, and sustainability in the Malaysian business context which is dynamic. The acquired insights can provide a useful advice to companies that aim to harmonize their practices with the changing expectations, thus contributing to the overall global discourse of responsible and sustainable corporate behavior.

This study explores the insurance of D&O in terms of opportunistic behavior hypothesis in relation to ESG ratings. The exploration of the new dimension therefore,

attempts to give a more detailed understanding of how D&O insurance contributes to corporate governance and ESG performance.

2 LITERATURE REVIEW

The environmental, social, and governance (ESG) considerations have in the recent years featured in the corporate strategy and have played a significant role in the decision-making of various industries across the globe. The framework is holistic and evaluates the effects and the responsibilities of a firm in regards to environmental stewardship, social involvement and corporate governance. Amid the complex aspects of the ESG, there is one particular and yet complementary aspect of corporate governance that deserves consideration: directors-and-officers (D&O) insurance.

2.1 Environmental, Social, and Governance (ESG)

The concept of ESG performance does not rely on the traditional financial measures but adopts an integrative analytical approach that aims to assess the ability of a business to attain sustainable and long-term growth in three fundamental aspects including the environment, society, and corporate governance (Xu & Zhao, 2022). Increasing focus of investors on environmental and other non-financial determinants has forced companies to focus on non-financial aspects in their business (Aydoğmuş, Gülay, & Ergun, 2022). Unlike the traditional financial measures which are mostly short-term oriented and economically oriented, ESG requirements are a combination of ratings that measure the influence and the responsibility of a firm in relation to environmental management, social interaction and effectiveness of its governance measures. This three-plate model strengthens this fact that sustainable success goes beyond financial profitability and includes ethical, social, and environmental factors that enable long-term sustainability and resilience (Koller & Nuttall, 2019). Companies are also becoming aware that the relevance of ESG helps them meet the challenge of competitiveness in a volatile business world (Yadav & Prashar, 2023).

Lee, Lau, and Yip (2023) examine the growing significance of the ESG practices and the role in corporate governance where strategic alignment with the sustainability imperatives should be advocated within the Malaysian context. The development of

sustainability reporting and integrated reporting has also promoted the need to promote the consideration of ESG by entities all over the world (Camilleri, 2015). Due to the maturity of sustainability reporting, there has been an increasing trend of business recognizing that it needs to go beyond conventional financial reporting so that it can give a holistic picture of overall performance. Integrated reporting, which is the combination of financial and non-financial data has become an important tool that organizations use to explain their value-creation stories including the implication of ESG factors. ESG is now used by stakeholders as a standard to assess the corporate sustainability conduct and expected financial performance in the analysis and decision-making of investments (Li et al., 2021).

In addition to that, the regulatory environment is changing and more jurisdictions are requiring or promoting ESG disclosures (Brammer, Jackson, & Matten, 2012). This regulatory push has made companies embrace sustainability reporting models and integrated reporting to ensure that they are not left behind and they are willing to do responsible business. The visibility of ESG data suggests that companies are being active to deal with social and environmental responsibilities thus improving their reputation with investors (Gillan, Koch, & Starks, 2021).

The agency theory assumes that companies share ESG performance as a means of maintaining and effective relations between the management and various stakeholders (De Villiers, Venter, & Hsiao, 2017), which is effective in eliminating agency conflicts (Dalton et al., 2007). It is crucial to establish balance between the interests of shareholders, employees, customers, and the wider society to make sure that the actions of the corporations can be seen as legitimate by their stakeholders (Syafriadi et al., 2023; Mios et al., 2020). As a result, companies have a great motivation to improve ESG performance to obtain the resources without which their existence and development cannot take place.

The growth of socially responsible investing has increased the need to have more ESG information to make investment decisions in responsible firms hence promoting the growth of ESG rating agencies (Luo and Zhao, 2022). These agencies act as the liaison between firms and stakeholders and they are very crucial in the growth of the global and domestic financial markets. With the changing regulations systems, more and more rating agencies are coming up and are providing risk assessment and sustainability indices in the global market. This rush involves both major international organizations and smaller

non-global organizations, which questions the consistency of ESG ratings in the eyes of an investor.

