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## ESG Impact on Firm Performance and Investment Efficiency Moderated by Board Cultural Diversity in Asean's Emerging Markets

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**Abstract:** The study examines whether ESG performance improves Firm performance and Investment Efficiency (IE). The study also explores if Board Cultural Diversity (BCD) moderates ESG-Firm Performance and ESG-IE. A panel data collection of 129 nonfinancial Asean-5 enterprises from 2018 to 2022 was used. GLS regression is used to empirically test hypotheses and analyse data. ESG affected ROA and IE but not Tobin's Q. Additionally, board cultural diversity moderated ESG-ROA interaction. In contrast, BCD cannot moderate ESG-IE relationships. The findings have implications for investors analysing corporate investment management and for stakeholders aware of ESG policies and BCD's impact on firm performance.

**Keyword:** ESG; Firm Performance; Investment Efficiency; Board Cultural Diversity

### INTRODUCTION

Agency theory explains the separation of ownership from control in large firms, where the principal and manager are different groups. This can lead to differing objectives between the two parties. The principal employs an agent to perform specific tasks, with the expectation that the agent will act in the principal's best interests. This system of delegated authority is established through contracts, which include agency costs, which include losses incurred by the principal when the agent doesn't act in their interests (Evans & Weir, 1995).

Agency theory states that boards must oversee operations for shareholders and correct executive wrongdoing. Agency theory also states that companies who actively engage in CSR and good ESG activities report this to all stakeholders (Bhatia & Marwaha, 2022; Fernandes et al., 2023). Increased board monitoring can help investors and shareholders pressure self-serving managers to act on their behalf. Stakeholder theory suggests the board should counsel management to meet stakeholder demands. Board compensation is crucial for shaping directors' behaviour, recognizing risks, and overseeing ESG (E-Vahdati et al., 2022).

Climate change and sustainability are gaining global attention, with investors valuing socially committed, environmentally friendly companies. They demand greater disclosures and transparency, requiring companies to report more about their ESG activities. This

requires strategic board direction and a focus on corporate governance mechanisms (Bhatia & Marwaha, 2022). Companies that combine sustainability policies with CEO compensation boost ESG performance and stakeholder relations, research shows. Director compensation is an agency problem between shareholders and directors, but board compensation policies can incentivize directors to integrate ESG risks and long-term value development (E-Vahdati et al., 2022).

The emerging markets context is a vibrant environment for studying the phenomenon of ESGD and the cost of debt financing for a variety of reasons. These markets are therefore likely to have a significant influence on the global outcomes of ESG practices over the following years (Martins, 2022). ASEAN member states have made progress in achieving the Sustainable Development Goals (SDGs) through social, environmental, and economic performance indicators. They achieved no poverty, improved industry, innovation, and infrastructure, and Partnership for the Goals. However, negative trends in environmental indicators persist. (Sadiq et al., 2023). ESG has played a central role in influencing the economic growth of countries, although empirical studies on ESG and financial implications for companies in emerging markets are limited (Al-Hiyari et al., 2023).

Corporate sustainability involves ethical, social, environmental, cultural, and economic dimensions of business operations. ESG measures are being more commonly utilized to assess sustainability, and their influence on financial performance is a topic of discussion. Some research indicates that ESG performance can increase a company's value by lowering costs and risks, but other studies dispute any direct financial advantages (Saha & Khan, 2024). Literature demonstrates a mixed association between ESG and corporate performance. Bissoondoyal-Bheenick et al. (2023) stated that 26% of research found no significant association, whereas 63% identified a positive one. Most research revealed a favourable correlation. Some researchers say they cannot prove a correlation, and just 6-8% identified a negative relationship.

Investment efficiency is achieved when an investment has a positive net present value, while ineffectiveness occurs when there is overinvestment or underinvestment, explained by factors like agency theory, free cash flow, and upper echelons (Bimo et al., 2022). Optimal corporate investment is essential for sustained growth. Real-world financial obstacles such as knowledge asymmetry and agency issues can cause deviations from ideal conditions. Transparent ESG information disclosure decreases information imbalance and decreases company finance expenses, drawing in more investors and creating more funding possibilities (Lian & Weng, 2024). Agency theory argues moral hazard and adverse selection owing to agency conflicts and information asymmetry can cause wasteful investments. Management may use this information asymmetry to benefit themselves over shareholders, resulting in opportunistic conduct. Business uncertainty from competition and internal targets can induce moral hazard and unproductive spending (Suman & Singh, 2021).

