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The Influence of ESG Scores on the Cost of Equity Capital in ASEAN-5: The Role of Country Governance and Tax Payments

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Abstract. This study examines the impact of Environmental, Social, and Governance (ESG) scores on the cost of equity capital (COE) in ASEAN-5 countries, focusing on the moderating roles of national governance quality and tax compliance. Using panel data from publicly listed firms between 2018 and 2022, the study employs panel data regression analysis with both fixed and random effects models to capture cross-sectional and time-series variations. The results reveal three key findings: (1) higher ESG scores significantly lower the cost of equity, indicating that strong ESG performance reduces perceived risks and boosts investor confidence; (2) tax compliance has no statistically significant moderating effect on the ESG-COE relationship, possibly due to weaker institutional frameworks in the ASEAN-5 region; and (3) the reduction in the cost of equity is more pronounced in countries with strong national governance, emphasizing the role of institutional quality in enhancing the financial benefits of ESG practices. These findings highlight the importance of aligning corporate ESG strategies with strong governance systems to maximize financial and sustainability outcomes in the ASEAN region, offering valuable insights for investors, academics, and policymakers.

Keywords: ESG ratings; Cost of equity; Country Governance; Tax Payments.

Abstrak. *Penelitian ini mengkaji dampak skor Environmental, Social, and Governance (ESG) terhadap biaya modal ekuitas (COE) di negara-negara ASEAN-5, dengan fokus pada peran moderasi kualitas tata kelola nasional dan kepatuhan pajak. Menggunakan data panel dari perusahaan publik yang terdaftar antara 2018 dan 2022, penelitian ini menerapkan analisis regresi data panel dengan model efek tetap dan acak untuk menang-kap variasi lintas-seksional dan seri-waktu. Hasil penelitian mengungkapkan tiga temuan utama: (1) skor ESG yang lebih tinggi secara signifikan menurunkan biaya ekuitas, yang menunjukkan bahwa kinerja ESG yang kuat mengurangi risiko yang dipersepsikan dan meningkatkan kepercayaan investor; (2) kepatuhan pajak tidak memiliki efek moderasi yang signifikan secara statistik terhadap hubungan ESG-COE, yang mungkin disebabkan oleh kerangka kelembagaan yang lebih lemah di wilayah ASEAN-5; dan (3) penurunan biaya ekuitas lebih nyata di negara dengan tata kelola nasional yang kuat, menekankan peran kualitas institusional dalam meningkatkan manfaat finansial dari praktik ESG.*

Temuan ini menyoroti pentingnya menyelaraskan strategi ESG perusahaan dengan sistem tata kelola yang kuat untuk memaksimalkan hasil finansial dan keberlanjutan di kawasan ASEAN, memberikan wawasan berharga bagi investor, akademisi, dan pembuat kebijakan.

***Kata kunci**: Skor ESG; Biaya ekuitas; Tata kelola negara; Pembayaran pajak.*

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BACKGROUND

The increasing significance of Environmental, Social, and Governance (ESG) factors in corporate finance has garnered global attention, particularly in emerging markets like the ASEAN-5 region—comprising Indonesia, Malaysia, Thailand, Singapore, and the Philippines. As environmental and social issues become more pressing, investors are increasingly integrating ESG considerations into their decision-making processes. Companies committed to sustainable practices are seen as better positioned for long-term growth and stability, reflecting the growing importance of sustainability in investment strategies. This trend is evidenced by the significant rise in global ESG-focused investments, which exceeded $17.5 trillion in professionally managed portfolios by 2023 (OECD, 2023), with substantial growth observed after 2017 (ETFGI, 2022; Climate Bonds Initiative, 2022).

While the global shift toward ESG investment has been remarkable, much of this attention has been focused on developed markets. Firms in developed countries, particularly in the U.S. and Europe, have benefited from robust governance frameworks and stringent ESG reporting requirements, making it easier for investors to assess risk and reward. This has led to a growing body of research showing that companies with strong ESG performance tend to experience a reduction in their cost of equity, as demonstrated by studies like Kolk and van Tulder's (2010) research on corporate social responsibility (CSR) and sustainable development.

While ESG factors in corporate finance have been extensively researched in developed markets, much less is understood about how these factors influence the cost of equity in emerging economies, particularly in the ASEAN-5 countries—Indonesia, Malaysia, Thailand, Singapore, and the Philippines. In developed markets, studies have shown that firms with strong ESG performance tend to experience lower costs of equity, largely due to robust governance structures and comprehensive ESG reporting requirements that enhance transparency and reduce perceived risk for investors (Dhaliwal et al., 2011; El Ghoul et al., 2011; Makhdalena et al., 2023). For example, Kolk and van Tulder (2010) demonstrated how businesses in developed markets integrate sustainability into their operations, benefiting from investor confidence in well-established regulatory environments.

However, the situation in emerging markets like ASEAN-5 is markedly different. These countries present a unique context where governance structures, regulatory enforcement, and tax compliance vary significantly across nations. For instance, in

Indonesia, only about 30% of companies reported comprehensive ESG data as of 2022, whereas Malaysia and Singapore have implemented mandatory ESG reporting for publicly listed firms (OECD, 2023). These discrepancies reveal a significant gap in understanding how such differences in ESG adoption and regulatory frameworks affect the relationship between ESG performance and financial outcomes, particularly the cost of equity. Therefore, exploring this gap becomes crucial as investors face varying degrees of risk perception depending on the regulatory environment in each country.

Two critical factors that potentially moderate this relationship are national-level governance quality and tax compliance. Both governance and tax practices can either strengthen or weaken the impact of ESG on financial performance, depending on their robustness and consistency within each country. To illustrate this further, national-level governance plays a key role by influencing how effectively ESG practices are implemented and enforced. In countries like Singapore and Malaysia, where governance is strong, investors tend to perceive lower risks when firms engage in ESG activities. Kaufmann et al. (2009) found that countries with strong governance frameworks, including effective regulations and low corruption, create a more stable environment for investment, which reduces perceived risks and, in turn, lowers the cost of equity for companies with high ESG scores (Kaufmann et al., 2009). On the other hand, in countries with weaker governance systems, such as Indonesia, investors may view ESG disclosures with skepticism due to inconsistent enforcement of sustainability practices (La Rosa & Bernini, 2022). Thus, national-level governance emerges as a pivotal factor in determining how much ESG performance can influence a firm's cost of equity.

