



# The Impact of ESG on Stock Misvaluation and Capital Structure in Publicly Listed Companies Across Five ASEAN Countries (2019–2023): Evidence Suggesting ESG Enhances Market Efficiency

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**Abstract.** This study aims to analyze the effect of Environmental, Social, and Governance (ESG) scores on stock misvaluation and its impact on the capital structure of companies in five emerging ASEAN countries, namely Indonesia, Malaysia, Thailand, the Philippines, and Vietnam, during the period 2019–2023. The study adopts a quantitative method using an unbalanced panel dataset of 320 companies and applies Fixed Effect regression and Two-Stage Least Squares (2SLS) models to address endogeneity issues. The main variables tested include ESG scores and their three component pillars, stock misvaluation indicators (based on the residual income model and analyst target prices), capital structure (changes in debt and equity, as well as the Debt-to-Equity ratio), with information asymmetry and market sentiment as moderating variables. The research results show that ESG performance has a significantly negative impact on stock misvaluation, where an increase in ESG indicates a decrease in misvaluation, suggesting that stronger ESG performance enhances market pricing efficiency. Additionally, the Governance pillar significantly affects capital structure through the debt-to-equity ratio.

**Keywords:** ESG, Stock Misvaluation, Capital Structure, ASEAN Emerging Markets, Panel Data Analysis.

## 1 Introduction

Market Environmental, Social, and Governance (ESG) has become an essential indicator for evaluating corporate performance and sustainability. ESG scores not only reflect ecological, social, and governance responsibility but also serve as a key benchmark for investors in assessing managerial competence, financial risk, and long-term prospects. Previous studies suggest that firms with higher ESG performance tend to enjoy stronger reputations, attract more investors, and demonstrate greater resilience during crises. Meanwhile, stock misvaluation remains a persistent challenge to market efficiency. Misvaluation can arise from cognitive biases, information asymmetry, or investor sentiment, thereby distorting investment decisions and firm value. Prior literature indicates

that ESG performance may reduce undervaluation by improving transparency and lowering information asymmetry; however, it may also amplify overvaluation when positive investor sentiment toward sustainable firms drives prices beyond fundamentals.

Importantly, stock misvaluation is not only a market outcome but also a determinant of corporate financing decisions. According to market timing theory, managers tend to issue equity when shares are overvalued and rely more on internal financing or debt when shares are undervalued. Thus, misvaluation directly influences capital structure adjustments. In this context, ESG becomes a strategic factor that may shape capital structure indirectly through its impact on stock misvaluation, as well as directly through its effect on perceived risk and cost of capital. Studying misvaluation and capital structure together therefore allows for a more integrated understanding of how ESG performance translates into real financing outcomes. In addition, capital structure represents a crucial financial policy that reflects firms' responses to both market conditions and internal constraints. While firms with higher ESG scores are often perceived as less risky and may gain easier access to equity financing, empirical findings remain mixed, with different ESG pillars exerting heterogeneous effects on leverage decisions.

Within the ASEAN region, ESG issues have gained increasing attention alongside rising sustainability awareness, although implementation remains uneven. Companies in Indonesia, Malaysia, Thailand, Vietnam, and the Philippines face regulatory gaps, resource constraints, and heightened climate risks. In emerging markets where market inefficiencies are more pronounced, the interaction between ESG, stock misvaluation, and capital structure becomes particularly relevant. Therefore, examining these two dimensions jointly is essential to understand how ESG influences both market valuation distortions and firms' strategic financing decisions in emerging ASEAN economies.

## **2 Literature Review and Hypothesis Development**

### **2.1 ESG and Misvaluation**

Stakeholder Theory, introduced by [1], explains that firms must consider the interests of various stakeholders in their decision-making processes. Freeman expanded the theory by highlighting the political and ethical dimensions of stakeholder relationships, stressing continuous dialogue, respect for rights, and the integration of stakeholders into strategic management ([1]; [2]). This framework has become increasingly relevant in the context of sustainability and ESG, as firms that manage stakeholder interests effectively tend to achieve stronger legitimacy, long-term value creation, and competitive advantage. Empirical evidence supports this view, with meta-analyses showing a positive link between ESG performance and financial outcomes [3]. Overall, stakeholder theory provides a robust foundation for understanding how firms can balance economic objectives with social and environmental responsibilities in today's dynamic business environment.

Dynamic Environmental, Social, and Governance (ESG) is a non-financial assessment framework that encompasses environmental, social, and governance aspects

to evaluate a company's sustainability and risk profile [4]. ESG helps investors understand long-term risks and opportunities, although it still faces challenges such as diverse reporting standards, limited data availability, and the risk of greenwashing. ESG scores have been shown to correlate positively with corporate reputation and financial performance, making them widely used in sustainable investment decisions [3]. However, the impact of ESG on financial performance is not always immediately observable, prompting recent research to emphasize the importance of considering the time-lag concept—the delay between changes in ESG scores and their actual effect on financial outcomes [5]. This approach helps avoid reverse causality bias and better reflects real market dynamics, aligning with prior studies that highlight the critical role of lag effects in financial stability, systemic risk, and capital structure decisions ([6]; [7]). Therefore, integrating ESG principles while accounting for time-lag factors becomes essential for producing more valid and accurate financial analyses. Stock misvaluation refers to the deviation between a firm's market price and its fundamental value, which may occur as undervaluation or overvaluation [8]. This phenomenon is explained by Asymmetric Information Theory, where managers possess superior information compared to investors, leading to price distortions ([9]; [10]), and by Market Timing Theory, which argues that firms tend to issue equity when shares are overvalued and repurchase when undervalued [11]. Misvaluation can be driven by investor biases such as overconfidence, representativeness, and anchoring [12], market overreactions to irrelevant information [13], and uncertainty that complicates arbitrage and affects future returns [14]. Moreover, poor managerial decisions, such as excessive spending on unprofitable investments or acquisitions, may exacerbate mispricing in inefficient markets. Misvaluation implies that market prices do not always reflect intrinsic value, influencing investment decisions, stock returns, and firms' financing strategies.

## 2.2 ESG and Capital Structure

Pecking Order Theory suggests that firms prioritize internal financing (retained earnings), then debt, and consider equity issuance as a last resort due to ownership dilution and the negative signal it may send to investors [9]. Market Timing Theory, the other theory, emphasizes managers' role in adjusting to equity market conditions to maximize firm value, with companies often issuing equity when shares are overvalued, which in the long run leads to lower leverage ([11]; [5]). Both external factors such as market conditions and valuation, and internal factors such as financial deficits, shape financing decisions, making it difficult to conclude that capital structure strictly follows one single theory. Instead, capital structure choices are more realistically understood as the outcome of interactions between multiple internal and external determinants.

H1: ESG performance affects stock misvaluation. Investor increasingly value firms with strong ESG commitment, often leading to deviations between market and fundamental values. High ESG scores can either inflate overvaluation or correct undervaluation, indicating that ESG performance influences market mispricing.

