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ESG Performance, Controversies, and Market Capitalization in Southeast Asia: The Moderating Effects of Regulatory Quality

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ABSTRACT

Purpose: The study examines the influence of Environmental, Social, and Governance (ESG) performance and ESG controversies on market capitalization and explore the potential moderating role of regulatory quality among publicly listed companies in Southeast Asia.

Methods/Study design/Approach: Using a quantitative approach and Fixed Effects Model with robust standard errors, this study analyzes unbalanced panel data of 771 companies across seven Southeast Asian countries (2015–2025) sourced from Refinitiv Eikon and the World Bank. Data were analyzed using panel data regression and Moderated Regression Analysis (MRA) with the Fixed Effects Model.

Result/Findings: Our findings reveal that ESG performance positively affects market capitalization. Intriguingly, Baseline estimations show that ESG controversies (where lower scores indicate higher controversy) positively influence market capitalization, suggesting that emerging markets in Southeast Asia may prioritize financial return or media visibility over ESG-related controversy risks. However, regulatory quality strengthens the positive valuation of high ESG performance while serving as a crucial institutional boundary condition that dampens this anomalous market valuation of controversial firms.

Novelty/Originality/Value: Moving beyond previous studies focusing on national culture or takeover vulnerability, our study becomes one of the earliest studies that introduces a comprehensive institutional framework by simultaneously examining ESG performance, controversies, and the conditional buffering mechanism of country-level regulatory quality.

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INTRODUCTION

Attention towards corporate sustainability practices is growing in tandem with increasing global awareness of Environmental, Social, and Governance (ESG) issues. Extreme weather events, rising sea levels, and ecological degradation directly threaten human and economic systems (Tita et al., 2025). Consequently, governments and international organizations are advocating for a fundamental shift toward sustainable development (Prabhakar, 2025). In particular, the United Nations' Sustainable Development Goals (SDGs) emphasize environmental protection. Achieving these goals requires collective efforts from governments, society, and, most importantly, corporations (Abudy et al., 2023). With increasing public attention and regulations regarding climate risks and sustainability, corporate ESG performance has become

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a key consideration for investors in assessing long-term value creation in the capital markets (Tang & Yang, 2024).

Companies are no longer merely expected to generate financial profits; they are also expected to consider the impact of their business activities on various stakeholders (Boukattaya et al., 2022; Boulhaga et al., 2023; Busch & Schnippering, 2022; Listyawati et al., 2025). The ESG concept evolved from the practices of Corporate Social Responsibility (CSR) and Socially Responsible Investment (SRI), which began to gain attention in the financial literature as early as the 1970s, although significant developments in research on the relationship between CSR or ESG and corporate performance did not occur until the early 21st century (Friede et al., 2015; Kitzmüller & Shimshack, 2012).

As ESG integration into corporate strategies increases, sustainability practices are no longer viewed merely as voluntary commitments but have become an integral part of companies' efforts to achieve operational excellence and build strong relationships with stakeholders (Aguilera et al., 2007; Becker-Olsen et al., 2006; Rahi et al., 2024; Roberts et al., 2021). Various empirical studies indicate that the implementation of sound ESG practices can enhance corporate innovation, corporate reputation, and long-term financial performance (Ghouri et al., 2019; Inigo & Albareda, 2019; Listyawati et al., 2025). However, the reality of business practices shows that not all companies are able to maintain consistency between their sustainability commitments and their operational actions. In many cases, companies actually face ESG controversies—various events or scandals indicating violations of sustainability principles and business ethics (Li et al., 2019). Such controversies may include environmental pollution, labor rights violations, corrupt practices, or failures in corporate governance. Such incidents can have serious impacts on a company's reputation and ultimately affect its financial condition (Janney & Gove, 2011; Walsh et al., 2009). ESG controversies also reflect significant operational and reputational risks, which have the potential to reduce a company's market value (Lange & Washburn, 2012). Nevertheless, in some cases, these controversies can also present opportunities for companies to engage in organizational learning and strengthen relationships with stakeholders (Hart et al., 2003).

Southeast Asia provides an important context for examining the value relevance of Environmental, Social, and Governance (ESG) information due to its growing economic significance and unique sustainability challenges. By the end of 2021, Asian stock exchanges accounted for approximately 56% of all publicly listed companies worldwide (OECD, 2023), while Southeast Asia has become one of the fastest-growing regions in the global economy (IMF, 2024). At the same time, the region remains highly vulnerable to climate change, accounting for nearly 46% of global climate-related disasters between 2015 and 2023 (CRED, 2025), thereby increasing pressure on corporations to strengthen ESG practices and sustainability disclosure. Consequently, corporate sustainability reporting has expanded substantially, with reporting rates increasing from approximately 50% to 92% (KPMG International, 2024) and more than 600 ASEAN-listed companies disclosing sustainability information (OECD, 2023). However, despite this remarkable improvement in ESG transparency, sustainable investment still represents only 4.2% of total managed assets in the region, substantially lower than in Europe and Canada (Global Sustainable Investment Alliance, 2017). This discrepancy suggests that greater ESG disclosure has not necessarily translated into stronger investor confidence, raising an important question regarding whether capital markets in Southeast Asia genuinely value ESG information or instead remain skeptical due to concerns over information asymmetry and potential greenwashing (Lee & Raschke, 2023).

This issue is further complicated by the coexistence of positive and negative sustainability signals. While high ESG performance reflects a firm's commitment to sustainable business practices, ESG controversies reveal environmental, social, or governance failures that may undermine corporate legitimacy and stakeholder trust. Investors are therefore confronted with conflicting information when assessing firm value, yet prior studies have largely examined ESG performance and ESG controversies separately. Moreover, existing evidence has predominantly focused on developed markets and paid limited attention to the institutional characteristics of emerging economies. Studies have investigated individual determinants, such as national culture (Syahputri et al., 2025), takeover vulnerability (Treepongkaruna et al., 2024), and the direct effects of ESG factors on firm value (Brighi et al., 2025), while overlooking how institutional environments influence investors' interpretation of ESG information. Given the substantial variation in regulatory quality across Southeast Asian countries, the credibility and value relevance of ESG information may differ considerably depending on the effectiveness of regulatory oversight.