In addition to governance, tax compliance also plays a significant role in this equation. Firms that are transparent and compliant with tax regulations signal ethical behavior, which strengthens their overall ESG profile. Responsible tax practices help reduce information asymmetry between firms and investors, thereby increasing trust and confidence. This transparency can lead to a reduction in the cost of equity, as firms with strong ESG and tax practices are perceived as more responsible and less risky by investors. Lanis and Richardson (2012) found that companies with transparent tax practices experienced lower costs of equity because investors viewed them as trustworthy. Similarly, Mechrgui and Theiri (2024) demonstrated that companies with responsible tax behavior, especially when combined with strong ESG performance, saw reduced stock price volatility and improved financial stability (Mechrgui & Theiri, 2024). However, poor tax compliance can undermine these benefits. Firms that engage in aggressive tax avoidance or operate in regions with low tax enforcement may not fully benefit from their ESG efforts, as investors remain concerned about legal risks and reputational damage. This makes it clear that tax compliance is another crucial moderating factor in determining the extent to which ESG scores can influence the cost of equity.

In summary, the relationship between ESG performance and the cost of equity in emerging markets like the ASEAN-5 is highly dependent on the quality of national governance and tax compliance. In contexts where governance and tax compliance are strong, firms with high ESG scores are likely to enjoy reduced costs of equity due to increased investor confidence and lower perceived risks. Conversely, in countries where these factors are weaker, the financial benefits of ESG practices may be diminished, as the heightened perception of risk overshadows the positive effects of strong ESG performance. This study seeks to fill this gap by investigating how ESG factors influence

the cost of equity in ASEAN-5 countries and by exploring how national-level governance and tax compliance moderate this relationship.

This study holds significant importance as it addresses a clear research gap in understanding how Environmental, Social, and Governance (ESG) performance impacts the cost of equity in emerging markets, specifically in ASEAN-5 countries (Indonesia, Malaysia, Thailand, Singapore, and the Philippines). Previous research has demonstrated that in developed markets, firms with strong ESG performance tend to experience lower costs of equity due to well-established governance structures and comprehensive ESG reporting requirements that reduce investor-perceived risks (Dhaliwal et al., 2011; El Ghoul et al., 2011). However, the dynamics in emerging markets are less clear, particularly in the ASEAN-5, where governance structures and tax compliance vary widely (OECD, 2023). The study's focus on national-level governance quality and tax compliance as moderating factors is crucial, as these elements can either amplify or weaken the financial benefits associated with ESG practices (La Rosa & Bernini, 2022; Mechrgui & Theiri, 2024).

This study is significant because it explores how governance quality and tax practices influence the effectiveness of ESG efforts in reducing a firm's cost of equity, which remains underexplored in the context of ASEAN-5 countries. For example, strong governance frameworks in countries like Singapore and Malaysia have been shown to enhance the positive financial impacts of ESG performance (PwC, 2023). In contrast, weaker governance and inconsistent tax compliance in countries like Indonesia can reduce investor confidence, limiting the financial benefits of ESG initiatives (OECD, 2023). The findings will provide empirical evidence to guide critical stakeholders—policymakers, corporate managers, and investors—in understanding how improving governance frameworks and enforcing tax compliance can lead to better financial outcomes, including reduced costs of capital. The study's objectives are to (1) investigate the impact of ESG performance on the cost of equity in ASEAN-5 countries, (2) assess how national governance quality and tax compliance moderate this relationship, and (3) provide insights into how these factors can be leveraged to enhance corporate financial performance through sustainable practices.

The findings of this study will have important implications for a range of stakeholders in ASEAN-5 countries. For policymakers, the results highlight the crucial role of governance and tax transparency in fostering a favorable environment for companies with strong ESG performance. Stronger governance structures and stricter enforcement of ESG reporting can reduce the risk premiums that investors demand, thereby lowering the cost of equity for firms (Kaufmann et al., 2009). Countries with well-established governance frameworks, such as Singapore, have already seen improvements in attracting ESG-driven investments (PwC, 2023). Policymakers should focus on enhancing regulatory frameworks that support ESG adoption, while also improving tax compliance to maximize investor confidence and financial stability (Lanis & Richardson, 2012).

For corporate managers, the study provides evidence that adopting comprehensive ESG strategies, combined with responsible tax practices, can yield significant financial benefits, such as reduced costs of capital. Managers in countries with weaker governance frameworks should focus on improving internal transparency and compliance to better position their firms for attracting investment. Additionally, firms that align their tax

strategies with their ESG efforts are likely to see increased trust from investors, further lowering their cost of equity (Mechrgui & Theiri, 2024). For example, in Malaysia, where tax compliance is strictly monitored, firms that exhibit responsible tax behavior in conjunction with strong ESG performance tend to experience lower costs of equity (OECD, 2023).

Finally, for investors, the study offers a valuable perspective on how to assess the financial stability of firms based on ESG performance, governance quality, and tax compliance. Investors can use this information to make more informed decisions when allocating capital, especially in emerging markets. Firms with strong ESG practices that operate in countries with effective governance and tax systems will be perceived as lower-risk investments, offering more stable returns (Lanis & Richardson, 2012). Understanding how these moderating factors influence the relationship between ESG and financial outcomes will help investors better assess the long-term sustainability of their investments in the ASEAN-5 region (PwC, 2023).

THEORETICAL REVIEW

The Impact of ESG Scores on the Cost of Equity Capital

Signaling Theory provides a strong foundation for understanding how a company's ESG (Environmental, Social, and Governance) performance affects its cost of equity capital. The theory suggests that companies with high ESG scores send positive signals to the market, demonstrating their commitment to ethical behavior, sustainability, and good governance. These signals reduce the perception of risk among investors, who may view such companies as better managed and more resilient to long-term risks, especially those related to environmental, social, or governance issues. As a result, investors are likely to demand a lower risk premium, which leads to a reduced cost of equity (Spence, 1978).