H2a: Better ESG performance increases stock overvaluation. Strong ESG signals long-term sustainability and risk management, prompting investor optimism that can drive prices above intrinsic value [5].

H2b: Better ESG performance reduces stock undervaluation. Good ESG reduces information asymmetry and improves investor trust, helping market prices align with fundamentals ([15]; [5]).

H3: Information asymmetry moderates the relationship between ESG and valuation. ESG disclosure enhances transparency and reduces information asymmetry ([16]; [17]; [18]). Lower asymmetry improves market efficiency and decreases both overvaluation and undervaluation.

H4: Market sentiment moderates the relationship between ESG and valuation. Rising public awareness and investor interest in sustainability amplify ESG's effect on market value. Positive sentiment strengthens ESG's role in determining firm valuation.

H5: ESG scores are significantly related to firms' capital structure. High ESG performance influences financing choices, with firms relying less on debt and gaining easier equity access ([19]; [5]). ESG integration supports efficient and sustainable funding strategies.

H6: High-ESG firms tend to issue equity when facing financing deficits. According to pecking order and market timing theories, ESG enhances investor trust and lowers equity costs, encouraging firms to issue shares during funding shortfalls ([20]; [6]; [21]).

### 3 Sample Description and Research Methodology

#### 3.1 Data and Variable Description

**Dependent Variable – Misvaluation Measures.** The calculation of misvaluation is used to assess whether a stock is priced too high (overvalued) or too low (undervalued) by comparing its market price with two benchmarks: fair value and target price [5]. Misvaluation measurement is divided into two methods:

$$MV_{i,t}^{RES} = \frac{P_{i,t}}{V_{i,t}} \quad (1)$$

$MV_{i,t}^{RES}$  measures misvaluation by comparing the market price  $P_{i,t}$  with the fair value  $V_{i,t}$  derived from the residual earnings model [5].

$$MV_{i,t}^{TP} = \frac{P_{i,t}}{V_{i,t}} \quad (2)$$

$MV_{i,t}^{TP}$  measures misvaluation by comparing market price with the target price [5].

**Dependent Variable – Capital Structure.** Capital structure measured by changes in debt ( $\Delta Di,t$ ) and equity ( $\Delta Ei,t$ ) relative to total assets, calculated as the difference between the current year and the previous year [5]. In addition, the Debt- to-Equity Ratio (DER) is used to assess the extent to which firms rely on debt compared to equity, as well as how ESG performance influences changes in DER [19].

**Independent Variable – ESG Score.** ESG Score as the independent variable use to analyze its effect on stock misvaluation and capital structure. ESG data for Indonesia, Malaysia, Thailand, Philippines, and Vietnam are obtained from Refinitiv Eikon, with scores ranging from 0 to 100, covering the three pillars: Environmental, Social, and Governance [4]. The Environmental pillar includes indicators such as emissions, resource use, and product innovation; the social pillar covers human rights, labor, community, and CSR activities; while the Governance pillar reflects management quality, shareholder rights, and CSR strategy.

**Moderator Variables.** FEM The moderating variables in this study are information asymmetry and market sentiment. Information asymmetry measures the imbalance of information between company insiders and external investors, calculated using the bid-ask spread, where a larger spread indicates higher asymmetry [5].

$$\text{Information Asymmetry} = \text{Ask} - \text{Bid} / ((\text{Ask} + \text{Bid}) / 2) \quad (3)$$

Market sentiment reflects investor perceptions and is measured using the Google Trends Search Volume Index (SVI) for the topic “Sustainability” during 2019–2023.

**Control Variables.** Leverage Ratio, Market-to-Book Ratio, Capital Expenditure, Dividend Payout Ratio, Firm Size, Profitability, and Analyst Coverage [5].

### 3.2 Empirical Methodology

This study employs the Fixed Effect Model (FEM) as the primary estimation method, selected based on the results of the Hausman test. The Hausman specification test is used to determine whether the Random Effect Model (REM) or Fixed Effect Model (FEM) is more appropriate. Since the test results indicate significance at the 5% level, the FEM was chosen, as it provides consistent estimators by controlling for unobserved heterogeneity across entities [22].

$H_0$ : Model Random Effect (REM) -- (p-value > 0.05)

$H_a$ : Model Fixed Effect (FEM) -- (p-value < 0.05)

In FEM, the regression model can be estimated as follows:

$$Y_{it} = \alpha + \beta X_{it} + u_i + v_{it} \quad (4)$$

After estimating the Fixed Effect Model (FEM), several diagnostic tests were conducted to ensure the validity of the regression results. The study check Heteroskedasticity, Autocorrelation, and Multicollinearity. Then the study check the performed to evaluate the relationship between ESG performance and stock misvaluation. To check robustness, using Two-Stage Least Squares (2SLS) addressed potential endogeneity, ensuring the validity and relevance of the instruments used.

### 3.3 Model Specification

Model 1

$$\text{Misvaluation}_{i,t} = \beta_1 Y_{i,t-1} + \beta_2 \text{ESG}_{i,t-1} + \beta_4 \text{Lev}_{i,t} + \beta_5 \text{Firmsz}_{i,t} + \beta_6 \text{Capex}_{i,t} + \beta_7 \text{DPR}_{i,t} + \beta_8 \text{NA}_{i,t} + \beta_9 \text{MTB}_{i,t} + e_{i,t} \quad (7)$$

Model 2 (Asymmetric Information as moderator)

$$\text{Misvaluation}_{i,t} = \beta_1 Y_{i,t-1} + \beta_2 \text{Assymi}_{i,t} + \beta_3 \text{ESG}_{i,t-1} + \beta_4 \text{Assymi}_{i,t} * \text{ESG}_{i,t-1} + \beta_5 \text{Lev}_{i,t} + \beta_6 \text{Firmsz}_{i,t} + \beta_7 \text{Capex}_{i,t} + \beta_8 \text{DPR}_{i,t} + \beta_9 \text{NA}_{i,t} + \beta_{10} \text{MTB}_{i,t} + \beta_{11} \text{DOV}_{i,t} + e_{i,t} \quad (6)$$

Model 3 (Market Sentiment as moderator)

$$\text{Misvaluation}_{i,t} = \beta_1 Y_{i,t-1} + \beta_2 \text{MKTSENT}_{i,t} + \beta_3 \text{ESG}_{i,t-1} + \beta_4 \text{MKTSENT}_{i,t} * \text{ESG}_{i,t-1} + \beta_5 \text{Lev}_{i,t} + \beta_6 \text{Firmsz}_{i,t} + \beta_7 \text{Capex}_{i,t} + \beta_8 \text{DPR}_{i,t} + \beta_9 \text{NA}_{i,t} + \beta_{10} \text{MTB}_{i,t} + e_{i,t} \quad (7)$$