Most of the current studies of ESG focused on the impact of ESG performance on the enterprise (Brogi & Lagasio, 2018; Rajesh & Rajendran, 2020). Brogi and Lagasio (2018) used MSCI's ESG rating data from 2000 to 2016 to study the ESG performance and profitability of American listed companies, and found that ESG performance was positively correlated with corporate profitability. Rajesh and Rajendran (2020) found that ESG performance is positively correlated with the long-term development ability of enterprises, and environment, social responsibility and corporate governance can be used as a single factor to improve the relationship between the other two and the overall ESG performance. Bheenick and Do (2023) believes that due to the existence of economies of scale, larger companies tend to carry out ESG activities to better reflect the needs of stakeholders and reduce the cost caused by information asymmetry, to obtain better performance.

Due to the increased interest in ESG ratings, the large institutions are expanding their presence internationally and creating country-specific indices, including those that are specific to Malaysia. As an example, the leading ESG rating agency and data provider, Morgan Stanley Capital international (MSCI) evaluates ESG practice across the globe and builds GSCI ESG Indices (Escrig-Olmedo et al., 2019). The other major ESG rating agencies are Sustainalytics, Bloomberg, FTSE Russell, and S&P global. In addition, the scores of ESG display a significant geographical divergence and temporal dynamics (Daugaard and Ding, 2022). This fast growth creates a large amount of informational flow which might complicate the process of acquiring the correct ESG information by the stakeholders.

2.2 Directors' and officers' insurance

Directors' and officers' liability insurance (D&O insurance) is a form of professional liability coverage designed to mitigate the legal costs arising from negligence or improper decisions made by directors, supervisors, and senior executives in the course of their duties, along with related civil compensation liabilities (Su, Wang, & Liu, 2022). Once insured, this coverage reimburses directors and senior executives for compensation and legal expenses incurred due to work-related errors or misconduct

(Zhang & Zend, 2022). By transferring decision-making risks to insurance companies, D&O insurance facilitates risk mitigation and hedging strategies (Su, Wang, & Liu, 2022). The D&O insurance somewhat enhances the job security of managers.

Companies purchase D&O insurance to offset indemnification costs or provide protection when indemnification is not applicable (Core, 1997; Chung & Wynn, 2008). Unlike traditional methods such as job promotions or salary incentives aimed at reducing agency costs, D&O insurance compensates for and insures against management decision-making errors through third-party insurers. In order to transfer supervisory role to the insurer, companies with poorer governance structures will have a greater demand for D&O insurance (Park, 2018). This approach potentially reduces risk aversion among management and enhances corporate governance practices (Core, Guay, & Larcker, 2008).

D&O insurance typically includes three primary coverage types: Side A, which directly protects individual directors and officers; Side B, which reimburses the corporation for indemnification costs; and Side C, which protects the corporation itself (Core, Guay, & Larcker, 2008). Although Side B appears to cover the corporation, its fundamental purpose remains the indemnification of individual directors and officers (Rosenberg, 1998).

In addition, the D&O insurance can also play a role in monitoring corporate governance (Chen, 2017). D&O insurance are essentially hiring an insurance provider to act as an outside monitor. It was found to help alleviate the principal-agent conflict by transferring the risk to a third-party insurer and prompting the insurer to take an active role in monitoring the actions of managers (Baker & Griffith, 2007). Insurance companies apply their expertise and resources to assess the risks faced by listed companies and urging them to improve their corporate governance (Lai and Tai, 2019). Chang, Ren and Yeh (2018) show that companies that purchase D&O insurance, improves the quality of information received by the board of directors, thus strengthening the governance effect of the company.

The D&O insurance provides directors with a policy protection against claims of misconduct in business daily operations (Lin et al, 2022). Therefore, companies could also attract more talented directors through these kinds of liability insurance and contributed to improve the internal management of the company (Priest, 1986). Lin et al

(2022) also suggests that talented directors could help stakeholders to increase the value of firms and improve the corporate governance.