In addition, Risk Management Theory argues that companies with strong ESG practices are better equipped to manage potential risks related to environmental regulations, social license to operate, and governance failures. By proactively addressing these issues, companies lower the likelihood of experiencing adverse events that could negatively impact their financial performance. Effective risk management, particularly in high-risk industries or markets, can therefore lead to lower perceived risks for investors, which in turn decreases the cost of equity (Godfrey et al., 2009). Several studies have empirically demonstrated the relationship between ESG performance and the cost of equity. El Ghoul et al. (2011) and Dhaliwal et al. (2011) found that companies with strong CSR (Corporate Social Responsibility) and ESG practices tend to experience lower costs of equity (Dhaliwal et al., 2011; El Ghoul et al., 2011). This reduction occurs because investors perceive such companies as being more transparent and socially responsible, which reduces information asymmetry and the associated risks.

Additionally, Clark et al. (2014) found that firms that integrate sustainability into their long-term business strategies benefit from enhanced investor confidence and trust (Clark et al., 2015). This trust reduces the risk premium required by investors, as these companies are viewed as safer investments. Thus, the ability to manage ESG factors effectively not only enhances a company's reputation but also positively impacts its cost of capital by lowering perceived risks. In recent research focusing on the Chinese market,

Li et al. (2024) provides additional empirical evidence supporting these theoretical perspectives. Using the initial ESG ratings from SynTao Green Finance in 2015 as a quasi-natural experiment, the study employed a staggered difference-in-differences method to examine the impact of ESG ratings on firms' cost of equity capital. The results demonstrated that the implementation of ESG ratings can significantly reduce the cost of equity for firms, with an estimated reduction of approximately 0.46% compared to those without ESG ratings. This effect was particularly pronounced for non-state-owned companies, highly competitive industries, and high-pollution enterprises.

The conceptual framework for this study is shown in Figure 1 demonstrates the relationship between ESG scores (independent variable) and the cost of equity (COE) (dependent variable), moderated by tax payment and country-level governance. Drawing from Signaling Theory and Risk Management Theory, ESG performance serves as a signal of reduced risks and increased transparency to investors, thereby lowering equity risk premiums (Spence, 1978). Additionally, companies with strong ESG practices are better positioned to mitigate environmental, social, and governance-related risks, which reduces the likelihood of adverse events and enhances investor confidence (Godfrey et al., 2009). The framework further incorporates two moderating variables. Country-level governance, as explained by Governance Theory, strengthens the relationship between ESG and COE by enhancing the credibility of ESG disclosures and ensuring regulatory accountability (Kaufmann et al., 2009). Meanwhile, tax payment acts as an additional signal of corporate ethics and transparency, reinforcing investor trust in firms with high ESG performance (Lanis & Richardson, 2012). Together, these moderating factors amplify the financial benefits of ESG, particularly in reducing COE. This framework underscores the significance of aligning corporate ESG strategies with robust governance frameworks and ethical compliance practices to achieve both financial and sustainability objectives.

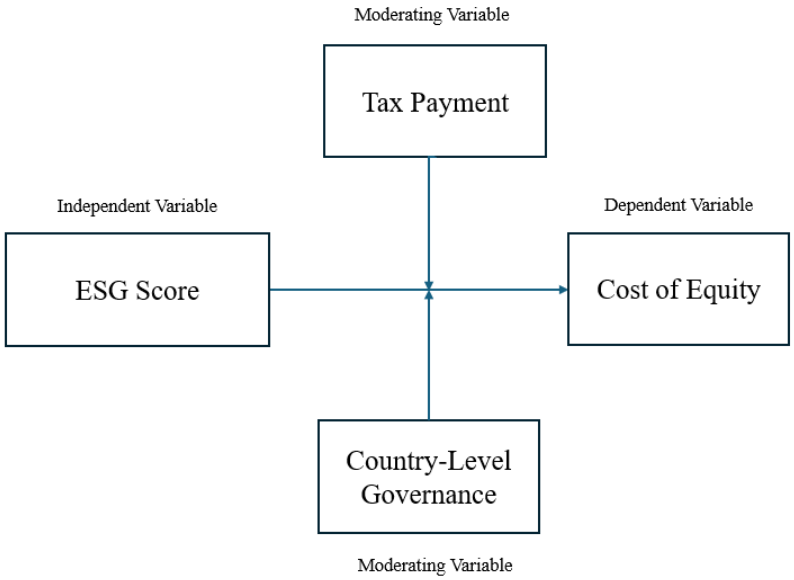

Figure 1. Conceptual Framework

Hypothesis H1: ESG scores negatively affect the cost of equity capital.

Companies with higher ESG scores are expected to have lower costs of equity, as strong ESG performance reduces perceived risks and enhances transparency and trust among investors. The hypothesis is grounded in the idea that ESG performance is a critical indicator of a company's long-term sustainability and risk management capacity. Higher ESG scores reduce uncertainty, signaling to investors that the company is likely to experience fewer financial and operational disruptions, leading to a lower cost of equity capital.

The Impact of ESG Scores on the Cost of equity Capital Moderated by Country-Level Governance

Governance Theory suggests that a country's regulatory and governance framework enhances the credibility and effectiveness of ESG disclosures. In countries with strong governance—characterized by the rule of law, government effectiveness, and high regulatory quality—investors trust the authenticity of ESG performance and the company's adherence to high ethical standards. This trust reduces perceived risks, amplifying the beneficial impact of high ESG scores on the cost of equity (Kaufmann et al., 2009).

Conversely, in countries with weaker governance frameworks, even companies with high ESG scores may struggle to fully realize the financial benefits. Investors may remain skeptical of ESG claims due to uncertainties and inconsistent enforcement of regulations. Kaufmann et al. (2009) demonstrated that strong governance frameworks reduce uncertainty, creating an environment where firms with strong ESG performance are rewarded with lower capital costs. In contrast, weaker governance systems may undermine the potential reduction in equity costs by heightening investor skepticism.

Hypothesis H2: Stronger country level governance enhances the negative impact of ESG scores on the cost of equity.

The Impact of ESG Scores on the Cost of equity Capital Moderated by Tax Payment

Signaling Theory explains that tax compliance serves as a signal of ethical behavior and transparency. Companies that adhere to tax regulations demonstrate their commitment to governance and responsibility, further reducing risks associated with legal and reputational damage. This ethical signaling strengthens investor confidence, particularly when paired with strong ESG performance (Lanis & Richardson, 2012). However, aggressive tax avoidance practices or poor tax transparency may negate the positive effects of ESG performance. Investors might remain wary of potential legal and reputational risks.