Boards of directors are the main drivers of corporate governance, responsible for establishing the company's strategic direction and shaping its environmental stewardship and sustainability practices. Boards of directors have a crucial impact on the extent of ESG reporting (Almaqtari et al., 2024). Tao et al. (2022) highlight the crucial role of the board of directors in business strategy and outcomes, with their traits having a substantial influence on ESG disclosure. Prior research has concentrated on firm-specific attributes while overlooking the makeup, configuration, and variety of the board. Eccles et al. (2020) contend that a lack of diversity impedes sustainability reporting and performance.

Stakeholder Theory proposes that ESG practices impact firm governance on ethical and moral behaviour, and their effect on ESG leads to enhanced company worth. Effective ESG practices encompass financial performance, competitiveness, and stakeholder relationships. The correlation between ESG practices and firm economic performance is frequently

discussed and contentious (Al-Hiyari et al., 2023; Benlemlih & Bitar, 2018; Hichri & Ltifi, 2021). Research on the impact of ESG on company performance in the ASEAN region is promising. Studies by Rahman et al. (2023) and Al-Hiyari et al. (2023) provide valuable insights. Rahman's work highlights direct ESG influence on financial performance, while Al-Hiyari's study emphasizes the moderation effect of board cultural diversity. Investigating this link fills a gap in previous research, offering guidance for stakeholders in developing countries aiming for efficient investment and resource conservation. The study investigates how ESG affects firm performance and corporate investment efficiency, and whether the Cultural Diversity Board can moderate this impact. The research aims to improve operational and financial performance of companies by identifying areas for ESG practices, understanding the impact of cultural diversity in board of directors, and guiding regulatory policies. It also provides a basis for further research in ESG and investment efficiency, particularly in Asean emerging markets, and the concept of cultural diversity in moderation, enhancing its influence in a broader context.

The rest of the paper is structured as outlined below. Section 2 provides a concise literature overview. Section 3 covers the data and modelling framework, while section 4 examines the results and the economic pathways linking ESG, business performance, and investment efficiency with Board Cultural Diversity as a moderator. Section 5 wraps up the paper.

## METHOD

This section provides an explanation of the sample data, followed by a description of the variables and methodology. We employ six panel data models to test each hypothesis. This study employs a quantitative methodology to examine the influence of ESG data on firms that are publicly traded in the ASEAN-5 stock market, comprising Indonesia, Malaysia, the Philippines, Singapore, and Thailand, during the period from 2018 to 2022. Financial sector companies are exempted due to their distinct regulatory environment, as well as the exclusion of companies with inadequate financial data or corporate governance to undergo testing (Al-Hiyari et al., 2023). Data is gathered using panel data regression and hypotheses are examined to achieve a more comprehensive comprehension. Each year, there were 129 observations, giving in a total of 645 observations. Table 1 provides a comprehensive overview of the sampling procedure. The secondary data, including ESG Score, Board Culture Diversity, and financial data, are sourced from Refinitiv-Eikon and company profiles found in their annual reports and official websites, which has been widely utilized in numerous research studies (Eliwa et al., 2021; Samet & Jarboui, 2017). The frequency is set to annual in order to prioritize the analysis of the entire operational cycle and minimize the intricacies associated with examining quarterly data utilization. The reports that are not present or not accessible are obtained by downloading them from the IDX website. The data for all variables, such as ESG, ROA, Tobin's Q, IE, size, age, and leverage, is obtained by content analysis of downloaded reports. Content analysis is a commonly used and well-accepted method for collecting data in the fields of corporate governance and sustainability disclosures (Rahman et al., 2023).