However, the concept of moral hazard presents a significant concern with D&O insurance, as it may inadvertently encourage lax managerial behavior by shielding directors and officers from personal financial liabilities incurred from securities litigation (Tom & Baker, 2007). While securities litigation aims to deter managerial misconduct, D&O insurance aims to protect managers from the burdens of litigation, potentially weakening the deterrent effect (Baker & Griffith, 2010). In addition, managers' speculative behavior increases because of purchasing D&O insurance (Chiang & Chang, 2022). The D&O insurance might not only increase the operational and financial risk of listed firms but also reduces the cost of non-compliance for corporate executives, leading them to make aggressive strategic decisions. Therefore, companies with D&O insurance are particularly at higher risk of default than those without it (Huang, 2022).

Recent studies highlight various impacts of D&O insurance. For instance, Chen, Li, and Zou (2016) suggest that D&O insurance positively influences the cost of equity by encouraging optimal risk-taking behaviors. Wang et al. (2019) indicate that managers with D&O insurance may experience increased job security, potentially leading to more assertive managerial decision-making (Core, 1997). However, Li and Liao (2014) states that high coverage of D&O insurance might lead to over-investment among Taiwan companies. Moreover, D&O insurance encourage directors to allocate resources to research and development activities (Chen et al, 2017). Therefore, D&O-insured companies have shown a greater propensity for innovation compared to uninsured counterparts, reflecting a calculated approach to risk management (Wang et al., 2020).

In addition, some recent researches state that the D&O insurance is positively related with the firm value (Fung and Yeh, 2018; Chang, Ren and Yeh, 2018). Lin et al (2022) claims that the managerial ability could be improved through the supervisory role of D&O insurance and guiding the director to enhance the value of the company, thus benefiting stakeholder.

Thus, while D&O insurance provides crucial financial protection for executives against legal liabilities, its impact on managerial behavior and the deterrence of securities litigation remains an area of ongoing scrutiny and research.

3 THEORETICAL BACKGROUND: MONITORING VS OPPORTUNISTIC HYPOTHESIS OF AGENTS

D&O liability insurance has become an irreplaceable part of modern system of corporate governance, especially when the ownership is not linked to the control of operational processes. It is used to ensure that the incentive of directors and officers are aligned with the best interests of the stakeholders to reduce agency conflict between the executives and the shareholders, to strengthen investor protection, and to improve the overall corporate governance practices (Core, 2000; Yuan, Sun, and Cao, 2016).

The past research has associated ESG risks to the protection of the interests of the stakeholders and that proper management and reporting systems are essential to ensure the long-term shareholder value is not affected by other stakeholders. In the agency theory precincts, the monitoring mechanism hypothesis is that the directors and officers would be motivated to increase the value of the firm by ensuring the best performance by the firm in terms of ESG. Despite the fact that D&O insurance mostly aims at surveilling the top executives, there are opportunistic managerial behavioural impacts. The risk-aversion level of managers working in insured companies might be lower, and they have a higher tendency to undertake attractive and risky projects, which is likely to be used to compensate themselves in case of a personal liability (Woo et al., 2015).

The applied research on the opportunistic mechanisms postulated by the agency theory concerning the ESG risks still remains unexplored in the frame of this research. Directors and officers may be in a position to use D&O insurance to protect themselves against claims brought about by ESG-related lapses. The position of this study is such that acquisition of D&O insurance could be the opportunistic move taken by directors and officers to save on litigation expenses at the expense of the views of shareholders. Although D&O insurance is crucial in giving the executives vital financial cushion, it can also unintentionally diminish their efforts and dedication towards the management of the ESG risks.

The connection between D&O insurance and ESG performance is complex, with possible positive effects, including the improvement of internal motivation, less ESG risk, ESG performance improvement, transparency in ESG-related disclosures, and the elimination of information asymmetry in the relationships between parties. On the other hand, D&O insurances may contribute to the issue of moral hazard among the

management, undermining their incentives to focus on long-term sustainable practices and encouraging the orientation on short-term financial benefits to the detriment of ESG (Li and Liao, 2014; Boyer and Tennyson, 2015; Chang and Chen, 2018). The disputed views of the monitoring and opportunistic hypotheses have therefore been used in this research, inspiring the research question presented.