Lanis and Richardson (2012) found that companies with responsible tax behavior experience lower costs of equity due to increased investor trust and reduced perceived legal risks. Mechrgui and Theiri (2024) emphasized that the combination of strong ESG performance and ethical tax compliance leads to greater financial stability and lower stock price volatility, resulting in reduced capital costs.

Hypothesis H3: Higher tax compliance enhances the negative impact of ESG scores on the cost of equity.

This combined hypothesis posits that firms with high ESG performance will experience a greater reduction in the cost of equity in countries with strong governance systems and where tax compliance is high. Governance amplifies the positive effects of

ESG by ensuring transparency and accountability, while responsible tax practices signal trustworthiness and reduce information asymmetry. Together, these factors strengthen investor confidence and further lower perceived risk, reducing the cost of equity.

RESEARCH METHODS

Sample Selection

This study uses purposive sampling to select a sample of publicly listed firms in ASEAN-5 countries (Indonesia, Malaysia, Thailand, Singapore, and the Philippines). The sample selection is based on specific criteria that align with the research objectives: firms included must have available Environmental, Social, and Governance (ESG) scores and sufficient data on equity costs for the period of 2018-2022. 3,285 companies were found, 91 companies with complete data. By using purposive sampling, the study ensures that selected companies possess characteristics directly relevant to the research, such as sustainable practices and transparency in reporting ESG metrics. This approach guarantees that the sample is representative of firms that are actively engaged in ESG practices, which is crucial for accurately assessing the relationship between ESG performance and cost of equity.

Variable Selection

The selection of variables in this study is based on the primary goal of investigating how ESG performance influences the cost of equity capital, considering the moderating effects of country-level governance and tax payments. The dependent variable in this study is the Cost of Equity, which represents the cost incurred by a company in obtaining and utilizing capital through equity. From an investor's perspective, the cost of equity is the required rate of return to provide capital, considering the expected returns on investment. In this study, the calculation of the cost of equity is conducted using two methods:

1. CAPM Model (Capital Asset Pricing Model): The first method calculates the cost of equity independently using the Capital Asset Pricing Model (CAPM), which is defined as [1].

$$Re = Rf + \beta(Rm - Rf) \quad \text{----------[1]}$$

Description:
Re : Cost of equity
Rf : Risk Free
β : Beta
Rm : Return Market.

CAPM has been widely used in financial research to estimate the cost of equity, as it incorporates systematic risk through the market premium (Sharpe, 1964; Lintner, 1965). Studies in recent years have applied CAPM in the context of ESG, indicating that firms with strong ESG performance tend to exhibit lower perceived risk, which in turn reduces their cost of equity (Li et al., 2024). In this calculation, the risk-free rate is obtained from long-term government bond yields, while the expected market return is based on broad market indices for the ASEAN-5 region.

2. Estimation of Cost of Equity with CAPM from Refinitiv: The second method uses Refinitiv's proprietary CAPM-based cost of equity estimates. Refinitiv calculates the cost of equity as [2].

$$Re = (\text{Equity Risk Premium} \times \beta) + \text{Inflation Adjusted Risk-Free Rate} \quad \text{----------[2]}$$

The Equity Risk Premium is calculated as the expected market return minus the inflation-adjusted risk-free rate. The Inflation Adjusted Risk-Free Rate represents the baseline return adjusted for inflation to reflect real economic conditions. The beta of the stock, indicating the stock's volatility in relation to the market. Refinitiv's approach provides an industry-standard estimation of the cost of equity, incorporating current market conditions and inflation adjustments to ensure that the estimate reflects the true economic cost faced by equity investors. This method is advantageous for obtaining consistent estimates across firms and can serve as a reliable benchmark for comparison with independently calculated CAPM values.

By using both methods, this study cross-validates the cost of equity estimates. The dual approach provides a comprehensive assessment by combining independent calculations with an industry-standard model, offering insights into potential variations due to differing data sources and methodologies.

The independent variable in this study is the ESG Score, which measures a company's performance across three key dimensions: Environmental, Social, and Governance. Data for the ESG score is sourced from Refinitiv, a global financial data provider that compiles and evaluates publicly available information. The score is calculated based on several indicators. For the Environmental dimension, the focus is on the company's impact on the environment, including the use of eco-friendly technologies to reduce emissions and waste, efficient resource management (such as the use of renewable energy and water conservation), and recycling initiatives. The Social dimension assesses the company's relationships and responsibilities towards employees, communities, and customers, covering policies related to human rights, labor standards, corporate social responsibility (CSR) initiatives, and diversity and inclusion within the workforce. The Governance dimension evaluates the structure and practices of corporate governance, including board composition and independence, transparency and accountability in financial reporting, and adherence to regulations and ethical business practices. Refinitiv aggregates these indicators to create a comprehensive ESG score. Companies with higher ESG scores are generally expected to have lower costs of equity capital, as they are perceived to be more sustainable and stable in the long term (Li et al., 2024).

In this study, two moderating variables are included: country-level governance and tax payment. Country-level governance refers to the quality of administrative and regulatory systems implemented by a government, which includes dimensions such as government effectiveness, regulatory quality, rule of law, control of corruption, voice and accountability, and political stability. This variable is critical as it can influence the relationship between a company's ESG score and its cost of equity. Good governance at the country level strengthens the implementation of effective ESG practices by companies, which, in turn, reduces perceived risks by investors, ultimately lowering the cost of equity. Conversely, weak governance can hinder the realization of ESG benefits due to higher uncertainties and risks faced by companies in such environments (Almaqtari et al., 2024). The country-level governance data is sourced from the Worldwide Gover-

nance Indicators (WGI) dataset, which provides comprehensive evaluations across various governance dimensions.

Tax payment represents the company's compliance with its tax obligations, reflecting good governance and transparency in financial operations. It acts as a signal to investors of the company's commitment to legal and social responsibilities, potentially reducing perceived risks and lowering the cost of equity. Higher transparency in tax payments is often viewed positively by investors, signaling a responsible and stable business environment. Tax payment moderates the relationship between ESG performance and the cost of equity by enhancing the credibility of ESG practices. Companies that are transparent in their tax affairs, alongside strong ESG performance, tend to enjoy lower volatility in stock prices and reduced equity costs (Mechrgui & Theiri, 2024). Data on tax payments is obtained from Refinitiv, where the effective tax rate (ETR) is calculated as the ratio of total taxes paid to pre-tax earnings.