**Table 1. Sample Selection Process**

Description	Total number of companies				
	Indonesia	Malaysia	Filipina	Singapore	Thailand
ASEAN-5 companies that went public from 2018 to 2022 (excluding financial sector companies)	767	955	226	566	811
Companies having	737	934	205	538	782

insufficient data in Refinitiv (Financial Data or Corporate Governance)					
Total	30	21	21	28	29
<b>Final Sample</b>	<b>129</b>				

**Research Model**

**Regression Models.** The study employed panel-data methods to conduct econometric testing of hypotheses, which provided several advantages including a higher number of data points, increased degrees of freedom, reduced collinearity, and more informative data. This approach also addressed the issue of unobserved or omitted variables (Hsiao, 2003). The research process includes classical assumption test, panel data regression analysis (model selection), and hypothesis testing. Classical assumptions are employed to comprehend the relationships between variables, yielding findings that are the Best Linear Unbiased Estimator (BLUE). The classical assumptions encompass multicollinearity, autocorrelation, and heteroskedasticity. Multicollinearity checks for correlations between variables using VIF and specific criteria. Autocorrelation identifies correlations across successive time periods in a dataset, hence eliminating any bias or inefficiencies caused by serial reliance. Heteroskedasticity is a statistical concept that assesses whether a regression model is consistent across all observations. This is done by use the Glesjer test (Ghazali, 2009; Wooldridge, 2002).

Data panel analysis employs Hausman test to ascertain the superior approach between fixed effects and random effects for the analysis of panel data. Hypothesis testing assesses many regression models to identify the true values. The coefficient of determination ( $R^2$ ) quantifies the extent to which independent variables explain the variation in dependent variables, while the F-value evaluates whether all independent variables have an equal impact on the dependent variable. The value of t is utilized to ascertain the individual impact of independent factors on dependent variables, with a significance level of p-value less than 0.05 (Ghazali, 2009; Naeem & Li, 2019).

In order to evaluate the influence of ESG performance practices on firm performances (H1a) and (H1b), we constructed the following panel data models for estimation:

$$ROA_{i,t+1} = \beta_0 + \beta_1 ESG_{it} + \beta_2 FRSIZE_{it} + \beta_3 FRAGE_{it} + \beta_4 FRLEVG_{it} + \beta_5 GDP_{jt} + \beta_6 INFLATION_{jt} + \beta_7 INDUSTRY_{it} + \beta_8 YEAR_{it} + \epsilon_{it}$$

1) .....(Model 1)

$$TBQ_{it} = \beta_0 + \beta_1 ESG_{it} + \beta_2 FRSIZE_{it} + \beta_3 FRAGE_{it} + \beta_4 FRLEVG_{it} + \beta_5 GDP_{jt} + \beta_6 INFLATION_{jt} + \beta_7 INDUSTRY_{it} + \beta_8 YEAR_{it} + \epsilon_{it}$$

2) .....(Model 2)

Subsequently, In order to evaluate the influence of ESG performance practices on a firm's IE (H1c), we do panel regression analysis using the following estimation method:

$$InvEff_{it} = \beta_0 + \beta_1 ESG_{it} + \beta_2 TANGIBILITY_{it} + \beta_3 SLACK_{it} + \beta_4 MBV_{it} + \beta_5 ZSCORE_{it} + \beta_6 CFO SALES_{it} + \beta_7 SDSALE_{it} + \beta_8 SDCFO_{it} + \beta_9 FRLEVG_{it} + \beta_{10} FRAGE_{it} + \beta_{11} FRSIZE_{it} + \beta_{12} LOSS_{it} + \beta_{13} DIV_{it} + \beta_{14} GDP_{jt} + \beta_{15} INFLATION_{jt} + \beta_{16} INDUSTRY_{it} + \beta_{17} YEAR_{it} + \epsilon_{it}$$

3) .....(Model 3)

In hypotheses H2a, H2b, and H2c, we propose that the diversity of cultures within a board of directors influences the connection between ESG performance practices to both firm performance and investment efficiency. To test hypotheses H2a, H2b, and H2c, we incorporate an interaction term between ESG and CULTURE and proceed to estimate the regression model as follows:

$$ROA_{i,t+1} = \beta_0 + \beta_1 ESG_{it} + \beta_2 CULTURE_{it} + \beta_3 ESG_{it} * CULTURE_{it} + \beta_4 FRSIZE_{it} + \beta_5 FRAGE_{it} + \beta_6 FRLEVG_{it} + \beta_7 GDP_{jt} + \beta_8 INFLATION_{jt} + \beta_9 INDUSTRY_{it} + \beta_{10} YEAR_{it} + \epsilon_{it}$$