Accordingly, this study addresses these empirical and theoretical gaps by simultaneously examining the effects of ESG performance and ESG controversies on market capitalization while incorporating regulatory quality as a moderating variable. Market capitalization reflects investors' collective assessment of a firm's future prospects, growth opportunities, and risk profile, making it one of the most relevant indicators of how financial markets value corporate information (Minh & Nguyen, 2024; Nam et al., 2024). Unlike previous studies that primarily focus on firm-level ESG characteristics, this study argues that regulatory quality functions as an institutional boundary condition that shapes investors' responses to sustainability information by enhancing or weakening its credibility. By integrating firm-level ESG signals with country-

level institutional quality, this study provides a more comprehensive explanation of how sustainability information is incorporated into market valuation in emerging markets and offers important implications for investors, corporate managers, and policymakers seeking to strengthen sustainable capital market development in Southeast Asia.

This study is grounded in legitimacy theory. The theory explains that companies strive to ensure their operational activities align with the values, norms, and expectations prevailing in society in order to gain social legitimacy and sustain their business operations. Legitimacy itself is social recognition of a company's authority and actions based on their alignment with the norms and values prevailing in society (Chauvey et al., 2015; Hummel & Schlick, 2016; Lee & Raschke, 2023; Suchman, 1995). Without legitimacy, companies may face various difficulties in maintaining relationships with customers, employees, the government, and the broader public. Therefore, companies need to consistently maintain and enhance their legitimacy through transparency, accountability, and compliance with applicable regulations. The relationship between ESG practices and market capitalization can be explained through the lens of Legitimacy Theory. To obtain and maintain this legitimacy, companies strive to demonstrate their commitment to sustainability through various sustainability initiatives and information disclosure. This serves as a crucial means for companies to gain social acceptance from stakeholders and strengthen their reputation in the market (Baldini et al., 2016). As public awareness of environmental and social issues grows, corporate engagement in ESG practices has become an increasingly important legitimization strategy in the modern business world (Deegan, 2002; Drempetic et al., 2019; Hummel & Schlick, 2016; Lee & Raschke, 2023).

ESG performance serves as a proactive signaling mechanism towards legitimacy. Strong ESG performance reflects that a company focuses not only on achieving economic profits but also on the impact of its operations on the environment and society. Effective ESG practices can also enhance a company's social legitimacy, which ultimately contributes to improved financial performance (Lee & Raschke, 2023). Furthermore, the integration of ESG factors has been shown to improve a company's financial performance, particularly in companies with relatively weak governance structures, thereby demonstrating that the legitimacy gained through ESG practices provides economic benefits to the company (Kim & Li, 2021). On the contrary, ESG controversies can threaten a company's legitimacy because they reflect violations of social norms, ethics, or applicable regulations, such as cases of environmental pollution, labor rights violations, or non-transparent governance practices (Elamer & Boulhaga, 2024; Seow & Ellili, 2026). Such controversies can provoke negative reactions from the public, regulators, and investors, potentially damaging the company's reputation. When a company's legitimacy is compromised, it tends to face pressure from various stakeholders to improve its business practices. ESG controversies, such as oil spills and other environmental incidents, can threaten the well-being of communities and the environment, leading to a decline in support from stakeholders, including investors (Lee & Isa, 2024). Furthermore, robust regulatory environments increase the transparency and enforcement of legal standards, ensuring that legitimacy breaches (controversies) are exposed and structurally penalized by the market, rather than being overshadowed by corporate scale.

Market capitalization is one of the key indicators used to measure the market value of a company listed on a stock exchange. Market capitalization is defined as the total market value of all outstanding shares of a company, calculated by multiplying the current share price by the number of shares outstanding in the market (ElDeeb et al., 2025; Prayoga et al., 2024; Syahputri et al., 2025). Generally, market capitalization reflects investors' collective perception of a company's current performance and future prospects. The higher the investor demand for a company's shares, the higher the stock price will rise, ultimately driving an increase in market capitalization. Thus, market capitalization not only illustrates a company's size in the market but also reflects the level of investor confidence in the company's ability to create value in the future. Additionally, market capitalization is often used as a market-based indicator to assess a company's value because it represents how much the company is valued according to investors' assessments in the capital market (Said et al., 2024). Companies with a large market capitalization have better potential in the future to sustain their business compared to those with a smaller market capitalization. The size of a company's market capitalization can influence the company's business risk because it helps maintain the company's financial health and enables the company to survive in the market (Prayoga et al., 2024).

Global companies use the Sustainable Development Goals (SDGs) for their CSR initiatives, which focus on ESG issues and sustainable investment practices. Investments that integrate ESG factors into portfolio development and decision-making processes are known as sustainable investments (Cunha & Samanez, 2012). The implementation of ESG in companies encompasses various non-financial corporate activities related to environmental, social, and governance responsibilities. This implementation aims to transform ethical commitments into practices that enhance sustainable performance and long-term value while maintaining transparency in reporting to investors and regulators (Alsayegh et al., 2020; Rau & Yu, 2024; Siminica et al., 2019). ESG information is a non-financial indicator that is gaining increasing attention in various countries (Listyawati et al., 2025) and is often associated with the triple bottom line approach,

which emphasizes a balance between economic, ecological, and socio-ethical development (Dyllick & Hockerts, 2002).