Control variables are essential in this study to ensure that the results accurately reflect the relationship between independent and moderating variables without interference from other factors. Following the approach by La Rosa & Bernini (2022), several control variables are included to account for other influences on the cost of equity capital. The control variables are:

1. Firm Size: Measured by the natural logarithm of total sales. Larger companies tend to have more resources to engage in ESG activities, which may improve performance. However, larger firms might also face more ESG-related controversies. Larger companies also typically benefit from economies of scale, which can result in a lower cost of equity.
2. Market-to-Book Ratio (MTB): This ratio is calculated by comparing the market value of a firm's equity to its book value. It serves as a control for company growth and market expectations. Firms with higher MTB ratios are expected to have better growth prospects, which may affect their cost of equity.
3. Return on Assets (ROA): This is the ratio of operating income to total assets and is used to measure a company's financial performance. Firms with better financial performance are generally expected to have a lower cost of equity.
4. Leverage: Measured as the ratio of total debt to total assets. Companies with higher leverage often face a higher cost of equity due to the increased financial risk associated with debt.
5. Crisis: A dummy variable is used to account for the impact of financial crises on the cost of equity. It takes the value of 1 for years during a financial crisis and 0 otherwise, ensuring that macroeconomic shocks are controlled for in the analysis

By including these control variables, the study aims to isolate the effects of ESG scores and the moderating variables on the cost of equity capital, ensuring the robustness of the results.

Model Settings

The research model employed in this study is designed to test the influence of ESG scores on the cost of equity capital while considering the moderating effects of country-level governance and tax payment. The model is based on prior research frameworks, specifically following La Rosa & Bernini (2022) and Li et al. (2024), with panel data regression analysis used to account for both cross-sectional and time-series variations in

the dataset. The base model examines the direct relationship between ESG scores and the cost of equity capital. The equation is as [3].

$$\text{COEit} + 1 = \beta_0 + \beta_1 \text{ESGit} + \beta_2 \text{Controlit} + \epsilon\text{it} \quad \text{----------[3]}$$

COE is the cost of equity capital for firm i at time t+1. ESG is the ESG score of firm i at time t. Controls represent control variables (firm size, market-to-book ratio, ROA, leverage, risk, and crisis). ϵ is the error term.

The second model incorporates the moderating effects of country-level governance and tax payment. It tests whether these factors influence the relationship between ESG scores and the cost of equity capital. The equation is as [4].

$$\text{COEAVGit} + 1 = \beta_0 + \beta_1 \text{ESGit} + \beta_2 \text{TAXPAYit} + \beta_3 \text{GOVit} + \beta_4 \text{ESGit} \times \text{TAXPAYit} + \beta_5 \text{ESGit} \times \text{GOVit} + \text{Controlit} + \epsilon\text{it} \quad \text{---[4]}$$

TaxPay is the tax payment variable for firm i at time t. Gov represents country-level governance for firm i at time t. ESG × TaxPay and ESG × Gov captures the interaction effects of ESG scores with tax payment and governance.

This study uses a quantitative approach to analyze the impact of ESG scores on the cost of equity capital in ASEAN-5 countries, focusing on the moderating roles of national-level governance and tax payments. The methodology involves variable selection, model settings, and analysis using panel data regression models for the 2018-2022 period.

RESULTS AND DISCUSSIONS

Descriptive Statistics

Table 1 descriptive statistics provide insights into the variability of ESG, coe, and coecapm among the sampled companies. ESG (Environmental, Social, and Governance) scores, sourced from Refinitiv, have a mean of 5.3387 with a standard deviation of 1.8337, and range from 11.16 to 89.96, reflecting substantial differences in ESG performance across companies. The cost of equity (coe), as provided by Refinitiv, has an average value of 0.0938, a standard deviation of 0.0379, and ranges from 0.04 to 0.17.

Table 1. Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max
ESG	5.338.708	1.833.742	11.16	89.96
coe	0.0938161	0.0378533	0.04	0.17
NLG	-0.2442299	1.111.475	-1.96	8.94
size	2.262.218	1.582.503	16.26	25.57
leverage	0.250023	0.1685346	0.01	0.54
roa	0.0481046	0.0364905	-0.16	0.18
mtb	1.784.023	1.595.315	0.37	6.26
esgnlg	-7.628.713	5.826.362	-164.03	79.47
crisis	1	0.4004606	0	1
etr	0.1860834	0.1163313	-0.006608	0.4430253
esgetr	1.011.167	7.278.601	-2.06	32.41
coecapm	0.008697	0.0049826	0.0012057	0.0279579

Refinitiv calculates coe as the theoretical return a firm must pay to equity investors by multiplying the equity risk premium (expected market return minus the inflation-adjusted risk-free rate) with the stock's beta and adding an inflation-adjusted risk-free rate. This methodology accounts for market-wide risk and firm-specific volatility, offering a comprehensive estimate of equity costs. Meanwhile, the manually calculated cost of equity using the Capital Asset Pricing Model (CAPM), labeled as coecapm, has a significantly lower mean of 0.0087, with a standard deviation of 0.0049, and ranges from 0.0012 to 0.0279. The CAPM formula relies on market risk premiums, risk-free rates, and beta to estimate the cost of equity. The notable difference between Refinitiv's coe and coecapm may arise from variations in the inputs and assumptions, such as the risk-free rate or market risk premium, highlighting the sensitivity of cost of equity calculations to different methodologies. These statistics underscore the importance of understanding the underlying frameworks and assumptions when comparing financial metrics.

Baseline Model

The analysis of both Refinitiv and manually calculated Capital Asset Pricing Model (CAPM) estimations highlights a consistent negative relationship between ESG scores and the cost of equity (COE), reinforcing theoretical frameworks such as Signaling Theory and Risk Management Theory and aligning with prior studies. The Refinitiv estimation shows a significant negative coefficient of -0.0002985 (p-value: 0.045), supporting the hypothesis that higher ESG performance reduces perceived risks, allowing firms to secure equity financing at a lower cost. This aligns with Signaling Theory, which posits that strong ESG performance sends positive signals to the market about corporate commitment to sustainability and ethical governance, thereby increasing investor confidence and reducing the equity risk premium (Spence, 1978). Similarly, the CAPM-based estimation produces a stronger coefficient of -0.0001403 (p-value: 0.000), further validating these results. By reducing systematic risk, as reflected in beta, ESG practices enhance investor perceptions of stability and long-term resilience, a finding consistent with Risk Management Theory (Godfrey et al., 2009).