Model 4 (Calculated with Debt and Equity)

$$\Delta \text{Capital Structure}_{i,t} = \beta_0 + \beta_1 \text{DEF}_{i,t} + \beta_2 \text{MKT}_{i,t} + e_{i,t} \quad (8)$$

Model 5 (ESG Regression with Capital structure – Calculated with Debt and Equity)

$$\Delta \text{Capital Structure}_{i,t} = \beta_0 + \beta_1 \text{DEF}_{i,t} + \beta_2 \text{MKT}_{i,t} + \beta_3 \text{LESG}_{i,t} + \beta_4 \text{LESG}_{i,t} * \text{MKT}_{i,t} + \beta_5 \text{Prof}_{i,t} + \beta_6 \text{Prof}_{i,t} * \text{MKT}_{i,t} + \beta_7 \text{Firmsz}_{i,t} + \beta_8 \text{Firmsz}_{i,t} * \text{MKT}_{i,t} + \beta_9 \text{Capex}_{i,t} + \beta_{10} \text{Capex}_{i,t} * \text{MKT}_{i,t} + \beta_{11} \text{DPR}_{i,t} + \beta_{11} \text{DPR}_{i,t} * \text{MKT}_{i,t} + e_{i,t} \quad (9)$$

Model 6 (ESG Regression with Capital Structure)

$$\text{DTE}_{i,t} = \beta_0 + \beta_1 \text{Env}_{i,t} + \beta_2 \text{Soc}_{i,t} + \beta_3 \text{Gov}_{i,t} + \beta_5 \text{Firmsz}_{i,t} + \beta_5 \text{Prof}_{i,t} + \beta_6 \text{Capex}_{i,t} + \beta_6 \text{DPR}_{i,t} + e_{i,t} \quad (10)$$

## 4 Results and Discussion

### 4.1 ESG Performance Affects Stock Misvaluation

The results in Table 1 reveal a negative and significant relationship between ESG scores and firm misvaluation, supporting [5], who identify ESG as a key value driver in market valuation. In Panel A (MVRES), the LESG coefficient is  $-0.0039^{***}$  (p-value 0.0000) for overall conditions,  $-0.0030^{***}$  (p-value 0.0000) for overvalued firms, and  $-0.0039^{***}$  (p-value 0.0000) for undervalued firms. In Panel B (MVTP), the LESG coefficient is  $-0.0019^{***}$  (p-value 0.0080) for overall,  $-0.0020^{***}$  (p-value 0.0080) for overvalued, and  $-0.0021^{***}$  (p-value 0.0090) for undervalued.

Misvaluation often arises from information imbalances and investor biases, such as confirmation bias or overconfidence [13]. High ESG transparency helps reduce these biases by providing clearer sustainability information to investors. However, in developing ASEAN markets, the negative correlation may also reflect investors' perception of ESG as a signal of risk aversion rather than a value premium [5].

**Table 1.** Regression 1 Results

| Variable         | Panel A - MVres       |                        |                        | Panel B - MVtp         |                        |                        |
|------------------|-----------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
|                  | Overall               | Overvalued             | Undervalued            | Overall                | Overvalued             | Undervalued            |
| Lmisvaluation    | -0.0167<br>(0.671)    | 0.0292<br>(0.6140)     | 0.0353<br>(0.5420)     | -0.1111**<br>(0.0210)  | -0.1039**<br>(0.032)   | -0.1051**<br>(0.030)   |
| LESG             | -0.0039***<br>(0.000) | -0.0030***<br>(0.0000) | -0.0039***<br>(0.0000) | -0.0019***<br>(0.0080) | -0.0020***<br>(0.0080) | -0.0021***<br>(0.0090) |
| Prof             | -0.4292*<br>(0.084)   | -0.5101**<br>(0.0440)  | -0.5149**<br>(0.0410)  | 0.0564<br>(0.7160)     | 0.1137<br>(0.497)      | 0.0997<br>(0.549)      |
| Lev              | 0.39799*<br>(0.096)   | 0.3971*<br>(0.0940)    | 0.3956*<br>(0.0970)    | -0.0812<br>(0.5900)    | -0.0823<br>(0.589)     | -0.0816<br>(0.590)     |
| FirmSize         | 0.0135<br>(0.734)     | 0.0124<br>(0.7540)     | 0.0122<br>(0.7560)     | -0.0097<br>(0.7790)    | -0.0096<br>(0.783)     | -0.0097<br>(0.782)     |
| Capex            | -2.240<br>(0.543)     | -0.2219<br>(0.5460)    | -0.2216<br>(0.5470)    | 0.0238<br>(0.9070)     | 0.0473<br>(0.817)      | 0.0421<br>(0.836)      |
| DPR              | -0.0394<br>(0.317)    | 0.0375<br>(0.3390)     | 0.0374<br>(0.3400)     | -0.0130<br>(0.6650)    | -0.0116<br>(0.700)     | -0.0119<br>(0.691)     |
| NA               | -0.0098***<br>(0.000) | -0.0093***<br>(0.0000) | -0.0091***<br>(0.0000) | -0.0021<br>(0.2150)    | -0.0027<br>(0.172)     | -0.0023<br>(0.180)     |
| Market-to-book   | 0.0026<br>(0.165)     | -0.0027<br>(0.7560)    | 0.0027<br>(0.1550)     | 0.0044***<br>(0.0000)  | 0.0043***<br>(0.000)   | 0.0044***<br>(0.000)   |
| _cons            | 0.7653<br>(0.300)     | 0.7668<br>(0.2930)     | 0.9915<br>(0.3220)     | 1.2314*<br>(0.0510)    | 1.2168*<br>(0.057)*    | 1.2328*<br>(0.053)     |
| <b>R-Squared</b> |                       |                        |                        |                        |                        |                        |
| Within           | 0.0821                | 0.0841                 | 0.0847                 | 0.0609                 | 0.0629                 | 0.0621                 |
| Between          | 0.0324                | 0.0187                 | 0.0175                 | 0.0112                 | 0.0135                 | 0.0128                 |
| Overall          | 0.0044                | 0.0010                 | 0.0007                 | 0.0004                 | 0.0001                 | 0.0002                 |
| Number of obs    | 1280                  | 1280                   | 1280                   | 1062                   | 1062                   | 1062                   |
| Prob>F           | 0.0000                | 0.0000                 | 0.0000                 | 0.0000                 | 0.0000                 | 0.0000                 |

\*\*\*  $p < .01$ , \*\*  $p < .05$ , \*  $p < .1$

Furthermore, the findings show that analyst coverage (NA) has a significantly negative effect on misvaluation (MVRES), indicating that lower analyst coverage increases the likelihood of misvaluation. Profitability also exhibits a significant negative effect, implying that financial transparency lowers valuation errors, whereas leverage has a positive and significant effect, amplifying mispricing risk. Other variables such as firm size, CapEx, DPR, and DER show no significant influence. Overall, ESG consistently affects investor perceptions under both overvalued and undervalued conditions, reinforcing its role as a crucial determinant of market valuation in emerging ASEAN economies.