....(Model 4)

$$TBQ_{it} = \beta_0 + \beta_1 ESG_{it} + \beta_2 CULTURE_{it} + \beta_3 ESG_{it} * CULTURE_{it} + \beta_4 FRSIZE_{it} + \beta_5 FRAGE_{it} + \beta_6 FRLEVG_{it} + \beta_7 GDP_{jt} + \beta_8 INFLATION_{jt} + \beta_9 INDUSTRY_{it} + \beta_{10} YEAR_{it} + \epsilon_{it}$$

....(Model 5)

$$InvEff_{it} = \beta_0 + \beta_1 ESG_{it} + \beta_2 CULTURE_{it} + \beta_3 ESG_{it} * CULTURE_{it} + \beta_4 TANGIBILITY_{it} + \beta_5 SLACK_{it} + \beta_6 MBV_{it} + \beta_7 ZSCORE_{it} + \beta_8 CFOSALES_{it} + \beta_9 SDSALE_{it} + \beta_{10} SDCFO_{it} + \beta_{11} FRLEVG_{it} + \beta_{12} FRAGE_{it} + \beta_{13} FRSIZE_{it} + \beta_{14} LOSS_{it} + \beta_{15} DIV_{it} + \beta_{16} GDP_{jt} + \beta_{17} INFLATION_{jt} + \beta_{18} INDUSTRY_{it} + \beta_{19} YEAR_{it} + \epsilon_{it}$$

.....(Model 6)

A positive (negative) and statistically significant  $\beta_3$  indicates that the presence of diverse cultural backgrounds in the board of directors influences the connection between ESG performance practices, firm performance, and investment efficiency.

In line with Biddle et al. (2009) and Chen et al. (2011), we include some control variables to account for potential confounding factors that could influence our empirical results. The control variables in our study include firm size (LNSIZE), leverage (LEV), age (LNAGE), operating cash flow to sales (CFOSALES), market-to-book ratio (MBV), proportion of tangible assets (TANG), financial slack (SLACK), bankruptcy risk (Z-score), standard deviation of sales (SDSALES), standard deviation of the cash flow from operations (SDCFO), frequency of losses (LOSS), dividend payout ratio (DIV) and country, industry, and year-fixed effects. The research data used consists of panel data from many countries and for a specific time period. Therefore, the researcher considers Macroeconomic Characteristics (in addition to Firm-Specific Factors) as control variables. The chosen period spans from 2018 to 2022, during which the global pandemic significantly impacted the GDP of each country. Therefore, in this study, Year-fixed effect (Pandemic Period) is also taken into consideration as a control variable. Table 2 provides a more comprehensive overview of the measurement of control variables utilized in this paper.

**Table 2 The Control Variables Used In The Study**

No	Variable	Measurement
<i>Firm-Specific Factor</i>		
1	Tangibility	Property, land, and equipment as a percentage of total assets (Chen et al., 2011). Used for Model 4 and 7.
2	Slack	The proportion of cash in relation to the overall value of assets (Chen et al., 2011). Used for Model 4 and Model 7.