These findings also align with prior research. For example, El Ghoul et al. (2011) and Dhaliwal et al. (2011) demonstrated that companies with strong ESG performance experience lower COE due to reduced information asymmetry and investor-perceived risks. Additionally, Li et al. (2024) found that ESG ratings significantly lowered COE in the Chinese market, especially in high-pollution sectors and competitive industries. The results of this study extend these findings to the ASEAN-5 context, emphasizing that ESG practices yield similar financial benefits even in emerging markets, where governance and regulatory frameworks vary widely.

The moderating effect of governance quality, as discussed in the literature review, is particularly relevant here. Strong governance frameworks, such as those in Singapore and Malaysia, amplify the financial benefits of ESG by enhancing the credibility of ESG disclosures and reducing uncertainty for investors. This observation aligns with Governance Theory, which argues that robust institutional environments enable better implementation and monitoring of ESG practices (Kaufmann et al., 2009). In contrast, weaker governance systems, as seen in Indonesia, may limit the effectiveness of ESG in reducing COE due to investor skepticism regarding disclosure reliability. This finding highlights the critical role of governance quality in shaping the financial impact of ESG practices.

The limited moderating role of tax compliance, observed in this study, can also be linked to the theoretical framework. Although Signaling Theory suggests that ethical tax practices signal transparency and reduce reputational risks (Lanis & Richardson, 2012), the insignificance of this variable may reflect the weaker enforcement of tax regulations and governance inconsistencies in certain ASEAN-5 countries. As noted in the literature review, the benefits of tax compliance may be overshadowed in environments where governance frameworks are not strong enough to enforce or validate such practices effectively (Mechrgui & Theiri, 2024). This highlights the need for more robust governance systems to fully leverage the complementary effects of tax compliance and ESG performance.

The methodological differences between Refinitiv's COE estimates and the CAPM approach provide further insights into the influence of ESG performance. Refinitiv incorporates inflation-adjusted risk-free rates and equity risk premiums, allowing a nuanced understanding of equity costs under real economic conditions. This reflects macroeconomic realities, particularly in regions like ASEAN-5, where inflation rates fluctuate. CAPM, by contrast, offers a simpler model that directly links ESG performance to systematic risk (beta), a finding supported by Li et al. (2024), who observed that ESG practices reduce market risk premiums. The stronger statistical relationship observed in the CAPM results suggests that ESG's effect on COE is driven significantly by its impact on systematic risk, a key component of the CAPM framework.

Control variables further support the theoretical foundations. For instance, the significant negative relationship between leverage and COE in both models (p-value: 0.073 in Refinitiv and 0.044 in CAPM) supports Risk Management Theory, as higher leverage combined with ESG practices may signal financial discipline. Similarly, the negative relationship between the market-to-book ratio (MTB) and COE, particularly in the CAPM model (p-value: 0.009), suggests that firms with stronger growth prospects benefit from lower equity costs due to investor optimism. However, the insignificance of return on assets (ROA) in both models indicates that internal profitability alone is insufficient to drive reductions in COE, consistent with Governance Theory, which emphasizes the importance of external signals like ESG scores and governance structures.

Table 2. Base Model (Refinitiv COE Estimates)

Variable	Coefficient	Std. Error	t-Statistics	P-value
ESG	-0.0002985	0.0001483	-2.01	0.045**
Size	-0.0080267	0.0045018	-1.78	0.075*
Leverage	-0.0434518	0.0242143	-1.80	0.073*
Crisis	0.0043519	0.0023142	1.88	0.061*
ROA	0.0921442	0.0547447	1.68	0.094
MTB	-0.0053435	0.0031324	-1.71	0.088
Konstanta	-0.2955792	0.1004602	2.94	0.003***
R-squared		0.0645		
Prob > F		0.0008		

Note: The numbers in parentheses are p-values; ***, **, and * represent significance levels of 1%, 5%, and 10%, respectively.

Finally, the positive relationship between the crisis variable and COE in the Refinitiv model (p-value: 0.061) reflects macroeconomic theories that investors demand higher risk premiums during periods of instability. This result underscores the importance

of ESG performance as a risk mitigation tool during economic crises, further aligning with the findings of Li et al. (2024), who demonstrated that ESG ratings provide a buffer against market volatility.

In conclusion, the combined analysis of Refinitiv and CAPM-based estimations highlights the significant role of ESG performance in reducing COE, as supported by Signaling Theory and Risk Management Theory. The findings emphasize the importance of robust governance frameworks in maximizing the financial benefits of ESG, while the limited role of tax compliance highlights governance inconsistencies in emerging markets like ASEAN-5. These results contribute to the growing body of evidence that ESG is a critical determinant of financial stability and investor confidence, particularly in diverse economic contexts.

Table 3. Base Model (CAPM Calculation)

Variable	Coefficient	Std. Error	t-Statistics	P-value
ESG	-0.0001403	0.0000153	-9.19	0.000***
Size	-0.0003992	0.0004634	-0.85	0.398
Crisis	0.0000864	0.0002382	0.36	0.717
MTB	-0.0006155	0.0002329	-2.64	0.009***
ROA	-0.0024114	0.0056346	-0.43	0.669
Leverage	-0.0050355	0.0024923	-2.02	0.044
Cons	0.0229563	0.0103399	2.22	0.027**
R-squared	0.2922			
Prob > F	0.0000			

Note: The numbers in parentheses are p-values; ***, **, and * represent significance levels of 1%, 5%, and 10%, respectively.