#### 4.2 Regression Results: Information Asymmetry as a Moderator of the Relationship Between ESG and Valuation

This study examines the moderating role of information asymmetry in the relationship between ESG performance and stock misvaluation, using the Bid-Ask Spread as a proxy. The results in Table 2 show that the interaction between Bid Ask\*LESG is insignificant across all models, including the overall sample, overvalued, and undervalued firms, with p-values > 0.05 in both panels. Additionally, the individual effect of Bid Ask on misvaluation is also insignificant in all models. These findings are consistent with [23] but differ from [5], who found that information asymmetry can strengthen the relationship between ESG and firm valuation.

**Table 2.** Regression Result - Asymmetry Information

| Variable         | Panel A - MVres |            |             | Panel B - MVtp |            |             |
|------------------|-----------------|------------|-------------|----------------|------------|-------------|
|                  | Overall         | Overvalued | Undervalued | Overall        | Overvalued | Undervalued |
| Lmisval-         | -0.0169         | 0.0297     | 0.0351      | 0.1115**       | -0.1040**  | -0.1053**   |
| uasi             | (0.6680)        | (0.5190)   | (0.5440)    | (0.0200)       | (0.0310)   | (0.0290)    |
| LESG             | -0.0040***      | -0.0039*** | -0.0039***  | 0.0022***      | -0.0023*** | -0.0023***  |
|                  | (0.0000)        | (0.0000)   | (0.0000)    | (0.0040)       | (0.0040)   | (0.0040)    |
| Bid Ask          | -0.6487         | -0.6208    | -0.5449     | -0.1894        | -0.1366    | -0.1753     |
|                  | (0.8160)        | (0.8260)   | (0.8440)    | (0.9230)       | (0.9450)   | (0.9290)    |
| Bid              | -0.0046         | 0.0033     | 0.0039      | -0.0849        | -0.0900    | -0.0882     |
| Ask*LES          | (0.9700)        | (0.9760)   | (0.9780)    | (0.4110)       | (0.3860)   | (0.3950)    |
| G                |                 |            |             |                |            |             |
| Profita-         | -0.4315*        | -0.5142**  | -0.5163**   | 0.0503         | 0.1095     | 0.0951      |
| bility           | (0.0800)        | (0.0410)   | (0.0400)    | (0.7460)       | (0.5130)   | (0.5680)    |
|                  | 0.3993*         | 0.3957*    | 0.3971*     | -0.0825        | -0.0839    | -0.0830     |
|                  | (0.0930)        | (0.0960)   | (0.0930)    | (0.5830)       | (0.5840)   | (0.5850)    |
| Leverage         |                 |            |             |                |            |             |
| FirmSize         | 0.0133          | 0.0122     | 0.0121      | 0.0125         | -0.0126    | -0.0126     |
|                  | (0.7360)        | (0.7560)   | (0.7560)    | (0.7120)       | (0.7130)   | (0.7130)    |
| CaPex            | -0.2234         | -0.2217    | -0.2215     | 0.0253         | 0.0496     | -0.0443     |
|                  | (0.5430)        | (0.5480)   | (0.5460)    | (0.9010)       | (0.8080)   | (0.8280)    |
| DPR              | 0.0395          | 0.0396     | 0.0375      | -0.0130        | -0.0111    | -0.0118     |
|                  | (0.3160)        | (0.3380)   | (0.3400)    | (0.6700)       | (0.7020)   | (0.6940)    |
| NA               | -0.0099***      | -0.0092*** | -0.0091***  | -0.0021        | -0.0023    | -0.0023     |
|                  | (0.0000)        | (0.0000)   | (0.0000)    | (0.2230)       | (0.1780)   | (0.1860)    |
| Market-          | 0.0071          | 0.0028     | 0.0027      | 0.0044***      | 0.0043***  | 0.0043***   |
| to-book          | (0.1630)        | (0.1500)   | (0.1540)    | (0.0000)       | (0.0000)   | (0.0000)    |
| _cons            | 0.5821          | 0.5882     | 0.5399      | 1.1917*        | 1.1748*    | 1.1909*     |
|                  | (0.4250)        | (0.4000)   | (0.4530)    | (0.0520)       | (0.0590)   | (0.0550)    |
| <b>R-squared</b> |                 |            |             |                |            |             |
| Within           | 0.0822          | 0.0842     | 0.0847      | 0.0621         | 0.0642     | 0.0634      |
| Between          | 0.0338          | 0.0198     | 0.0185      | 0.0113         | 0.0135     | 0.0129      |
| Overall          | 0.0048          | 0.0012     | 0.0009      | 0.0003         | 0.0001     | 0.0001      |
| Number           | 1280            | 1280       | 1280        | 1062           | 1062       | 1062        |
| of obs           |                 |            |             |                |            |             |

|        |        |        |        |        |        |        |
|--------|--------|--------|--------|--------|--------|--------|
| Prob>F | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
|--------|--------|--------|--------|--------|--------|--------|

\*\*\*  $p < .01$ , \*\*  $p < .05$ , \*  $p < .1$

Theoretically, the Bid-Ask Spread serves as an indicator of information asymmetry, the larger the spread, the greater the likelihood of information imbalance in the market. As well-informed investors can influence transaction prices while less-informed investors may accept less favorable prices. However, the insignificance of this variable may be attributed to the annual nature of ESG disclosures in most ASEAN countries and the order-driven trading system in markets like the Indonesia Stock Exchange (IDX), where stock prices are more influenced by broker activities and trading volume than by ESG disclosure quality.

Regression results for control variables show that profitability has a significant negative effect on misvaluation, while leverage and the market-to-book ratio have significant positive effects, indicating that higher profits reduce valuation errors, whereas higher debt and excessive market expectations increase them. Other variables such as firm size, CapEx, and DPR show no significant effects.

Furthermore, countries with high ESG scores and analyst coverage, such as Indonesia, the Philippines, and Thailand, tend to experience overvaluation, while Vietnam, with lower ESG scores, exhibits undervaluation. The insignificant interaction between BidAsk and ESG suggests that market liquidity does not moderate the ESG– misvaluation relationship. However, the negative and significant LESG coefficients across all models reaffirm that ESG performance directly influences misvaluation correction, consistent with the findings of [5].

### 4.3 Regression Results: Market Sentiment Moderates the Relationship Between ESG and Valuation

Table 3 presents the regression results on the moderating role of market sentiment in the relationship between ESG performance and misvaluation. The results indicate that the interaction between ESG and market sentiment is only positively significant in the MVTP model for the overall sample and undervalued firms, while it is insignificant in the MVRES model and for overvalued firms. These findings are consistent with [5], who found that market sentiment moderation only affects the overall and undervalued samples but not overvalued firms. When market prices already exceed intrinsic value, stronger ESG sentiment no longer significantly exacerbates overvaluation.