More specifically, the environmental dimension assesses the impact of operations on the natural environment, including resources, emissions, waste, and climate mitigation efforts, as well as environmental innovations that enhance operational performance and address the company's environmental risks (Pedron et al., 2021; Rau & Yu, 2024). The *social* dimension covers impacts on employees, customers, communities, human rights, inclusion, and contributions to social development (Alsayegh et al., 2020; Rau & Yu, 2024). The governance dimension includes corporate governance quality, reporting transparency, board and management accountability, business ethics, and internal oversight mechanisms (Alareeni & Hamdan, 2020; Bellavite Pellegrini et al., 2019; Elamer & Boulhaga, 2024; Rau & Yu, 2024).

ESG controversies are an issue that is receiving increasing attention in the literature due to their potential to influence stakeholder perceptions and a company's market value. ESG controversies are corporate news stories regarding environmental, social, and governance issues that violate ESG principles, such as companies increasing carbon dioxide emissions, companies using child labor in their warehouses, or companies violating shareholder rights during voting (Elamer & Boulhaga, 2024; Faure et al., 2025). This study uses the ESG Controversies score from Refinitiv, which measures the negative impact of corporate scandals or incidents on the environment, society, and governance, with a score range of 0 to 100 (higher is better or less controversy). This score is used to adjust the overall ESG score, where high controversy will lower the final ESG score.

At conceptual level, ESG performance captures a company's strategic capability in managing sustainability practices, corporate reputation, and stakeholder alignment, ultimately yielding lower financing costs and superior market valuation (Indriani, 2024; Possebon et al., 2024; Șerban et al., 2022). Companies' legitimacy obtained from ESG practices can enhance investor confidence, which ultimately drives stock demand and increases market capitalization (Tang et al., 2024). This elevation in investor confidence is intrinsically tied to market risk assessment, societal legitimacy mitigates operational risks, thereby systematically reducing the risk premium required by capital providers. Various empirical studies indicate that ESG performance has a positive relationship with market capitalization or firm value, although the magnitude of the effect may vary across sectors and regions (Kartikasary et al., 2023; Possebon et al., 2024; Șerban et al., 2022). For example, the study by Șerban et al. (2022) found a positive relationship between ESG performance and market capitalization, while Kartikasary et al. (2023) demonstrated that ESG performance enhances firm value in Southeast Asia. Furthermore, strong ESG practices can enhance business stability, reduce volatility, and strengthen investor confidence, thereby positively impacting a company's market value (Cardillo et al., 2023; Rodionova et al., 2022). Based on this discussion, the better a company's ESG performance, the higher its corporate value as reflected in market capitalization. Therefore, the first hypothesis is formulated as follows:

H₁: ESG performance has a positive impact on market capitalization

ESG controversies refer to various negative events or news reports related to a company's environmental, social, or governance practices that can pose reputational risks and increase uncertainty regarding the company's prospects. ESG controversies reflect a mismatch between a company's practices and stakeholder expectations, which can undermine the company's legitimacy in the eyes of the public and investors. Such conditions have the potential to erode stakeholder trust and investment interest, ultimately leading to a decline in market capitalization (Al-Hiyari, 2024; Passos & Campos-Rasera, 2024; Rosa & Bernini, 2022). Empirically, several studies indicate that higher levels of ESG controversies are associated with a decline in firm value. Abady & Hidayah (2025) found that ESG controversies have a negative impact on firm value, as measured by Tobin's Q and market capitalization, among companies in Southeast Asia. A global study conducted by Brighi et al. (2025) also indicates that ESG controversies significantly reduce a company's market valuation and increase corporate risk. In addition, Passos & de Campos-Rasera (2024) and Fernandes et al. (2024) found that ESG controversies can erode a company's market value through a decline in investor confidence and potentially higher capital costs. In certain sector-specific contexts, such as the energy sector, governance controversies were even found to have a significant negative relationship with a company's market value (Sayılır et al., 2025). Overall, the literature indicates that an increase in ESG controversies tends to reduce market capitalization due to a deterioration in corporate reputation, an increase in corporate risk, and a more negative investor perception of future prospects (Aouadi & Marsat, 2018; Brighi et al., 2025; Kim et al., 2025; Rosa & Bernini, 2022). The higher a company's ability to avoid controversies, the higher the level of trust investors and stakeholders have in the company's prospects. Based on the above, the second hypothesis is formulated as follows:

H₂: ESG controversies has a negative effect on market capitalization

The institutional framework of a country determines whether corporate actions gain genuine social validation. High regulatory quality acts as a formal validating mechanism that verifies ESG disclosures, transforming self-reported data into trusted signals of accountability (Handoyo & Anas, 2024). Companies strive to gain and maintain legitimacy among the public and stakeholders by demonstrating that their operational activities align with social norms, values, and expectations, one of which is through improved ESG performance (Syahputri et al., 2025). Strong ESG performance demonstrates a company's commitment to sustainable business practices, thereby boosting investor confidence and driving an increase in market capitalization (Minutolo et al., 2019; Possebon et al., 2024; Șerban et al., 2022). However, the strength of this relationship is also influenced by the quality of the institutional environment, particularly regulatory quality. High regulatory quality reflects the government's ability to formulate and enforce effective policies, including ESG reporting standards and corporate oversight mechanisms. In a robust regulatory environment, ESG information becomes more transparent, credible, and verifiable, thereby enhancing a company's legitimacy in the eyes of investors and strengthening the market's response to ESG performance (Al-Hiyari, 2024; Karr et al., 2026; Rosa & Bernini, 2022). Thus, regulatory quality can reinforce the positive influence of ESG performance on market capitalization because investors are more confident that the sustainability practices reported by companies truly reflect legitimate and sustainable performance. Therefore, the following hypothesis is formulated:

H3: Regulatory quality strengthens the positive impact of ESG performance on market capitalization

According to legitimacy theory, an ESG controversy is a corporate action or event that violates stakeholder expectations regarding environmental, social, and governance responsibilities, thereby threatening a company's social legitimacy (Lee & Raschke, 2023). Such controversies signal that a company has failed to conform to prevailing social norms, increasing reputational risk and reducing stakeholder confidence. As a consequence, investors may perceive firms involved in ESG controversies as riskier investments, leading to lower market valuation. Previous studies have consistently shown that ESG controversies are associated with higher information uncertainty, greater reputational damage, increased financing costs, and ultimately lower firm value (Passos & de Campos-Rasera, 2024; Rosa & Bernini, 2022; Syahputri et al., 2025).