4 METHODOLOGY

The selected companies of this study were obtained from the FTSE4 Good Bursa Malaysia (F4GBM) index. F4GBM, in collaboration with FTSE Russell in 2014, produced an ESG risk index report in July 2021 to cater for investors in making ESG-related investments in Malaysian listed companies and to increase the profile and exposure of companies with leading ESG practices. This endeavor also helps to support the transition towards a low-carbon and more sustainable Malaysian economy. The ESG risk score of the selected companies were assessed under FTSE Russell ESG rating methodology with the rating spanning from 1 (high risk) to 4 (low risk). The low risk indicates the better performance of ESG. The ESG rating data were sourced from the ESG index of financial year 2021. The companies include those from sensitive industries (construction, energy, healthcare, plantations, property and utilities) and non-sensitive industries (consumer product & services, financial services, industrial products & services, real estate investment trusts, technology, telecommunications & media and transportation & logistics). D&O insurance data were obtained through companies' annual report of financial year 2021. The information about D&O insurance is minimally reported in notes to the account, stating only the amount of insurance insured.

The analytical technique adopted in this study is Ordinary Least Square (OLS) to evaluate the effect of the independent variables (Directors' and Officers' Liability Insurance (ADOL), Return on Assets (ROA), Leverage (L), Firm Size (FS), Book-to-Market-Ratio (BTMR) and Firm Age (FA)) on the dependent variable, ESG risk.

The regression model used in this study is as follows:

$$\ln ESG_{risk\ i} = \beta_0 + \beta_1 \ln ADOL_i + \beta_2 ROA_i + \beta_3 L_i + \beta_4 FS_i + \beta_5 BTMR_i + \beta_6 FA_i + \varepsilon_i$$

(1)

where ESG is ESG risk is Environmental, Social, and Governance, ADOL is the amount of directors' and officers' liability insurance, ROA is Return on Assets, L is Leverage, FS is Firm size, BTMR is Book-to-Market Ratio and FA is firm age.

Table 1

Variable description

Variable	Form	Definition
Environmental, Social, and Governance Risk	ESGrisk	ESG stands for Environmental, Social, and Governance. ESG risk refers to the potential negative impacts on a company's performance and value due to issues in these areas.
Amount Directors' and Officers' Liability Insurance	ADOL	The total coverage or value of insurance policies held by a firm.
Return on Assets	ROA	ROA is a financial metric that measures a company's ability to generate profit from its assets. It is calculated by dividing net income by average total assets.
Leverage	L	Leverage refers to the use of various financial instruments or borrowed capital to increase the potential return on investment.
Firm Size	FS	FS refers to the total assets, market capitalization, revenue, or other metrics that indicate the scale or size of a company.
Book-to-Market Ratio	BTMR	The BTMR is a financial metric that compares a company's book value (shareholders' equity) to its market value (market capitalization).
Firm Age	FA	The number of years a company has been in operation since its establishment.

The estimation technique employed in this study is Ordinary Least Squares (OLS) regression to analyze the impact of independent variables on the dependent variable. Subsequently, classical assumption tests are conducted to assess normality, multicollinearity, and heteroscedasticity within the model. The normality test evaluates whether the model's residuals follow a normal distribution, with the hypothesis tested using chi-square probability. A significance level greater than 5% ($\alpha=0.05$) indicates that the residuals are normally distributed. The multicollinearity test, using the variance inflation factor (VIF), ensures the independence among independent variables; VIF values exceeding 10 indicate multicollinearity issues. The heteroscedasticity test assesses the variance of residuals, aiming for constant (homoscedastic) residuals. A significance level above 5% ($\alpha=0.05$) indicates the presence of heteroscedasticity in the model.

5 RESULTS

Table 2 summarizes the descriptive statistics of the variables, including average values, standard deviations, and ranges. The annual Amount of Directors' and Officers' Liability Insurance (ADOL) averages MYR72,367.52, ranging from RM0 to MYR1,200,000 per year. The Environmental, Social, and Governance (ESG) score averages 2.416, with a range from 1 (high risk) to 4 (low risk). Return on Assets (ROA) averages 0.063, with a minimum of -0.188 and a maximum of 0.423. Additionally, average values for leverage (L), firm size (FS), Book-to-Market Ratio (BTMR), and firm age (FA) are 0.429, 21.317, 1.117, and 21.755, respectively.