3	MBV	The market capitalization adjusted for equity book value (Biddle et al., 2009). Used for Model 4 and 7
4	ZSCORE	The measure of financial distress is calculated as in Altman (1968) (Biddle et al., 2009) Used for Model 4 and 7
5	CFOSALES	The cash flow from operating activities is divided by net sales (Biddle et al., 2009). Used for Model 4 and 7
6	SDSALE	The standard deviation of sales, adjusted for total assets from t - 1 to t (Gomariz & Ballesta, 2014). Used for Model 4 and 7.
7	SDCFO	The standard deviation of cash flow from operational activities normalized by total assets from t - 2 to t (Gomariz & Ballesta, 2014). Used for Model 4 and 7.
8	LEVERAGE	The entire liabilities divided by the total assets (Benlemlih & Bitar, 2018). Applies for Model 2 through 7.
9	LNAGE	The logarithm of the age of the company (Benlemlih & Bitar, 2018) Applies to Model 2 through 7.
10	SIZE	The logarithm of the total asset (Benlemlih & Bitar, 2018) Applies to Model 2 through 7.
11	LOSS	A dichotomous variable that is coded as one if a company reports a loss (Biddle et al., 2009). Used for Model 4 and 7
12	DIV	A dichotomous variable is coded as one if a company pays dividends (Biddle et al., 2009). Used for Model 4 and 7
<b>Macroeconomic Characteristic</b>		
1	Country-fixed effects (GDP)	Gross Domestic Product (GDP) refers to the economic growth rate of a country (Chairani & Siregar, 2021; Kwintana & Hanggraeni, 2023). Applies to Model 2 through 7.
2	Country-fixed effects (INFLATION)	The average annual inflation rate of a country (percentage) (Chairani & Siregar, 2021; Kwintana & Hanggraeni, 2023). Applies to Model 2 through 7.
3	Year-fixed effect	The COVID-19 pandemic period in Asean is assigned a value of 0 for the years 2017-2019 and a value of 1 for the years 2020-2022 (Manik & Siregar, 2023). Applies to Models 2 through 7.
4	Industry-specific effects	The components of assessment for sensitive and non-sensitive industry categories. The measurement system is as follows:  Has a value of 1 if the industry belongs to the sensitive category (oil and gas companies, mining, producers of chemical goods, manufacturing companies that generate waste and pollution, steel or metal industries). Has a value of 0 if the industry is classified as non-sensitive (Chairani & Siregar, 2021; Garcia et al., 2017). Applies to Model 2 through 7

## RESULTS AND DISCUSSION

### Descriptive Statistic Analysis

The statistical summary for each variable is presented in Table 3. Table 3 clearly demonstrates that The average ESG (score is 55.94 out of a total of 100 subitems used for content analysis. This indicates that the ESG practices in the examined sample are in line with the established standards (score of 100). The standard deviation of the ESG scores is 17.59, which is lower than the average. This indicates that there is not a significant variation in ESG scores among companies in the ASEAN-5 countries over the research period. The reported results for ESG performance appear to be lower compared to the study conducted by Eliwa et al. (2021), which documented an average (median) value of 66% in European countries for the period 2005-2016. However, these findings are consistent with the research

conducted by Al-Hiyari et al. in (2023), which recorded an average value of 55.44, with samples from emerging markets worldwide for the period of 2011-2019.

**Table 3. Descriptive statistics result**

Variable	Min. Value	Max. Value	Mean	Std. Dev.
ESG	10,59	91,81	55,94	17,59177
ROA <sub>t+1</sub>	-16,95	55,734	5,3744	6,3246
TOBINS'Q	0,410341	19,92052	1,911953	2,197837
IE	0,063	1	0,754233	0,243495
CULTURE	0	100	10,13054	17,79882
TANGIBILITY	0,000474	2,236252	0,290224	0,301539
SLACK	-0,214241	0,448085	0,06235	0,065558
MBV	363,0453	607,3988	3,885759	29,75767
ZSCORE	-0,018409	3,654736	0,635646	0,551492
CFOSALES	-1,911441	435,5247	1,018539	17,22466
SDSALES	0,001112	0,531886	0,071658	0,084614
SDCFO	0,002473	0,243384	0,022525	0,028006
LEV	0,091071	0,953394	0,516873	0,181816
LNAGE	0,693147	5,313206	3,635603	0,702109
SIZE	19,06726	25,31524	22,34164	1,186089
DIV	0	1	0,913178	0,281792
GDP	-9,518295	8,882354	2,621823	4,431846
INFLATION	-1,138702	6,12106	2,269035	2,033289
YEAR	0	1	0,6	0,490278
INDUSTRY	0	1	0,623256	0,484946

Regarding the moderating variable, which is the cultural diversity of the board of directors (CULTURE), the average is 10.13%, indicating that 10.13% of the directors in our sample company come from cultural backgrounds different from the region where the company's headquarters are located. This number is lower than the average cultural diversity of the board of directors reported by Al-Hiyari et al. (2023) in Emerging Market countries.