However, the extent to which ESG controversies affect market valuation is unlikely to be uniform across countries because investors interpret corporate misconduct within different institutional environments. Regulatory quality, defined as the government's ability to formulate and effectively implement policies that promote market efficiency, corporate governance, and investor protection, plays an important role in shaping market confidence (Al-Hiyari, 2024; Handoyo & Anas, 2024). Strong regulatory systems enhance disclosure quality, improve monitoring mechanisms, strengthen legal enforcement, and reduce information asymmetry, thereby increasing investors' confidence in the credibility of corporate information. Consequently, although ESG controversies may still generate negative market reactions, investors are more likely to believe that firms operating in countries with high regulatory quality face effective oversight, timely corrective actions, and stronger governance mechanisms that limit the long-term consequences of such controversies (Brighi et al., 2025). Accordingly, regulatory quality is expected to mitigate rather than eliminate the adverse effect of ESG controversies on market capitalization. In countries with stronger regulatory quality, the negative market response to ESG controversies is likely to be less severe because institutional oversight enhances corporate accountability and reduces uncertainty surrounding firms' future prospects. Therefore, regulatory quality weakens the negative relationship between ESG controversies and market capitalization. Based on the above discussion, the fourth hypothesis is formulated as follows:

H4: Regulatory quality weakens the negative impact of ESG controversies on market capitalization

METHOD

This study employs a quantitative approach with an explanatory research design to analyze the effects of ESG performance and ESG controversies on market capitalization, as well as the moderating role of regulatory quality. This study utilizes secondary data obtained from several international sources. Non-financial data for the ESG performance and ESG controversies variables were obtained from the Refinitiv Eikon database, while market capitalization data were also obtained from the same database. The moderating variable of regulatory quality is measured using the Worldwide Governance Indicators (WGI) published by the World Bank, while inflation is used as a control variable to capture macroeconomic conditions that may affect a company's market value. The study period covers the years 2015–2025. The summary of our research variables is presented by Table 1.

The population of this study consists of companies listed on capital markets in Southeast Asia that have ESG data available in the Refinitiv Eikon database during the observation period. The sampling technique employed was purposive sampling, specifically targeting companies with complete data on ESG performance, ESG controversies, market capitalization, and relevant macroeconomic indicators throughout the study period. Given differences in data availability across firms and years, the study employed an

Table 1. Operational definitions of variables

No	Variable Name	Operational Definition	Measurement	Reference
Dependent Variable				
1	Market Capitalization	A company's market reflects the total value of its outstanding shares and indicates investors' perception of the company's value in the capital market.	Market capitalization is measured based on the total market value of the company's outstanding shares available in the Refinitiv Eikon database.	(Syahputri et al., 2025)
Independent Variables				
2	ESG Performance	The company's performance level in Environmental, Social, and Governance aspects, indicating the company's commitment to sustainable business practices.	ESG Score obtained from the Refinitiv Eikon database, which is a composite score of the three ESG pillars (environmental, social, governance). The score ranges from 0 (weak) to 100 (strong)	(Listyawati et al., 2025; Syahputri et al., 2025)
3	ESG Controversies	The level of controversy or negative media coverage related to a company's environmental, social, and governance practices that may affect its reputation.	The ESG Controversies Score available in the Refinitiv Eikon database reflects a company's level of ESG controversy. A score of 100 indicates that a company has no controversies. For simplicity, this variable is referred to as ESG Controversies throughout the remainder of this paper.	(Elamer & Boulhaga, 2024; Jucá et al., 2024)
Moderating Variables				
4	Regulatory Quality	The government's ability to formulate and implement effective policies and regulations to support private sector activities and sound economic governance.	The Regulatory Quality Index from the World Bank's <i>Worldwide Governance Indicators</i> (WGI), scores range from approximately -2.5 to 2.5, alongside absolute 0–100 percentile rankings.	(Abaidoo & Agyapong, 2025; Costantiello & Leogrande, 2024; Islam et al., 2025; Mooneeapen et al., 2022; Nguyen et al., 2023; Tran et al., 2023)
Control Variables				
5	Inflation	The rate of increase in the general prices of goods and services in a country, which can influence economic conditions and investment decisions.	A country's annual inflation rate (%).	World Bank (2026)

Source: Data processed by the researcher (2026)

unbalanced panel dataset, which allows firms to enter and exit the sample depending on data completeness over the observation period. The regression analysis was conducted using EViews based on 4,126 firm-year observations, representing observations with complete information for all variables included in the regression model. Consequently, the number of observations reported in the descriptive statistics may vary across variables due to missing values, whereas the regression estimation uses only complete observations available for all variables in the model. Table 2 presents the detailed sample selection procedure, beginning with a total population of 4,914 companies listed on Southeast Asian capital markets during the 2015–2025 period.