Overall, market sentiment is only significant at the 10% level for the overall sample ( $p$ -value 0.0790\*) and undervalued firms ( $p$ -value 0.0690\*). This contrasts with [5], who emphasized the critical role of information asymmetry in shaping market reactions to ESG. Such differences may stem from the context of developing ASEAN markets, where ESG reporting frameworks remain nascent and market volatility especially during the COVID-19 pandemic that influenced investor sentiment ([21]; [24]).

Country-level averages show that Indonesia, the Philippines, and Thailand have relatively high ESG scores and analyst coverage, indicating stronger market attention and positive sentiment that may drive overvaluation due to elevated expectations of ESG-oriented firms. In contrast, Vietnam, with the lowest ESG and NA scores, exhibits undervaluation due to limited market attention and weak investor sentiment. This aligns

with [25], who found that market sentiment does not always lead to systematic misvaluation, as internal financing mechanisms and market competition can mitigate such effects. Therefore, the moderating effect of market sentiment on the ESG–misvaluation relationship is not universal and depends on market characteristics and the misvaluation measurement method used ([23]; [5]).

**Table 3** Regression Result - Market Sentiment

| Variable             | Panel A - MVres         |                        |                        | Panel B - MVtp         |                       |                       |
|----------------------|-------------------------|------------------------|------------------------|------------------------|-----------------------|-----------------------|
|                      | Overall                 | Overvalu<br>ed         | Underval<br>ued        | Overall                | Overvalu<br>ed        | Underval<br>ued       |
| Lmisvalu<br>asi      | -0.0403*<br>(0.0570)    | -0.0393*<br>(0.1000)   | -0.0372<br>(0.1240)    | -0.1312***<br>(0.0070) | -0.1234**<br>(0.0110) | -0.1243**<br>(0.0110) |
| LESG                 | -0.0033**<br>* (0.0000) | -0.0033***<br>(0.0000) | -0.0033***<br>(0.0000) | -0.0011<br>(0.1680)    | -0.0012<br>(0.1560)   | -0.0012<br>(0.1580)   |
| Market<br>Sentimen t | -0.0111<br>(0.4030)     | -0.0011<br>(0.4090)    | -0.0011<br>(0.4140)    | -0.0016*<br>(0.0800)   | -0.0012*<br>(0.0520)  | -0.0016*<br>(0.0560)  |
| Market<br>Sent*ES G  | 0.0000<br>(0.6000)      | 0.0002<br>(0.6030)     | 0.0000<br>(0.6050)     | 0.0000*<br>(0.0790)    | 0.0002<br>(0.1100)    | 0.0005*<br>(0.0690)   |
| Profitability        | -0.4548*<br>(0.0600)    | -0.4596*<br>(0.0730)   | -0.4688*<br>(0.0670)   | 0.0191<br>(0.9040)     | 0.0897<br>(0.5210)    | 0.0751<br>(0.6560)    |
| Leverage             | 0.3805<br>(0.1110)      | 0.3806<br>(0.1110)     | 0.3808<br>(0.1110)     | -0.1065<br>(0.4770)    | -0.0826<br>(0.5860)   | -0.1089<br>(0.4680)   |
| FirmSize             | 0.0112<br>(0.7750)      | 0.0112<br>(0.7750)     | 0.0112<br>(0.7760)     | -0.0117<br>(0.7470)    | -0.0124<br>(0.7540)   | -0.0117<br>(0.7520)   |
| CaPex                | -0.2477<br>(0.5160)     | -0.2491<br>(0.5140)    | -0.2519<br>(0.5100)    | -0.0318<br>(0.8770)    | 0.0453<br>(0.7450)    | 0.0570<br>(0.7800)    |
| DPR                  | 0.0372<br>(0.3360)      | 0.0372<br>(0.3380)     | 0.0371<br>(0.3390)     | -0.0062<br>(0.6660)    | -0.0126<br>(0.7100)   | -0.0113<br>(0.7030)   |
| NA                   | -0.0071*<br>(0.0660)    | -0.0079*<br>(0.0660)   | -0.0079*<br>(0.0670)   | -0.0006<br>(0.8350)    | -0.0026<br>(0.1710)   | -0.0006<br>(0.8220)   |
| Market-to-<br>book   | 0.0026<br>(0.1900)      | 0.0026<br>(0.1900)     | 0.0026<br>(0.1890)     | 0.0042***<br>(0.0010)  | 0.0043***<br>(0.0000) | 0.0039***<br>(0.0000) |
| _cons                | 0.6526<br>(0.3670)      | 0.6530<br>(0.3680)     | 0.6482<br>(0.3700)     | 1.2045*<br>(0.0700)    | 1.1807*<br>(0.0810)   | 1.2020*<br>(0.0750)   |
| <b>R-Squared</b>     |                         |                        |                        |                        |                       |                       |
| Within               | 0.0882                  | 0.0744                 | 0.0883                 | 0.0711                 | 0.0735                | 0.0734                |
| Between              | 0.0383                  | 0.0127                 | 0.0395                 | 0.0099                 | 0.0095                | 0.0120                |
| Overall              | 0.0050                  | 0.0015                 | 0.0054                 | 0.0022                 | 0.0021                | 0.0016                |
| Number of<br>obs     | 1280                    | 1280                   | 1280                   | 1062                   | 1062                  | 1062                  |
| Prob>F               | 0.0000                  | 0.0000                 | 0.0000                 | 0.0000                 | 0.0000                | 0.0000                |

\*\*\* p<.01, \*\* p<.05, \* p<.1

#### 4.4 Regression Results: Market Sentiment Moderates the Relationship Between ESG and Valuation

This panel examines whether firms with high ESG performance and overvalued conditions are more likely to issue equity as a source of financing. Two models are employed: Model 1 regresses changes in equity on financial deficits and market timing, while Model 2 adds the interaction between ESG and market timing, following the theory that firms tend to issue shares when prices are high [5].