The average for the dependent variable ROA<sub>t+1</sub> is 5.37%. Hargrave (2023) states that a desirable ROA should exceed 5%. However, it is recommended to compare ROA values within the same industry. The ROA<sub>t+1</sub> has a larger standard deviation of 6.32%, suggesting a substantial level of diversity among enterprises. Regarding Tobin's Q, the average value is 1.91, indicating that most enterprises have a market worth that is higher than their reported assets (>1). The standard deviation of Tobin's Q is 2.19, which is greater than the mean, indicating significant variability among enterprises. For variable dependent on investment efficiency, results vary among company samples. The minimum value is 0.063 and the maximum is 1. The average investment efficiency is 0.75, with a standard deviation of 0.24, indicating significant variation amongst companies. As for the control variables, Because the results are consistent with previous research (Benlemlih & Bitar (2018; Biddle et al., 2009; F. Chen et al., 2011; Cook et al., 2019; Gomariz & Ballesta, 2014), these control variables' values seem to be reasonable.

The Multicollinearity Test coefficients and variance inflation factors (VIFs) for the regression analysis variables are examined to determine the predictor variables' multicollinearity potential. Each variable's VIF scores are shown in Table 4. VIF scores are far below the critical value of 10 (Ghazali, 2009). Multicollinearity does not degrade our regression analyses. Table 4 demonstrates that the Breusch-Godfrey method applied to the ROA, TOBINS, and IE models reveals no issues of autocorrelation. The heteroscedasticity test is used by researchers to assess whether the residuals exhibit non-uniform variance,

which might potentially impact the analysis results and the goodness-of-fit of the regression model to the data. The Glejser heteroscedasticity test confirms that the residuals do not exhibit heteroscedasticity.

**Table 4. Classical Assumption Test Result**

<i>Multicollinearity Test</i>						
Variable	ROA <sub>t+1</sub>		TOBIN'S Q		IE	
	VIF		VIF		VIF	
ESG	0.207287		0.017374		0.042118	
CULTURE	0.018382		-0.023160		0.127470	
TANGIBILITY	0.022691		-0.122209		0.134747	
SLACK	0.214500		-0.073626		-0.080191	
MBV	0.213521		0.841027		-0.061103	
ZSCORE	0.377527		0.420762		-0.025814	
CFSALES	-0.069580		-0.057185		0.096096	
SDSALES	-0.010856		-0.002828		-0.123906	
SDCFO	0.073292		-0.095170		-0.118255	
LEV	-0.371925		-0.349491		0.016602	
LNAGE	0.180158		0.153252		-0.108997	
SIZE	-0.335226		-0.382638		-0.012919	
DIV	0.303049		0.115365		-0.058491	
GDP	-0.026387		0.005162		0.008906	
INFLATION	0.133097		0.050499		-0.013268	
YEAR	-0.039584		0.194296		0.012255	
INDUSTRY	-0.135762		0.003714		-0.009127	

  

<i>Autocorrelation Test</i>			
	ROA <sub>t+1</sub>	TOBIN'S Q	IE
<b>Sig Breusch-Godfrey</b>	0.1375	0.0689	0.6222

  

<i>Heteroskedasticity Test</i>			
	ROA <sub>t+1</sub>	TOBIN'S Q	IE
<b>Sig Glejser</b>	0.1531	0.5346	0.7941

**Regression Estimation Results**

Based on the results of the model selection using the Chow test and Hausman test, it was found that the random effect was used for all three dependent variables. Therefore, the estimation model used is the Generalized Least Squares (GLS) estimation. According to Rizki (2011), the random effect model in panel data is suitable for using Generalized Least Squares (GLS). In addition, it also states that GLS can address the issue of heteroscedasticity commonly encountered in cross-sectional data. The results of the GLS estimation are displayed in Table 5. The R-Squared values indicate that the regression model can account for 48.56%, 70.75%, and 15.15% of the variance in the relationship between the independent and dependent variables.