Table 3 shows that the distribution of the study's observations is dominated by certain countries and sectors, reflecting the structure of the capital markets in the Southeast Asian region. The collected data were analyzed using panel data regression to test the effect of independent variables on market capitalization. To test the moderating role of regulatory quality, this study employed Moderated Regression Analysis (MRA) by including interaction terms between ESG performance and regulatory quality, as well as between ESG controversies and regulatory quality. Prior to hypothesis testing, the analysis begins with descriptive statistics, classical assumption tests that consist of multicollinearity and heteroskedasticity, and the selection of a panel data regression model via the Chow test, Hausman test, and Lagrange Multiplier test to determine the most appropriate estimation model. The analysis is assisted by Eviews statistics software. The regression specification is formulated as follows:

$$MARCAP = a + \beta_1 ESG_PERFORM_{i,t} + \beta_2 ESG_CONTRO_{i,t} + \beta_3 RQ_{i,t} + \beta_4 INFLATION_{i,t} \dots \dots \dots (1)$$

$$MARCAP = a + \beta_1 ESG_PERFORM_{i,t} + \beta_2 ESG_CONTRO_{i,t} + \beta_3 RQ_{i,t} + \beta_4 ESG_PERFORM * RQ_{i,t} + \beta_5 ESG_CONTRO * RQ_{i,t} + \beta_6 INFLATION_{i,t} \dots \dots \dots (2)$$

Table 2. Sample selection criteria

1. Companies listed on capital markets in the Southeast Asian region during the 2015–2025 study period		2. Companies with at least one or more observations of ESG Score, ESG Controversies, Market Capitalization, and Regulatory Quality		3. Companies may still be included in the sample even if there is <i>missing</i> data for some years, provided they still have sufficient observations for analysis.	
Country	Number of Companies	Country	Number of Companies	Country	Number of Companies
Brunei Darussalam	1	Brunei Darussalam	1	Brunei Darussalam	0
Cambodia	2	Cambodia	1	Cambodia	1
Indonesia	817	Indonesia	752	Indonesia	65
Laos	7	Laos	7	Laos	0
Malaysia	1093	Malaysia	626	Malaysia	467
Myanmar	1	Myanmar	1	Myanmar	0
Philippines	231	Philippines	205	Philippines	26
Singapore	607	Singapore	531	Singapore	76
Thailand	781	Thailand	663	Thailand	118
Vietnam	1,374	Vietnam	1356	Vietnam	18
TOTAL	4914	TOTAL	4143	TOTAL	771

Source: Data processed by the researcher (2026)

Equation (1) evaluates the direct relationships between ESG performance, ESG controversies, and market capitalization, corresponding to H_1 and H_2 . Equation (2) extends the baseline model by incorporating the interaction terms ESG Performance $\times$ Regulatory Quality and ESG Controversies $\times$ Regulatory Quality to examine whether regulatory quality moderates the effects of ESG performance and ESG controversies on market capitalization, corresponding to H_3 and H_4 , respectively. This approach is expected to provide empirical evidence on how ESG performance and controversies affect *market capitalization* in Southeast Asian companies and how a country's regulatory quality moderates this relationship. This study further outlines each variable in operational definitions to clarify the measurements presented in Table 1.

RESULTS AND DISCUSSIONS

This study employs an unbalanced panel data framework due to differences in data availability across variable levels. The macro-level country control variables (Inflation and Regulatory Quality) yield a higher coverage with up to 8,481 observations, reflecting the comprehensive and uninterrupted annual tracking by global institutions such as the World Bank. Conversely, the micro-level firm variables derived

Table 3. Distribution of observations by country and industry

Panel A. Distribution of observations across countries				
No	Country	Frequency	Number of Companies	%
1	Cambodia	11	1	0.13
2	Indonesia	715	65	8.43
3	Malaysia	5,137	467	60.57
4	Philippines	286	26	3.37
5	Singapore	836	76	9.86
6	Thailand	1298	118	15.30
7	Vietnam	198	18	2.33
	TOTAL	8,481	771	100
Panel B. Distribution of observations across industries				
No	GICS Sector Classifications	Frequency	Number of Companies	%
1	Basic Materials	1,419	129	1673152
2	Consumer Cyclicals	924	84	1089494
3	Non-Cyclical Consumer Goods	1,177	107	1387808
4	Energy	484	44	5706874
5	Industrials	1,661	151	1958495
6	Real Estate	1,21	110	1426719
7	Technology	1232	112	1452659
8	Utilities	374	34	4409857
	TOTAL	8,481	771	100

Source: Data processed by the researcher (2026)

Table 4. Descriptive statistics

	MARCAP	ESG_PERFORM	ESG_CONTRO	RQ	INFLATION
Mean	1.65×10^9	4502040	9836093	6492788	1818477
Median	2.23E+08	4463728	1000000	6559000	1800000
Maximum	6.87E+10	9167298	1000000	9004000	6400000
Minimum	111,495.2	0.413234	4545455	4388000	-1100000
Std. Dev.	4.21E+09	1902893	9052963	9140403	1633596
Skewness	5944260	0.087259	-6522717	1399847	0.453420
Kurtosis	5283154	2244136	4910821	4954554	3380251
Jarque-Bera	926,455.3	1035825	395,224.9	4,119.847	3416954
Probability	0.000000	0.000000	0.000000	0.000000	0.000000
Sum	1.40E+13	185,979.3	406,329.0	550,653.3	15,422.50
Sum of Squares	1.50E+23	1,495,474.	338,478.9	708,478.3	22,630.03
Observations	8472	4131	4131	8481	8481

Source: Data processed by the researcher using Eviews (2026)

from the Refinitiv database (ESG_PERFORM and ESG_CONTRO) yield 4,131 observations (Table 4). This lower observation count is strictly due to the fact that ESG disclosures are voluntary in the ASEAN region.