Moderated Model

The moderated model results for both Refinitiv and CAPM-based COE estimations emphasize the significant role of ESG performance and the critical contextual influence of national-level governance (NLG). In the Refinitiv estimation, ESG scores remain a significant determinant of COE, with a negative coefficient (-0.0003925, p-value: 0.047), reinforcing the hypothesis that ESG practices reduce investor-perceived risks. Similarly, the CAPM-based model shows a stronger interaction effect between ESG and NLG, with a highly significant negative coefficient for esgnlg (-0.0000549, p-value: 0.000). These findings align with Governance Theory, which highlights that robust institutional environments amplify the financial benefits of ESG by improving disclosure credibility and reducing uncertainties (Kaufmann et al., 2009). As Almaqtari et al. (2024) noted, country-level governance plays a pivotal role in fostering sustainable corporate practices, as strong governance frameworks ensure better implementation and monitoring of ESG activities. In ASEAN-5, this effect is particularly evident in countries like Singapore and Malaysia, where institutional strength enhances the credibility of ESG disclosures, maximizing their financial impact. Conversely, weaker governance systems in countries such as Indonesia may limit the effectiveness of ESG, as poor enforcement reduces investor trust in sustainability claims.

In contrast, the moderating role of tax compliance (effective tax rate, ETR) is not statistically significant in either model. The Refinitiv estimation shows a negative coeffi-

cient for esgetr (-0.0367239, p-value: 0.282), while the CAPM model indicates a positive but similarly insignificant coefficient (0.0004082, p-value: 0.174). This finding diverges from Mechrgui and Theiri (2024), who demonstrated that tax payment signifi-cantly strengthens the relationship between ESG performance and stock price volatility. The difference in findings suggests that while tax compliance may act as a signal of transparency and responsibility in reducing short-term volatility, its role in moderating the long-term cost of equity is less pronounced. In the ASEAN-5 context, this limitation may stem from governance inconsistencies and weak enforcement mechanisms, which dilute the signaling effect of tax compliance. Without strong institutional support, tax compliance alone may not sufficiently address investor concerns about long-term risks.

Control variables further contextualize the results. In the Refinitiv model, ROA exhibits marginal significance (p-value: 0.095), suggesting that higher profitability may correlate with slightly higher COE due to increased investor expectations for returns. However, firm size, leverage, and market-to-book ratio (MTB) are not statistically significant, indicating their limited influence in this model. Conversely, the CAPM results show MTB as a significant determinant (p-value: 0.009), indicating that firms with better growth prospects enjoy lower equity costs due to positive investor sentiment. Leverage also shows a consistent negative effect in both models, highlighting that disciplined debt management strengthens perceptions of financial stability, a finding consistent with Risk Management Theory.

The results underscore the dominant role of governance compared to tax compliance in moderating the relationship between ESG and COE. Strong governance frameworks create an environment where ESG practices can credibly signal long-term sustainability, reducing investor risk premiums and COE. In contrast, the limited role of tax compliance in this study highlights its context-dependent nature, as its effectiveness relies heavily on institutional strength and enforcement mechanisms. These findings contribute to the growing body of evidence that governance quality is a critical enabler of the financial benefits of ESG practices, as noted by Kaufmann et al. (2009) and Almaqtari et al. (2024).

Table 4. Moderated Model (Refinitiv COE Estimates)

Variable	Coefficient	Std. Error	t-Statistics	P-value
ESG	-0.0003925	0.000197	-1.99	0.047**
NLG	0.0049056	0.010031	0.49	0.625
Size	-0.0073074	0.0045066	-1.62	0.106
Leverage	-0.0373507	0.0245606	-1.52	0.129
ROA	0.0922299	0.055019	1.68	0.095*
MTB	0.0005262	0.0022671	0.23	0.819
Crisis	0.0036796	0.0023533	1.56	0.119
esgnlg	-0.0002311	0.0001373	-1.68	0.098*
ETR	-0.0367239	0.0332214	-1.11	0.270
esgetr	0.0004645	0.0005987	1.08	0.282
Cons	0.2837256	0.1004443	2.81	0.005***
R-squared	0.0797			
Prob > F	0.0016			

Note: The numbers in parentheses are p-values; ***, **, and * represent significance levels of 1%, 5%, and 10%, respectively.

The moderated model findings provide valuable insights into the interplay between ESG performance, governance, and tax compliance in emerging markets. While national-level governance emerges as a key driver of the financial benefits of ESG, the limited impact of tax compliance calls for stronger institutional frameworks to enhance its role. These results extend prior research, such as Mechrgui and Theiri (2024), by highlighting the contextual variability of tax compliance's impact and reinforcing the critical importance of aligning ESG strategies with robust governance systems to achieve financial and sustainability objectives.

Table 5. Moderated Model (CAPM Calculation)

Variable	Coefficient	Std. Error	t-Statistics	P-value
ESG	-0.0001513	0.0000198	-7.63	0.000***
NLG	0.0021298	0.00101	2.11	0.036**
Size	-0.0002265	0.0004538	-0.59	0.557
Leverage	-0.0046596	0.002473	1.88	0.060
ROA	0.0022441	0.0055398	0.41	0.686
MTB	-0.0004915	0.0002283	-2.15	0.032**
Crisis	-7.37e-06	0.0002369	-0.03	0.975
esgnlg	-0.0000549	0.000038	-3.97	0.000***
ETR	-0.0028027	0.003345	-0.84	0.400
esgter	0.0004082	0.0000603	1.36	0.174
Konstanta	0.0204675	0.010174	2.01	0.045**
R-squared		0.3337		
Prob > F		0.0000		

Note: The numbers in parentheses are p-values; ***, **, and * represent significance levels of 1%, 5%, and 10%, respectively.

CONCLUSIONS AND RECOMMENDATIONS

This study explores the relationship between Environmental, Social, and Governance (ESG) scores and the cost of equity capital in ASEAN-5 countries, with a focus on the moderating effects of country-level governance and tax compliance. The findings provide significant insights into how ESG performance, combined with national governance quality and tax payment practices, influences firms' financial outcomes.

First, the results confirm that higher ESG scores are associated with a reduction in the cost of equity. This supports the hypothesis (H1) that companies with stronger ESG performance are perceived as less risky by investors, who in turn demand lower equity risk premiums. This finding aligns with Signaling Theory and Risk Management Theory, emphasizing ESG as a credible indicator of sustainability and long-term resilience (Dhaliwal et al., 2011; El Ghoul et al., 2011; Godfrey et al., 2009; Spence, 1978).