**Table 5. Panel Regression Results Using Generalized Least Squares (GLS) Method**

Variable	ROA <sub>t+1</sub> (Model 2)		TOBIN'S Q (Model 3)		IE (Model 4)	
	Coeff.	p-value	Coeff.	p-value	Coeff.	p-value
C	0.499263	0.0000	19.47019	0.0000	1.277504	0.0803
<i>Independent Variable</i>						
ESG	2.23E-06	0.0002*	-1.09E-05	0.8507	1.51E-05	0.0213*



<i>Control Variable – Firm Specific Factor</i>						
LEV	-0.019108	0.2811	-0.039394	0.9444	-0.120578	0.3304
LNAGE	0.012408	0.0222	0.295314	0.1637	-0.078244	0.0029
SIZE	-0.022048	0.0000	-0.843883	0.0000	-0.006544	0.8662
TANGIBILITY					0.061619	0.2692
SLACK					-0.850992	0.0899
MBV					-0.011063	0.0524
ZSCORE					0.048241	0.2034
CFOSALES					0.000218	0.6083
SDSALES					-0.282088	0.1637
SDCFO					-0.706535	0.3150
DIV					-0.029635	0.7249
<i>Control Variable - Macroeconomic Characteristic</i>						
GDP					<i>Controlled</i>	
INFLATION					<i>Controlled</i>	
YEAR					<i>Controlled</i>	
INDUSTRY					<i>Controlled</i>	
<b>R-Squared (%)</b>	<b>48.56</b>				<b>70.76</b>	<b>15.16</b>
<b>Sample Period</b>					<b>2018-2022</b>	
<b>N</b>					<b>645</b>	

Based on the results of hypothesis testing in table 5, it can be inferred that the ESG practices has a considerable influence on  $ROA_{t+1}$ , hence supporting hypotheses H1a and of the study. This finding is consistent with the study conducted by Rahman et al. (2023), which concluded that ESG, as a whole, has an influence on financial success, as measured by ROA. The study was carried out on 255 nonfinancial firms that were publicly traded on stock markets in developing nations, including Pakistan, from 2016 to 2020. This outcome can also be elucidated by legitimacy theory. According to the theory of legitimacy, complete disclosure of ESG will elicit a positive response from shareholders, resulting in an increase in stock prices and the company's ROA in the following year. The findings regarding Tobin's Q differ from those obtained by Rahman et al (2023). Tobin's Q is influenced by shareholder attitudes, and it has been found that ESG dimensions do not have a significant impact, Therefore, hypothesis H1b is rejected.

This result can also be explained by the phenomenon of greenwashing. The research conducted by Naeem et al. (2022) can elucidate the absence of this influence. According to that, a significant positive influence was found between ESG scores and Tobin's Q in companies that are sensitive to environmental aspects and more prominent in countries with advanced markets. This is due to the cultural norms in countries with advanced markets that place a higher value on a company's ESG contributions (Naeem et al., 2022). Asean-5 countries are considered emerging markets, where shareholders may not yet be able to provide adequate appreciation for the contribution of ESG practices compared to countries with advanced markets, or where greenwashing practices can be better regulated. Furthermore, to test the relationship between ESG performance practices and corporate IE, the results show a significant impact, therefore aligning with Hypothesis H1c. The findings suggest that companies with strong ESG performance are likely to achieve optimal investment levels, make efficient use of capital flows, have improved financial capacities, higher profitability, and more development potential (Cook et al., 2019; Ellili, 2022b). These firms typically have less issues with conflicts of interest, limited restrictions on financial activities, improved clarity and quality of information, which ultimately leads to better decision-making on the allocation of resources (Samet & Jarboui, 2017). Therefore,

companies that have higher ESG performance scores tend to make more efficient investments, as supported by prior research conducted by Benlemlih & Bitar (2018), Cook et al. (2019), Ellili (2022b), and Samet & Jarboui (2017).

### Moderating Variable Regression Results

Next, a moderation analysis is conducted to examine the influence of the ESG variable on each dependent variable. The regression analysis for each moderating variable can be shown in Table 6. Regarding ROA, research has discovered that having a diverse board culture enhances the association between ESG and ROA in the following period (ROA<sub>t+1</sub>). This is evident from the higher adjusted R-square observed under moderated conditions. This study aligns with the outcome provided by Issa et al. (2021), which shown that a larger composition of culturally diverse backgrounds among board members is associated with an improvement in ESG performance within companies. The inclusion of foreign directors in corporate boards is associated with improved company performance. The variable H2b has a probability value of 0.7757 for the dependent variable Tobin's Q, which exceeds the significance level of 0.05 (5%). Thus, it may be inferred that the moderating effect of H2b on the effects of ESG on Tobin's Q is not significant. In line with the findings of Model 3, which indicate a rejection of H1b, it is observed that ESG does not have an impact on the Tobins Q of the company.