We begin our analysis with descriptive statistics. Our descriptive statistics analysis show that the sample companies exhibit a mean market capitalization (MARCAP) of 1.65 billion USD, ranging from a minimum of 111,495 USD to a maximum of 68.70 billion USD, which reflects a high variation in company size. Regarding corporate sustainability, the mean ESG performance score (ESG_PERFORM) is 45.02 (with a minimum of 0.41 and a maximum of 91.67), while the ESG controversies index (ESG_CONTRO) shows a high mean of 98.36, spanning from a minimum score of 4.55 to a maximum of 100.00. At the country level, regulatory quality (RQ) exhibits a mean of 64.93, ranging from a minimum of 43.88 to a maximum of 90.04, whereas the inflation rate as a macroeconomic control variable shows a mean of 1.82%, with a minimum of -1.10% and a maximum of 6.40%. Based on Table 5, the relationships among the variables show a relatively weak correlation pattern as the correlation coefficient is below 0.8 (Gujarati & Porter, 2009), indicating that there are no serious multicollinearity issues in the research model.

Table 5. Correlation matrix

	ESG_PERFORM	ESG_CONTRO	RQ	INFLATION
ESG_PERFORM	1	0.10091	0.00046	0.06925
ESG_CONTRO	0.10091	1	-0.09975	0.03492
RQ	0.00046	-0.09975	1	-0.06212
INFLATION	0.06925	0.03492	-0.06212	1

Source: Data processed by the researcher using Eviews (2026)

The results of the Chow and Hausman tests for both equations in Table 6 show p-values < 0.05, so H_0 is consistently rejected. Thus, the most appropriate model to use for both Equation 1 and Equation 2 is the Fixed Effects Model (FEM). The use of FEM estimator is adequate to control for unobserved firm-specific characteristics (such as baseline market power and historical scale), which effectively absorbs the cross-sectional heterogeneity (Wooldridge, 2012)). Table 7 shows that the R-squared values for both models are relatively high (0.8492 and 0.8506), indicating that the independent variables are able to explain most of the variation in market capitalization. Furthermore, the significant F-statistic ($p < 0.01$) indicates that the model as a whole is valid for use. The model selected for both equations is the Fixed Effects Model (FEM), which indicates that differences in characteristics among companies have been adequately controlled, making the estimation results more accurate and reliable.

Impact ESG Performance on Market Capitalization

In Equation 1, the ESG performance variable (ESG_PERFORM) exhibits a positive coefficient but is only significant at the 10% level ($t = 1.9133$; $p < 0.10$), indicating that its effect on market capitalization is there, but relatively weak. Meanwhile, in Equation 2, the coefficient of ESG_PERFORM increases and becomes significant at the 1% level ($t = 2.6553$; $p < 0.01$) after including the moderating variable. This indicates that the effect of ESG performance on market capitalization becomes stronger when institutional factors are considered. Thus, the first hypothesis (H_1) is supported (See Table 8).

This finding is consistent with the concept that market capitalization represents investors' perceptions of a company's prospects, where improved ESG quality serves as a positive signal that enhances market confidence. From the perspective of legitimacy theory, companies that meet social, environmental,

Table 6. Model selection results (equation 1 and equation 2)

Type of Test	Equation 1	Equation 2
Chow Test (Redundant Fixed Effects Test)		
Type of Effect Tested	Common Effect vs. Fixed Effect	Common Effect vs. Fixed Effect
F-Statistic	21.084699	20.062811
Chi-Square	7284.730920	7,117.576508
Degrees of Freedom	(770, 3351)	(770, 3349)
Probability	0.0000	0.0000
Decision	Reject H ₀	Reject H ₀
Selected Model	Fixed Effects Model (FEM)	Fixed Effects Model (FEM)
Hausman Test (Correlated Random Effects Test)		
Type of Effect Tested	Random Effects vs. Fixed Effects	Random Effects vs. Fixed Effects
Chi-Square Statistic	132.137683	134.737139
Degrees of Freedom	4	6
Probability	0.0000	0.0000
Decision	Reject H ₀	Reject H ₀
Selected Model	Fixed Effects Model (FEM)	Fixed Effects Model (FEM)

Source: data processed by the researcher using Eviews, 2026

and governance expectations gain legitimacy from stakeholders (Chauvey et al., 2015; Deegan, 2002). This legitimacy strengthens the company's image and increases investor interest, thereby driving stock price increases and ultimately boosting market capitalization (Tang et al., 2024).

These findings are supported by various empirical evidences. Janicka & Sajnog (2022) demonstrate that companies with larger market capitalizations tend to have better ESG reporting quality, while Taliento & Netti (2020) confirm that improved ESG performance positively contributes to a company's market value. Furthermore, capital market liberalization encourages companies to enhance ESG disclosures to meet the preferences of more sophisticated investors, thereby increasing market appeal and corporate valuation (Nie et al., 2023). In an international context, Alregab (2022) found that strong ESG performance attracts foreign investment, which strengthens a company's legitimacy and leads to increased market capitalization. Furthermore, ESG performance also reflect a company's ability to manage non-financial risks, maintain its reputation, and build long-term relationships with stakeholders. These factors lead to lower capital costs and improved operational efficiency, which contribute to increased corporate value (Indriani, 2024; Possebon et al., 2024; Şerban et al., 2022). Previous empirical evidence also supports these findings, as ESG performance has been shown to have a positive impact on market capitalization across various contexts, including in

Table 7. Regression equation results

Variable	Equation 1 (t-Statistic (Prob))	Equation 2 t-Statistic (Prob)
Constant (C)	4.8675 (0.0000)	0.9528 (0.3407)
ESG Performance (ESG_PERFORM)	1.9133 (0.0558)* Approximately significant	2.6553 (0.0080)*** Significant
ESG Controversies (ESG_CONTRO)	-2.9581 (0.0031)*** Significant	4.6069 (0.0000)*** Significant
Regulatory Quality (RQ)	-1.2190 (0.2229)	1.7641 (0.0778)* Approximately significant
ESG_PERFORM × RQ	–	2.3941 (0.0167)** Significant
ESG_CONTRO × RQ	–	-5.3180 (0.0000)*** Significant
Inflation	0.9131 (0.3612)	0.7604 (0.4471)
R-squared	0.8492	0.8506
Adjusted R-squared	0.8143	0.8160
F-statistic (Prob)	24.3737 (0.0000)	24.5802 (0.0000)
Number of Observations	4,126	4,126
Selected Model	FEM	FEM