The study validates the moderating role of country-level governance in enhancing the relationship between ESG performance and the cost of equity (H2). Firms operating in countries with robust governance frameworks benefit from the increased credibility and effectiveness of ESG disclosures, which further reduce perceived risks and financing costs. This aligns with the findings of Kaufmann et al. (2009) and Almaqtari et al. (2024), who highlighted the critical role of institutional strength in enabling the financial and operational benefits of ESG practices. The findings underscore that governance frame-

works in countries like Singapore and Malaysia are instrumental in maximizing the financial benefits of ESG.

While tax compliance was hypothesized to positively moderate the relationship between ESG scores and the cost of equity (H3), the results indicate limited evidence supporting this interaction. Although ethical tax practices can signal transparency and reduce reputational risks, their moderating effect may be overshadowed by other factors, such as governance quality or market dynamics, particularly in emerging economies (Mechrgui & Theiri, 2024). The findings suggest that weak institutional frameworks in some ASEAN-5 countries might dilute the signaling effect of tax compliance, reducing its ability to complement ESG efforts in lowering COE.

The findings of this study carry important implications for policymakers, corporate managers, and investors. Policymakers should focus on strengthening governance systems and regulatory frameworks (Almaqtari et al., 2024; Kaufmann et al., 2009) to foster an environment conducive to ESG adoption, thereby attracting sustainable investments and reducing financing costs for firms. For corporate managers, the results underscore the need to integrate ESG strategies with robust governance and compliance practices, leveraging strong institutional environments to maximize financial benefits and aligning tax practices with sustainability goals to enhance investor trust. For investors, the study highlights ESG performance, especially when combined with effective governance, as a reliable indicator of long-term stability and reduced risk, providing a valuable basis for informed capital allocation decisions in ASEAN-5 countries.

REFERENCES

Almaqtari, F. A., Elsheikh, T., Hussainey, K., & Al-Bukhrani, M. A. (2024). Country-level governance and sustainable development goals: implications for firms' sustainability performance. *Studies in Economics and Finance*, *41*(3), 684–723.

Berthelot, S., Coulmont, M., & Serret, V. (2012). Do investors value sustainability reports? A Canadian study. Corporate Social Responsibility and Environmental Management, 19(6), 355–363. https://doi.org/10.1002/csr.285

CFA Institute. (2019). ESG integration in the Asia Pacific region. CFA Institute. https://www.cfainstitute.org

Clark, G. L., Feiner, A., & Viehs, M. (2015). From the stockholder to the stakeholder: How sustainability can drive financial outperformance. *Available at SSRN 2508281*.

Climate Bonds Initiative. (2022). Green infrastructure investment opportunities. https://doi.org/10.22617/TCS220077-2

Dhaliwal, D. S., Li, O. Z., Tsang, A., & Yang, Y. G. (2011). Voluntary nonfinancial disclosure and the cost of equity capital: The initiation of corporate social responsibility reporting. *The Accounting Review*, *86*(1), 59–100.

El Ghoul, S., Guedhami, O., Kwok, C. C. Y., & Mishra, D. R. (2011). Does corporate social responsibility affect the cost of capital? *Journal of Banking & Finance*, *35*(9), 2388–2406.

ETFGI. (2022). Global ESG-focused investment trends. Retrieved from https://www.etfgi.com

Godfrey, P. C., Merrill, C. B., & Hansen, J. M. (2009). The relationship between corporate social responsibility and shareholder value: An empirical test of the risk management hypothesis. *Strategic Management Journal*, *30*(4), 425–445.

Kaufmann, D., Kraay, A., & Mastruzzi, M. (2009). Governance matters VIII: aggregate and individual governance indicators, 1996-2008. *World Bank Policy Research Working Paper*, *4978*.

Kolk, A., & van Tulder, R. (2010). International business, corporate social responsibility, and sustainable development. International Business Review, *19*(2), 119–125. https://doi.org/10.1016/j.ibusrev.2009.12.003

Lanis, R., & Richardson, G. (2012). Corporate social responsibility and tax aggressiveness: An empirical analysis. *Journal of Accounting and Public Policy*, *31*(1), 86–108. https://doi.org/10.1016/j.jaccpubpol.2011.10.006

La Rosa, F., & Bernini, F. (2022). ESG controversies and the cost of equity capital of European listed companies: the moderating effects of ESG performance and market securities regulation. *International Journal of Accounting & Information Management*, *30*(5), 641–663.

Li, Y., Zhao, Y., Ye, C., Li, X., & Tao, Y. (2024). ESG ratings and the cost of equity capital in China. Energy Economics, *136*, 107685. https://doi.org/10.1016/j.eneco.2024.107685

Lintner, J. (1965) The Valuation of Risk Assets and the Selection of Risky Investments in Stock Portfolios and Capital Budgets. *The Review of Economics and Statistics*, 47(1), 13–37.

Makhdalena, M., Zulvina, D., Zulvina, Y., Amelia, R. W., & Wicaksono, A. P. (2023). Environmental, social, governance, and firm performance in developing countries: Evidence from Southeast Asia. Etikonomi, *22*(1), 65–78.

Mechrgui, S., & Theiri, S. (2024). The effect of environmental, social, and governance (ESG) performance on the volatility of stock price returns: The moderating role of tax payment. *Journal of Financial Reporting and Accounting*. https://doi.org/10.1108/JFRA-03-2024-0140

OECD. (2023). ESG investing: Practices, progress and challenges. Organisation for Economic Co-operation and Development. https://www.oecd.org

PwC. (2023). Asia Pacific ESG outlook 2023: Building a net zero, nature-positive and equitable world. Retrieved from https://www.pwc.com

Refinitiv. (2023). Data on ESG scores, cost of equity estimates, and financial metrics (firm size, market-to-book ratio, ROA, leverage, beta) for ASEAN-5 firms, 2018–2022. Retrieved between April 2024 and October 19, 2024, from https://www.refinitiv.com

Sharpe, W. F. (1964). Capital Asset Prices: A Theory of Market Equilibrium Under Conditions of Risk. *The Journal of Risk*, *XIX*(3), 425–442. https://doi.org/10.1111/j.1540-6261.1964.tb02865.x

Spence, M. (1978). Job market signaling. In *Uncertainty in economics* (pp. 281–306). Elsevier.

Thomson Reuters. (2023). Impact analysis: ESG regulations in Asia gather momentum. Retrieved from https://insight.thomsonreuters.com