**Table 6. Results of Moderating Variable Influence Testing**

Variable	ROA <sub>t+1</sub> (Model 5)		TOBIN'S Q (Model 6)		IE (Model 7)	
	Coeff.	p-value	Coeff.	p-value	Coeff.	p-value
C	0.479588	0.0000	19.48793	0.0000	0.296310	0.0188
<i>Independent Variable</i>						
ESG	1.70E-06	0.0016	-1.39E-05	0.8288	-4.03E-06	0.0555
<i>Moderating Variable</i>						
CULTURE	-0.000906	0.0551	-0.009715	0.4542	-0.000249	0.5913
ESG*CULTURE	<b>2.04E-07</b>	<b>0.0159</b>	6.58E-07	0.7757	9.24E-08	0.2694
<i>Control Variable – Firm Specific Factor</i>						
LEV	-0.020757	0.2332	-0.024951	0.9647	-0.044415	0.0748
LNAGE	0.012948	0.0146	0.310832	0.1415	0.007963	0.4762
SIZE	-0.020804	0.0000	-0.844488	0.0000	-0.013573	0.0273
TANGIBILITY					0.012939	0.1044
SLACK					0.033481	0.6178
MBV					0.003122	0.0125
ZSCORE					0.019552	0.1119
CFOSALES					1.81E-05	0.5278
SDSALES					-0.058154	0.1469
SDCFO					-0.068351	0.3231
DIV					0.037040	0.0000
<i>Control Variable - Macroeconomic Characteristic</i>						
GDP					<i>Controlled</i>	
INFLATION					<i>Controlled</i>	
YEAR					<i>Controlled</i>	
INDUSTRY					<i>Controlled</i>	
<b>R-Squared (%)</b>	<b>50.99</b>		<b>66.74</b>		<b>9.24</b>	
<b>Sample Period</b>			<b>2018-2022</b>			
<b>N</b>			<b>645</b>			

In Model (7), we analyse how board cultural diversity influences the connection between ESG and IE. The results are not compatible with H2c, as the moderating effect of BCD on the relationship between ESG-IE is not significant (P-value: 0.2694, which is more than the significance level of 0.05). Therefore, H2c is not supported. The presence of cultural diversity on the board does not affect the relationship between ESG performance and IE. This suggests that ESG performance is more influential in promoting IE when corporate boards do not have a higher number of foreign directors.

## CONCLUSION

This study aims to objectively investigate the influence of ESG factors on the financial performance and investment efficiency of 129 nonfinancial businesses listed on the Asean-5 Market from 2018 to 2022. Furthermore, this study seeks to investigate the moderating impact of board cultural diversity on the aforementioned relationship. The ESG Score, Board Culture Diversity, and financial data are obtained from Refinitiv-Eikon and company profiles available in their annual reports and official websites.. The results showed that ESG practices significantly influence  $ROA_{t+1}$ , supporting hypotheses H1a. The study also found that ESG dimensions do not significantly impact Tobin's Q, which is influenced by shareholder attitudes. This could be due to the phenomenon of greenwashing, which is more prevalent in countries with advanced markets. The relationship between ESG performance practices and corporate IE was found to have a significant impact, aligning with Hypothesis H1c. Companies with strong ESG performance are likely to achieve optimal investment levels, make efficient use of capital flows, improve financial capacities, higher profitability, and more development potential. This is supported by prior research. A moderation analysis was conducted to examine the influence of the ESG variable on each dependent variable. The results showed that having a diverse board culture enhances the association between ESG and ROA in the following period. However, the moderating effect of board cultural diversity on the relationship between ESG and IE was not significant. The presence of cultural diversity on the board did not affect the relationship between ESG performance and IE, suggesting that ESG performance is more influential in promoting IE when corporate boards do not have a higher number of foreign directors.

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