Table 2

Descriptive statistics

Variables	Average	Standard Deviation	Minimum	Maximum
ESG risk	2.416	1.092	1	4
ADOL	MYR72367.52	MYR168603.9	MYR0	MYR1200000
ROA	0.063	0.078	-0.188	0.423
L	0.429	0.208	0.002	0.919
FS	21.317	1.744	16.770	27.512
BTMR	1.117	0.994	0.000	5.204
FA	21.755	13.567	0.000	60.000

MYR=Malaysian Ringgit

The correlation matrix in Table 3 illustrates the relationships among variables. It shows that ESG risk is significantly correlated with lnADOL, ROA, L and FS, with correlation coefficients reaching a maximum of 0.5363. According to Kennedy (2003), coefficients above 0.80 indicate potential multicollinearity among explanatory variables. However, the correlation matrix reveals weak correlations among the independent variables, confirming the absence of multicollinearity and validating their independence.

Table 3

Pearson's Correlation Matrix

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)
ESGrisk (1)	1.0000						
lnADOL (2)	0.2804*	1.0000					
ROA (3)	0.0274	-0.1841*	1.0000				
L (4)	0.2671*	0.3091*	-0.3267*	1.0000			
FS (5)	0.3926*	0.3229*	-0.2378*	0.5363*	1.0000		
BTMR (6)	-0.0791	0.0107	-0.4114*	0.1034	0.3093*	1.0000	

FA (7)	0.0389	0.0708	-0.0372	0.1809*	0.3244*	0.2473*	1.0000
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Correlation is significant at *p < 0.05 (two-tailed)

Table 4 presents the regression results, showing an R-squared value of 0.1728, indicating that 17.28% of the variance in insurance amount is explained by lnADOL, ROA, leverage, firm size, BTMR, and firm age. The normality test revealed non-normal distribution of residuals in the model, necessitating robust measures to address this non-normality in the regression analysis. Additionally, the multicollinearity test indicated that all independent variables have VIF values below 10, with an average VIF of 1.44, confirming the absence of multicollinearity issues in the model. The results of the heteroscedasticity test indicate no significant heteroscedasticity issues in the model, with a chi-square value of 31.54 and a significance of 0.2494. The model exhibits constant residual variance (homoscedasticity), meeting classical assumptions, and the residual variance remains homoscedastic at both 1% and 10% significance levels.

Tables 4 and 5 detail the relationship between the independent variables (lnADOL, ROA, Leverage, Firm Size, BTMR, and Firm Age) and the dependent variable (amount of insurance). lnADOL exhibits a significant positive effect on ESGrisk; its coefficient is positive and significant at the 5% level, indicating that as lnADOL increases, ESG performance tends to improve (ESG low risk). The purchase of D&O insurance enhances the effectiveness of independent directors in fulfilling their duties, encouraging them to perform with greater diligence and responsibility. Moreover, the extensive experience and social resources of independent directors help in reducing information asymmetry, thereby significantly enhancing the company's ESG performance.

ROA also exerts a significant positive impact on ESG with its coefficient being positive and significant at the 5% level. This suggests that higher Return on Assets (ROA) correlates with improved ESG performance. Companies with stronger financial health and greater resources are likely to invest in sustainable practices and ESG initiatives. Such firms can allocate funds to environmentally friendly technologies, social programmes, and robust corporate governance practices.

Leverage positively influences ESG, with significance at the 5% level. This indicates that higher leverage, reflecting a greater reliance on debt compared to equity, is associated with greater engagement in environmentally and socially responsible practices, as well as stronger governance measures.

However, the model reveals that firm size negatively impacts ESG; its coefficient is negative and significant at the 5% level. Larger firms tend to exhibit lower ESG performance, potentially related to complexities in organizational structure, difficulties in scaling sustainable practices, or regulatory burdens associated with larger operations.