**Table 4.** Regression Result ESG and Capital Structure

| Variable              | Panel A - MVres      |                      | Panel B - MVtp       |                       |
|-----------------------|----------------------|----------------------|----------------------|-----------------------|
|                       | Model 1              | Model 2              | Model 1              | Model 2               |
| DEF                   | 0.0025<br>(0.313)    | 0.0050<br>(0.623)    | 0.3749***<br>(0.000) | 0.8869***<br>(0.000)  |
| Market Timing         | 0.0107***<br>(0.000) | 0.071***<br>(0.000)  | -0.0030<br>(0.846)   | -0.1706***<br>(0.004) |
| LESG                  |                      | -0.0001<br>(0.302)   |                      | 0.0004<br>(0.168)     |
| LESG*M                |                      | -0.0004<br>(0.106)   |                      | 0.0012<br>(0.199)     |
| arket Timing          |                      |                      |                      |                       |
| Profit                |                      | 0.1731***<br>(0.001) |                      | -0.4089***<br>(0.001) |
| Profit*M arket Timing |                      | 0.0874***<br>(0.048) |                      | -0.4744<br>(0.141)    |
| Firm Size             |                      | 0.0051<br>(0.477)    |                      | 0.0080<br>(0.634)     |
| Firm Size*Market Tim- |                      | 0.0197***<br>(0.000) |                      | -0.0705***<br>(0.000) |
| ing                   |                      |                      |                      |                       |
| CaPex                 |                      | 0.0576<br>(0.562)    |                      | 0.0510<br>(0.827)     |
| Capex*Market Timing   |                      | -0.0159<br>(0.746)   |                      | -0.0795<br>(0.859)    |
| DPR                   |                      | -0.0050<br>(0.578)   |                      | -0.0114<br>(0.626)    |
| DPR*Market Timing     |                      | 0.0084<br>(0.690)    |                      | 0.0537<br>(0.445)     |
| _cons                 | 0.1173<br>(0.000)    | 0.0276<br>(0.002)    | 0.0584<br>(0.000)    | -0.0019<br>(0.648)    |
| <b>R-Squared</b>      |                      |                      |                      |                       |
| Within                | 0.0641               | 0.1521               | 0.7139               | 0.8425                |
| Between               | 0.0753               | 0.1172               | 0.6678               | 0.7674                |
| Overall               | 0.0653               | 0.1354               | 0.6985               | 0.8182                |
| Number of obs         | 1600                 | 1200                 | 1600                 | 1200                  |
| Prob>F                | 0.0000               | 0.0000               | 0.0000               | 0.0000                |

\*\*\*  $p < .01$ , \*\*  $p < .05$ , \*  $p < .1$

Results from Model 1 show that the DEF variable is not statistically significant ( $p > 0.05$ ), indicating no support for the pecking order theory [26]. However, consistent with

[27], this suggests a non-linear relationship between financial deficits and debt issuance, where firms do not always follow the traditional financing hierarchy. In Panel B, DEF is positively significant at the 1% level (0.3749,  $p < 0.05$ ), indicating that financial deficits are largely financed through equity issuance, aligning with [5], who found that firms issue equity when facing financing deficits, particularly under favorable market conditions.

The interaction between ESG and market timing is not significant, differing from [5]. This can be explained by [11], who noted that equity issuance decisions under overvaluation depend heavily on managerial strategy and market perception. The insignificance may also reflect market inefficiency in emerging economies due to limited ESG disclosure and investor bias [28]. At the country level, Vietnam and the Philippines, with higher default risk, tend to rely more on equity financing; Thailand and Indonesia, both with high ESG scores, are more conservative with debt; while Malaysia, with moderate ESG and higher financing needs, shows a tendency to raise equity with ESG acting as a balancing factor. Overall, ESG functions not as the main driver of capital structure changes, but as a stabilizing factor that helps firms make more selective and prudent financing decisions in response to favorable market conditions.

#### 4.5 Regression Results: Misvaluation and ESG Pillars

Results in Table 5 show that only the environmental (Env) pillar consistently exhibits a negative and significant relationship with misvaluation. In Panel A (MVRES), the environmental score is significant across all models at the 5% level, with coefficients of -0.0033 ( $p=0.012$ ) for the overall sample, -0.0013 ( $p=0.017$ ) for overvalued firms, and -0.0031 ( $p=0.017$ ) for undervalued firms. This indicates that firms with higher environmental scores tend to experience lower valuation errors, supporting [5], who found that strong environmental practices reduce market valuation distortions.

Meanwhile, the social (Soc) pillar shows a weak but negative effect, being significant only in the overvalued model at the 10% level (coefficient -0.0016,  $p=0.071$ ) in Panel A, but stronger in Panel B (MVTP) where it is significant across all models (coefficient -0.0015,  $p=0.127$  overall; -0.0016,  $p=0.071$  overvalued; -0.0016,  $p=0.031$  undervalued). This suggests that the social dimension plays a role in reducing misvaluation, particularly when market expectations are explicitly considered. However, the governance (Gov) pillar shows no significant effect in any model, implying that in emerging markets, governance is not yet perceived as a key signal by investors—contrary to [5], who found it significant in developed markets.

Overall, the findings confirm that the impact of ESG on misvaluation is pillar-specific, with environmental and social factors being more influential than governance. Countries such as Indonesia, the Philippines, and Thailand, which have high Lenv scores, still exhibit high absolute misvaluation (high NA values), but their strong environmental practices help reduce residual valuation errors. Conversely, Vietnam, with the lowest Lenv score, also has the lowest NA value, reflecting undervaluation driven by weak sustainability signals.

**Table 5.** Regression Results Misvaluation – ESG Pillars

| Variable         | Panel A - MVres        |                        |                        | Panel B - MVtp        |                       |                       |
|------------------|------------------------|------------------------|------------------------|-----------------------|-----------------------|-----------------------|
|                  | Overall                | Overvalued             | Undervalued            | Overall               | Overvalued            | Undervalued           |
| LMisvaluation    | -0.0116<br>(0.7670)    | 0.0246<br>(0.6660)     | 0.0325<br>(0.5690)     | -0.1171**<br>(0.0160) | -0.1093**<br>(0.0250) | -0.1108**<br>(0.0230) |
| Lenv             | -0.0033**<br>(0.0120)  | -0.0013**<br>(0.0170)  | -0.0031**<br>(0.0170)  | -0.0007<br>(0.3360)   | -0.0009<br>(0.2630)   | 0.0008<br>(0.2890)    |
| -Lsoc            | -0.0015<br>(0.1270)    | -0.0016*<br>(0.0710)   | -0.0016<br>(0.1210)    | -0.0016**<br>(0.0280) | -0.0016**<br>(0.0310) | -0.0016**<br>(0.0290) |
| Lgov             | 0.0001<br>(0.8480)     | 0.0001<br>(0.8260)     | 0.0002<br>(0.8160)     | 0.0005<br>(0.3750)    | 0.0005<br>(0.4280)    | -0.0004<br>(0.7980)   |
| Profit           | -0.4316*<br>(0.0780)   | -0.4795*<br>(0.0760)   | -0.5038**<br>(0.0440)  | 0.0702<br>(0.6560)    | 0.1286<br>(0.4440)    | -0.1133<br>(0.4980)   |
| Leverage         | 0.3938*<br>(0.0910)    | 0.3931*<br>(0.0940)    | 0.3290<br>(0.0910)     | -0.0873<br>(0.5520)   | -0.0894<br>(0.5420)   | -0.0893<br>(0.5540)   |
| Firm size        | 0.0171<br>(0.6670)     | 0.0141<br>(0.7100)     | 0.0160<br>(0.6850)     | -0.0080<br>(0.8000)   | -0.0029<br>(0.8160)   | -0.0038<br>(0.7160)   |
| Capex            | -0.1738<br>(0.6300)    | -0.1737<br>(0.6310)    | -0.1736<br>(0.6300)    | 0.0399<br>(0.8420)    | 0.0657<br>(0.7420)    | -0.0599<br>(0.6140)   |
| DPR              | -0.0413<br>(0.2890)    | -0.0035<br>(0.9200)    | 0.0395<br>(0.3090)     | -0.0121<br>(0.7300)   | -0.0089<br>(0.7640)   | -0.0098<br>(0.7550)   |
| NA               | -0.0088***<br>(0.0000) | -0.0083***<br>(0.0000) | -0.0081***<br>(0.0000) | -0.0017<br>(0.3220)   | -0.0019<br>(0.2650)   | -0.0029<br>(0.7980)   |
| Market- to-Book  | 0.0021<br>(0.1840)     | 0.0025<br>(0.1610)     | 0.0025<br>(0.1760)     | 0.0044***<br>(0.0000) | 0.0043***<br>(0.0000) | 0.0042***<br>(0.0000) |
| _cons            | 0.7161<br>(0.3320)     | 0.7169<br>(0.3260)     | 0.6772<br>(0.3530)     | 1.2167*<br>(0.0560)   | 1.1958*<br>(0.0640)   | 1.2139*<br>(0.0600)   |
| <b>R-Squared</b> |                        |                        |                        |                       |                       |                       |
| Within           | 0.0916                 | 0.0928                 | 0.0935                 | 0.0642                | 0.0663                | 0.0655                |
| Between          | 0.0428                 | 0.0301                 | 0.0282                 | 0.0051                | 0.0068                | 0.0063                |
| Overall          | 0.0067                 | 0.0030                 | 0.0025                 | 0.0013                | 0.0007                | 0.0009                |
| Number of obs    | 1280                   | 1280                   | 1280                   | 1062                  | 1062                  | 1062                  |
| Prob>F           | 0.0000                 | 0.0000                 | 0.0000                 | 0.0000                | 0.0000                | 0.0000                |