Source: data processed by the researcher using Eviews, 2026

Note: Significant at p-value < 1%***, p-value < 5%** , p-value < 10%)*

Table 8. Hypothesis testing summary

Hypothesis	t-Statistic	Empirical Finding	Status
H ₁ : ESG performance has a positive impact on market capitalization.	0.0558	Positive effect, approximately significant	Accepted
H ₂ : ESG controversies has a negative effect on market capitalization.	0.0031	Positive effect, significant	Rejected
H ₃ : Regulatory quality strengthens the positive impact of ESG performance on market capitalization.	0.0167	Strengthen the positive effect, significant	Accepted
H ₄ : Regulatory quality weakens the negative impact of ESG controversies on market capitalization.	0.0000	Weaken the positive effect, significant	Accepted

Source: Processed by the author (2026)

Southeast Asia (Kartikasary et al., 2023; Şerban et al., 2022). Thus, the results of this study reinforce the argument that ESG performance is a key determinant in increasing a company's market capitalization, and this effect becomes stronger when supported by a relevant institutional environment.

Effect ESG Controversies on Market Capitalization

In Equation (1), ESG Controversies Score exhibits a negative and statistically significant effect on market capitalization ($t = -2.9581$; $p < 0.01$). Since the Refinitiv ESG Controversies Score is constructed such that higher scores indicate fewer ESG-related controversies, this result implies that firms with better controversy records tend to have lower market capitalization. Therefore, H₂ is not supported. This finding contrasts with the conventional expectation derived from Legitimacy Theory, which argues that companies experiencing fewer ESG controversies should enjoy stronger stakeholder trust, lower reputational risk, and consequently higher market value (Aouadi & Marsat, 2018; Brighi et al., 2025). Instead, the empirical evidence suggests that the capital market in Southeast Asia does not necessarily reward firms with better ESG controversy scores.

Nevertheless, this result is quite interesting to discuss as it posits that high ESG controversies (lower ESG controversies score) will result in higher market capitalization for the company. This finding is different from the common belief that negative ESG issues will create a negative investor's sentiment towards the company. One logical explanation for this result is investor attention. When a company faces an ESG controversy, it usually gets a lot of media coverage in which the circumstances can also present opportunities for companies to engage in organizational learning and strengthen relationships with stakeholders (Hart et al., 2003). This high exposure makes the company more visible in the stock market and attracts more traders. Additionally, companies facing controversies often respond by improving their financial performance or pushing their profits higher to cover the bad news. Since investors in many markets still prioritize financial returns over non-financial ESG metrics, this strong financial response makes them put aside the ESG issues and take advantage of the financial performance. Therefore, instead of punishing the company, the combination of high media attention and good financial performance successfully drives up the company's market value.

Regulatory Quality as a Moderator of the Impact of ESG Performance on Market Capitalization

The empirical results in Equation 1 show that the regulatory quality (RQ) variable does not have a significant effect ($t = -1.2190$; $p > 0.05$), indicating that regulatory quality does not directly influence market capitalization. However, in Equation 2, when included as a moderating variable, the interaction term $ESG_PERFORM \times RQ$ yields a positive and significant coefficient ($t = 2.3941$; $p < 0.05$). This suggests that regulatory quality amplifies the positive effect of ESG performance on market value. In other words, the higher a country's regulatory quality, the stronger the positive impact of ESG performance on a company's market capitalization. Therefore, the third hypothesis (H₃) is supported.

Based on legitimacy theory, companies with high ESG performance are more likely to gain social legitimacy because their activities align with the values and norms prevailing in society (Deegan, 2002). However, this legitimacy is not determined solely by a company's internal performance but also by the institutional context. High regulatory quality enhances transparency, accountability, and ESG reporting standards, thereby making a company's ESG practices more credible and trustworthy to investors. Consequently, the legitimacy a company gains becomes stronger and has a greater impact on increasing market capitalization.

This finding aligns with various empirical studies showing that institutional quality, including regulatory quality, plays a role in strengthening the relationship between ESG and firm value. Rosa & Bernini (2022) and Al-Hiyari (2024) demonstrate that robust regulations enhance investor confidence in ESG information, while Karr et al. (2026) affirm that a sound institutional environment reinforces the relevance of ESG information value in the capital market. Thus, this study confirms that regulatory quality functions as an enhancing mechanism that increases the effectiveness of ESG performance in creating market value.

Companies not only need to improve their ESG performance but also derive optimal benefits when operating within a high-quality regulatory environment.

Regulatory Quality as A Moderator of the Impact of ESG Controversies on Market Capitalization

The empirical results of Equation (1) indicate that Regulatory Quality (RQ) does not have a significant direct effect on market capitalization ($t = -1.2190$; $p > 0.05$), suggesting that institutional quality alone is insufficient to directly influence investors' valuation of firms. However, the interaction term between ESG Controversies Score and Regulatory Quality ($ESG_CONTRO \times RQ$) is negative and statistically significant ($t = -5.3180$; $p < 0.01$), indicating that regulatory quality significantly moderates the relationship between ESG Controversies Score and market capitalization. Accordingly, Hypothesis 4 is supported, demonstrating that regulatory quality weakens the effect of ESG Controversies on market capitalization.