Furthermore, this study compares sensitive and non-sensitive industries based on regression results (Table 5). For sensitive industries only lnADOL has a significant positive effect on ESG risk. In contrast, the regression for non-sensitive industries indicates that ROA, leverage, firm size, and BTMR significantly affect ESG. However, BTMR exhibits a negative coefficient and is significant at the 1% and 5% levels. ROA, leverage, and firm size all show positive coefficients and are significant at the 1% and 5% levels.

Table 4
Regression Results

ESG	Coefficient	Robust Standard Error	t-test	Significant	VIF
lnADOL	0.7189	0.2900	2.48	0.014	1.27
ROA	8.8215	4.2400	2.08	0.039	1.37
Leverage	2.8293	1.6858	1.68	0.095	1.56
Firm size	0.4966	0.2207	2.25	0.025	1.87
BTMR	-0.5039	0.3364	-1.50	0.136	1.41
Firm age	0.0007	0.0225	0.03	0.975	1.17
constant	-4.3911	4.0607	-1.08	0.281	-
Anova	F (6, 226)		7.87		
	Prob > F		0.0000		
R-squared			0.1728		
Adjusted R-squared			0.1508		

VIF=Variance Inflation Factor

Table 5
Regression Results Compare Industry

ESG	Sensitive industry (65)		Non-Sensitive industry (168)	
	Coefficient	t-test	Coefficient	t-test
lnADOL	1.7056	2.92**	0.3841	1.13
ROA	2.3176	0.29	14.8525	2.95***
Leverage	-3.1135	-0.75	3.5970	1.98**
Firm size	0.3035	0.74	0.5337	2.05**
BTMR	-0.4627	-0.79	-0.7632	-1.74*
Firm age	-0.0343	-0.90	0.0255	0.92
constant	0.4525	0.06	-4.6313	-0.98
Anova	F (6, 58/161)		3.03	8.37
	Prob > F		0.0465	0.0000
R-squared			0.1733	0.2378
Adjusted R-squared			0.0878	0.2094

Significant level: ***0.010, **0.050 and *0.10

6 DISCUSSION AND IMPLICATION

This study will examine how Directors or Officers Liability Insurance (D & O) and ESG performance are related among Malaysian listed companies. Findings show that there is a positive correlation between D&O insurance and the ESG indicators, which positively implies that D&O insurance is a shielding mechanism used by corporate leaders. The reduction of legal exposure can not only foster responsible decision-making, but also enable the adoption of sustainable practices, which D&O insurance encourages.

Moreover, D&O insurance becomes one of the key pillars of corporate governance, which will recruit talented leaders and foster a responsible management culture. Its existence is indicative of an adherence to governance practices which protect the interests of the stakeholders thus increasing the effectiveness of the entire corporate governance frameworks. The impact on the responsible decision-making is significant; D&O insurance helps leaders to think more sustainably and minimizes liability risks associated with ESG failures (Xu and Zhao, 2022). This cover enhances corporate governance by attracting effective leadership that favours the interests of the stakeholders (Tang et al., 2023).

Furthermore, D& O insurance contributes to the important role in risk management and innovation. It reduces risk-averse behavior by reducing litigation risks of directors and officers. Such perceived risk dilution encourages leaders to seek more risky and more rewarding projects such as investment in innovation and sustainable technologies (Boyer, 2014). Essentially, stakeholders are becoming more concerned with ESG in the modern business environment. Companies that have strong D&O coverages show a desire to manage risk and make decisions in line with those expectations and this increases the reputation and trustworthiness (Xu & Zhao, 2022).

D&O insurance therefore not only encourages responsible decisions, but also sustainable practices because executive leaders have minimal or no incentive to enter into risky and unethical actions since they are covered by the insurance. This move strengthens corporate governance through competent hands-on leadership that works towards protecting the stakeholder interests. In addition, D&O insurance can reduce the aversion to risk and promote innovations, which is why it is the essential step to aligning the corporate strategies with the dynamic requirements of the ethical and sustainable business practices.

7 CONCLUSION

This study provides evidence that there is a positive relationship between directors and officers (D&O) insurance and environmental, social and governance performance of the companies in the Malaysian stock market. The results show that D&O insurance facilitates corporate governance through responsible decision-making and sustainability initiatives. However, the paper also notes that there are concomitant risks such as moral hazard and complacency by managers which can undermine the long-term ESG goals.