\*\*\* p&lt;.01, \*\* p&lt;.05, \* p&lt;.1

#### 4.6 Regression Results: Capital Structure (Solvency) and ESG Pillars

The regression analysis using the Debt-to-Equity (D/E) ratio examines the impact of each ESG pillar. Environmental (Env), Social (Soc), and Governance (Gov) - on corporate capital structure. The R-squared value of 1.25% indicates that the model explains only a small portion of the variation in D/E ratios, suggesting that other external factors may also influence firms' capital structure decisions.

As shown in Table 6, the Governance Score has a positive and significant effect at

the 5% level, indicating that firms with stronger governance practices tend to have higher debt-to-equity ratios. This finding aligns with [19], who argue that effective governance enhances creditor confidence and facilitates access to lower-cost debt financing. This pattern is also consistent with developing countries such as Indonesia and the Philippines, which exhibit high governance scores and relatively high D/E ratios, reflecting more prudent financing decisions.

In contrast, the Environmental and Social pillars show no significant effect on D/E ratios, suggesting that these dimensions influence market perception more than internal financing decisions [29]. Meanwhile, Capital Expenditure (CapEx) has a negative and significant effect, implying that firms with higher investment spending rely more on equity financing [30]. The Overvalued variable is also significant, indicating that firms with higher market valuations tend to reduce leverage to mitigate financial risk [5].

**Table 6.** Regression Result-Solvability and ESG

| Variable         | Panel A – Debt/Equity |
|------------------|-----------------------|
| Env Score        | -0.0010<br>(0.395)    |
| Soc Score        | 0.0003<br>(0.780)     |
| Gov Score        | 0.0011** (0.014)      |
| Firm Size        | 0.2518<br>(0.401)     |
| Profitability    | 0.0229<br>(0.992)     |
| CaPex            | -0.5589* (0.096)      |
| DPR              | 0.0356<br>(0.399)     |
| Overvalued       | -0.0356* (0.070)      |
| _Cons            | 0.1470<br>(0.105)     |
| <b>R-Squared</b> |                       |
| Within           | 0.0125                |
| Between          | 0.0008                |
| Overall          | 0.0001                |
| Number of obs    | 1590                  |
| Prob>F           | 0.0202                |

\*\*\* p<.01, \*\* p<.05, \* p<.1

These results highlight that among the three ESG pillars, Governance plays the most influential role in determining capital structure, while market valuation and investment behavior also shape more cautious and sustainability-oriented financing strategies.

#### 4.7 Robustness Check

To address potential endogeneity biases such as simultaneity, reverse causality, and omitted variable bias, this study employs the Two-Stage Least Squares (2SLS) approach, following [5] and [31]. The first stage instruments ESG with profitability, and the second stage regresses the fitted ESG values on misvaluation. This method mitigates endogeneity issues that may arise from unobserved variables affecting both ESG performance and market misvaluation, as well as reverse causality where misvaluation might influence ESG initiatives.

The 2SLS regression results (Table 7) indicate that the lagged ESG (LESG) variable has a positive and significant effect on misvaluation in the MVRES model, with coefficients of 0.0084 ( $p = 0.0090$ ) for the overall sample, 0.0033 ( $p = 0.0100$ ) for overvalued firms, and 0.0032 ( $p = 0.0140$ ) for undervalued firms. These findings suggest that higher ESG scores increase market valuation relative to intrinsic value, consistent with Bofinger et al. (2022) and [5], who find that firms with strong ESG performance tend to experience overvaluation due to investor demand for sustainable assets. Countries such as Indonesia (ESG = 0.8764) and the Philippines (ESG = 0.8328) align with this pattern, where firms with high ESG scores are more highly valued by the market.