Considering that the Refinitiv ESG Controversies Score is constructed such that higher scores indicate fewer ESG-related controversies, the positive coefficient of ESG Controversies in Equation (2) suggests that firms with better controversy records tend to receive higher market valuations. However, the negative interaction coefficient indicates that this positive relationship becomes weaker as regulatory quality improves. In other words, the influence of ESG controversy information on investors' valuation decisions declines in countries with stronger regulatory institutions because regulatory quality enhances information credibility, strengthens market supervision, and reduces information asymmetry. Under such institutional environments, investors rely less on ESG controversy scores as an isolated source of information and instead evaluate firms based on a broader set of credible governance and financial signals. This finding highlights the important role of regulatory quality as an institutional boundary condition in emerging capital markets. Strong regulatory systems improve disclosure quality, reinforce corporate accountability, and strengthen investor protection, thereby reducing the incremental importance of ESG controversy information in explaining market capitalization. Rather than allowing ESG controversies to dominate investors' perceptions, effective regulatory oversight creates a more transparent information environment in which market participants can make valuation decisions based on more comprehensive and reliable information. Consequently, the market response to ESG controversy information becomes less pronounced as regulatory quality increases.

From the perspective of Legitimacy Theory, this result suggests that corporate legitimacy is not determined solely by firm-level ESG behaviour but is also reinforced through country-level institutional mechanisms. Effective regulatory quality enhances the credibility of sustainability disclosures and ensures stronger enforcement of governance standards, thereby reducing investors' dependence on ESG controversy information when assessing corporate legitimacy. This finding is consistent with Al-Hiyari (2024) and Karr et al. (2026), who argue that stronger regulatory environments improve information transparency and market efficiency while reducing uncertainty surrounding ESG-related risks. Consequently, regulatory quality serves as an institutional mechanism that weakens the influence of ESG controversy information on market capitalization by providing investors with greater confidence in the overall governance environment.

CONCLUSION

This study aims to analyze the impact of ESG performance and ESG controversy scores on market capitalization, as well as to examine the role of regulatory quality as a moderating variable among companies in Southeast Asia during the 2015–2025 period. This study investigates the effects of ESG performance and ESG controversies on market capitalization while examining the moderating role of regulatory quality among publicly listed companies in Southeast Asia. The findings demonstrate that ESG performance positively influences market capitalization, indicating that investors increasingly recognize sustainable business practices as an important source of long-term corporate value. Furthermore, regulatory quality strengthens this positive relationship, suggesting that effective institutional environments enhance the credibility of ESG information, reduce information asymmetry, and increase investor confidence in firms' sustainability commitments. These findings imply that the economic value of ESG performance is not generated solely by firm-level sustainability initiatives but is reinforced by high-quality regulatory institutions. The findings regarding ESG controversies provide a more nuanced understanding of investors' responses to sustainability-related information. Contrary to the proposed hypothesis, ESG controversies exhibit a positive and significant relationship with market capitalization, indicating that ESG controversy information is not always interpreted by investors as a negative valuation signal. Rather than relying exclusively on ESG controversies, investors appear to evaluate firms based on a broader combination of financial performance, growth prospects, corporate fundamentals, and institutional conditions. This finding suggests that the market response to ESG controversies in emerging markets is more complex than predicted by conventional legitimacy arguments and cannot be explained solely by the presence of sustainability-related controversies.

More importantly, this study demonstrates that regulatory quality significantly weakens the relationship between ESG controversies and market capitalization. This finding indicates that stronger regulatory environments improve transparency, strengthen market supervision, and enhance the credibility

of corporate disclosures, thereby reducing investors' dependence on ESG controversy information in firm valuation. As institutional quality improves, investors become more confident in the overall governance system, causing ESG controversy information to play a less dominant role in determining market capitalization. From a theoretical perspective, this study extends Legitimacy Theory by demonstrating that corporate legitimacy is jointly shaped by firm-level sustainability practices and country-level institutional quality. Rather than serving merely as an external institutional context, regulatory quality functions as an institutional boundary condition that influences how investors interpret ESG information in capital market valuation. Consequently, the value relevance of ESG information is contingent not only upon firms' sustainability practices but also upon the effectiveness of the regulatory environment in which firms operate.

Practically, these findings suggest that corporate managers should strengthen both ESG performance and the credibility of sustainability disclosures to enhance investor confidence. For policymakers, improving regulatory quality through stronger governance, more effective regulatory enforcement, greater disclosure transparency, and enhanced investor protection is essential for increasing the reliability of ESG information within capital markets. Investors should likewise evaluate ESG information within its broader institutional context rather than relying solely on ESG indicators when making investment decisions. This study is subject to several limitations. First, the analysis focuses exclusively on listed companies in Southeast Asia, limiting the generalizability of the findings to other institutional settings. Second, ESG controversies are measured using the Refinitiv ESG Controversies indicator, which does not distinguish between different categories or materiality levels of ESG controversies. Future studies are therefore encouraged to investigate specific dimensions of ESG controversies, compare developed and emerging markets, and incorporate additional institutional variables such as rule of law, government effectiveness, and investor protection to provide a more comprehensive understanding of how institutional environments shape the value relevance of ESG information.

Overall, this study demonstrates that the market value of ESG information in emerging markets depends not only on firms' sustainability practices but also on the quality of national regulatory institutions. By integrating firm-level ESG factors with country-level regulatory quality, this study provides a more comprehensive explanation of how investors assess corporate value in Southeast Asian capital markets and contributes to the growing literature on ESG valuation under heterogeneous institutional environments.

CREDIT AUTHORSHIP CONTRIBUTION STATEMENT

Reni Listyawati: Conceptualization, Methodology, Writting – original draft, Project administration. **Fandi Galang Wicaksana:** Software, Writting – original draft. **Prihatnolo Gandhi Amidjaya:** Methodology, Writing – review & editing. **Enggar Kartika Cahyaning:** Software, Validation.

DECLARATION OF COMPETING INTERESTS

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

DATA AVAILABILITY

Data will be made available on request.

AI USAGE STATEMENT

During the preparation of this work, the author(s) used Grammarly in order to improve the language accuracy and grammar. After using this tool/service, the author(s) reviewed and edited the content as needed and take(s) full responsibility for the content of the publication.

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