The findings are in line with the previous empirical studies indicating that D&O insurance enhances governance by reducing anxieties about individual liability and promoting ESG activities (Xu et al. 2022; Tang et al. 2024; Yang et al. 2024). Other researchers argue that overreliance on D&O insurance can lead to opportunistic behaviour, and it is an issue that is reflected in this research (Miazad 2023). Unlike the researches carried out in the West, where regulatory rules are relatively strict, the study shows peculiarities of the Malaysian developing corporate environment in which the governance frameworks and ESG implementation systems are in their infancy.

This study thus highlights the argument that suitable policies by policymakers and corporate regulators should be developed to ensure that D&O insurance policies optimize legitimate outcome of governance and curb the negative externalities. Comprising D&O coverage should be accompanied by the well-founded internal governance in place to ensure genuine ESG commitment as opposed to mere legal compliance. When measuring the corporate sustainability performance, investors and other stakeholders should consider the dualistic impacts of D&O insurance.

Lastly, the contribution will help to extend the literature on this field because it will be empirical in exploring the two dimensions of monitoring as well as opportunistic aspects of D&O insurance regarding the ESG performance. In contrast to the antecedent studies that pay close attention to the benefits of risk-management, this study demonstrates the evidence of unintended effects of D&O insurance, especially in the context of the emerging market, as in the case of Malaysia. The analysis provides a well-rounded view behind which future interventions can be made by incorporating corporate governance and ESG scholarship.

8 LIMITATIONS

This study is limited in a number of ways despite its contribution. To begin with, the sample is restricted to 2021 financial year listed companies in FTSE4 Good Bursa Malaysia Index. This limitation limits the external validity of the results because the sample might not be representative of all publicly traded companies in Malaysia, and especially not those not in the ESG index. In the future, it can be hoped that this dataset will be extended to include a wider range of firms and across several years to bring more dynamic trends.

Second, it uses Ordinary Least Squares (OLS) regression, which, although popular, may not be the most effective in addressing the possible endogeneity problems, including reverse causality of the Directors and Officers (D&O) Liability Insurance and ESG performance. Future studies can use more stringent econometric designs, including instrumental variable regression or panel designs, to strengthen causal inference.

Third, the paper is based on the ESG risk scores of the FTSE Russell approach, which can be ineffective in revealing every aspect of corporate sustainability performance. Various ESG rating agencies apply different assessment criteria and therefore are likely to have discrepancies in their results. Future research may involve comparing between various sources of ESG rating to get a more holistic analysis.

9 RECOMMENDATIONS AND FUTURE RESEARCH

Given the findings, several recommendations can be made for policymakers, corporate leaders, and investors. First, while D&O insurance has a positive impact on ESG performance, companies should complement it with strong internal governance mechanisms to prevent moral hazard and excessive risk-taking. Regulators could consider implementing stricter disclosure requirements regarding D&O insurance coverage and its governance implications.

Second, investors should critically assess how firms utilize D&O insurance in their corporate governance framework. Transparency in insurance policies and ESG commitments can serve as indicators of a company's long-term sustainability strategy.

For future research, a longitudinal approach could provide deeper insights into the evolving relationship between D&O insurance and ESG performance over time.

Additionally, cross-country comparisons could reveal how regulatory differences influence this relationship.

Moreover, future studies could explore industry-specific effects in greater detail. While this study distinguishes between sensitive and non-sensitive industries, further research could examine how different regulatory environments impact firms' ESG engagement.

Finally, experimental or survey-based research could help assess managerial perceptions of D&O insurance and ESG responsibilities, shedding light on behavioral incentives and potential policy interventions.

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DATA AVAILABILITY

The data presented in this study are available on request from the corresponding author.

COMPETING INTERESTS

No competing interests were disclosed.

DISCLAIMER

The authors declare that the opinions and views expressed in this manuscript are free of any impact from any organization.

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Authors' Contribution

All authors contributed equally to the development of this article.

Data availability

All datasets relevant to this study's findings are fully available within the article.

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