**Table 7.** Robust Regression Result

| Variable                     | Panel A - MVres       |                       |                       | Panel B - MVtp         |                        |                        |
|------------------------------|-----------------------|-----------------------|-----------------------|------------------------|------------------------|------------------------|
|                              | Overall               | Overvalu              | Underval              | Overall                | Overvalu               | Underval               |
|                              |                       | e                     | uc                    |                        | e                      | uc                     |
| LESG                         | 0.0084***<br>(0.0090) | 0.0033***<br>(0.0100) | 0.0032***<br>(0.0140) | -0.0009*<br>(0.1000)   | -0.0112**<br>(0.0380)  | -0.0116**<br>(0.0400)  |
| Lev                          | 0.1391**<br>(0.0120)  | 0.0664<br>(0.1900)    | 0.0507<br>(0.3160)    | -0.0332<br>(0.1580)    | -0.0211<br>(0.7400)    | -0.0175<br>(0.4570)    |
| FirmSize                     | 0.0402***<br>(0.0000) | 0.0222*<br>(0.0510)   | 0.0253*<br>(0.0700)   | -0.2191***<br>(0.0000) | -0.2525***<br>(0.0000) | -0.2538***<br>(0.0000) |
| Capex                        | 0.9763***<br>(0.0000) | 0.9421***<br>(0.0000) | 0.0025<br>(0.9780)    | -0.0581<br>(0.1960)    | -0.1027<br>(0.3490)    | -0.1164<br>(0.3490)    |
| DPR                          | 0.0254***<br>(0.0000) | 0.1649***<br>(0.0000) | 0.1438***<br>(0.0000) | 0.0363*<br>(0.0930)    | 0.0426**<br>(0.0440)   | 0.0450**<br>(0.0360)   |
| NA                           | 0.0020*<br>(0.0580)   | -0.0009<br>(0.7650)   | -0.0014<br>(0.6550)   | 0.0004<br>(0.7740)     | 0.0005<br>(0.3960)     | 0.0055<br>(0.3960)     |
| Market-to-book               | -0.0741**<br>(0.0000) | -0.0003<br>(0.8250)   | -0.0004<br>(0.9760)   | 0.0234***<br>(0.0000)  | 0.0255***<br>(0.0000)  | 0.0248***<br>(0.0000)  |
| _cons                        | -0.1772<br>(0.3900)   | -0.0222<br>(0.9030)   | -0.4367**<br>(0.0180) | 0.4803***<br>(0.0000)  | 0.4847***<br>(0.0000)  | 0.4050***<br>(0.0000)  |
| Obs                          | 960                   | 960                   | 960                   | 827                    | 827                    | 827                    |
| Kleibergen<br>-Paap Und. (p) | 197.749               | 197.664               | 197.261               | 191.435                | 192.159                | 191.695                |
| Centered R                   | 0.1617                | 0.6454                | 0.6655                | 0.0128                 | 0.0424                 | 0.0403                 |
| Uncentered R                 | 0.8570                | 0.9395                | 0.9429                | 0.9297                 | 0.9318                 | 0.9317                 |
| Cragg- Donald<br>F-stat      | 455.628               | 455.403               | 454.251               | 463.618                | 465.432                | 463.589                |

|                             |         |         |         |         |         |         |
|-----------------------------|---------|---------|---------|---------|---------|---------|
| Kleibergen-<br>Paap F- stat | 372.474 | 370.519 | 369.746 | 397.406 | 398.222 | 397.009 |
| Prob>F                      | 0.0000  | 0.0000  | 0.0000  | 0.0029  | 0.0000  | 0.0000  |

\*\*\* p<.01, \*\* p<.05, \* p<.1

Conversely, in the MVTP model, the LESG coefficient is negative and significant at the 5% level ( $-0.0112$ ,  $p = 0.0380$  for overvalued;  $-0.0116$ ,  $p = 0.0400$  for undervalued firms) and at the 10% level for the overall sample ( $-0.0009$ ,  $p = 0.1000$ ). This contrasts with [5], who found a consistently positive relationship between ESG and valuation in developed markets. The divergence likely reflects differences in market maturity, as ASEAN emerging markets exhibit lower ESG awareness and transparency. The variation between MVRES and MVTP results can also be explained by methodological differences—MVRES is more conservative, while MVTP is more forward-looking [5].

Among the control variables, Leverage shows a positive and significant effect, indicating that highly leveraged firms, such as those in the Philippines (48.5160) and Vietnam (45.8894), are more appreciated by the market. Firm Size exhibits a negative significant effect, particularly in the MVTP model, implying that larger firms do not always receive an ESG valuation premium [5]. Capital Expenditure (CapEx) is positively significant in the MVRES model, consistent with Huang and Ritter (2021), suggesting that higher investment spending is perceived as a signal of long-term growth. Market-to-Book Ratio also shows a positive significant relationship, meaning that firms with higher valuations are more favored by [23]. In contrast, the Dividend Payout Ratio (DPR) is not significant, indicating dividends play a limited role in ESG-related misvaluation.

Differences in significance between the Fixed Effects Model (FEM) and 2SLS are attributed to how each handles endogeneity. While FEM controls for unobserved firm-level heterogeneity, 2SLS isolates exogenous variation by using instrumental variables. This allows the relationship between variables such as Firm Size and misvaluation to emerge more clearly.

Overall, the robustness test confirms that the ESG–misvaluation relationship is sensitive to estimation methods and market context. High ESG performance can amplify overvaluation in emerging markets but also reduce undervaluation by strengthening investor confidence and long-term firm reputation.

## 5 Conclusion

This study shows that ESG score impacts the misvaluation. Overall, the results indicate that ESG scores have a negative and significant effect on stock misvaluation, both when measured using the residual model (MVRES) and the target price model (MVTP). This means that the higher the ESG score, the smaller the deviation between market price and fundamental value, supporting the notion that ESG enhances market valuation accuracy through greater transparency and investor trust. The influence of ESG remains significant in both overvalued and undervalued conditions, suggesting that ESG serves as a consistent signal capable of stabilizing market perceptions. Although the interaction between ESG and information asymmetry is not significant, ESG still has a direct

effect on misvaluation, implying that corporate sustainability remains an important signal regardless of the level of information asymmetry. Meanwhile, the interaction between ESG and market sentiment is significant only in the MVTP model, particularly among overvalued firms, indicating that when market sentiment toward sustainability is optimistic, the effect of ESG on valuation becomes stronger.

In terms of capital structure, firms with higher financing needs tend to prefer equity-based financing, while more profitable firms are inclined to use debt. ESG does not have a direct significant impact on capital structure but plays a moderating role that weakens the effect of market timing on debt, meaning that firms with higher ESG scores tend to be more selective in their financing decisions. Additional findings show that firms with higher ESG scores reduce their sensitivity to market timing when using debt, whereas firms with higher default risk tend to favor equity financing. These results are consistent with the pecking order theory and indicate that ESG helps firms act more cautiously in their financing decisions, although the regression results show insignificance in most aspects, except for the governance dimension.

However, this study is not without limitations that may affect the generalization and interpretation of its findings. First, the sample size is relatively limited comprising only 320 firm observations from five ASEAN countries (Indonesia, Malaysia, Vietnam, Thailand, and the Philippines) due to incomplete ESG disclosures. Many companies in the region have yet to consistently report their ESG data over the past five years, resulting in data gaps that reduce the number of eligible observations. Second, the time period of 2018–2023 is constrained by the availability of ESG data, which only became consistently reported starting in 2018. The uneven distribution of ESG reporting across years may influence trend and longitudinal analyses. Third, sample sizes vary across regression models due to incomplete data for certain variables, potentially introducing inconsistencies in estimation. Fourth, the study period includes the COVID-19 pandemic (2019–2023), a global event that significantly affected market conditions, stock prices, and firm performance, possibly introducing volatility-related distortions. Fifth, macroeconomic variables, such as GDP growth, inflation, and interest rates, were not included. Limiting the study's ability to account for cross-country financial environment differences. Lastly, this research does not distinguish ESG performance across specific industry sectors, which restricts insights into how ESG impacts may vary by sectoral characteristics and sustainability challenges.

The implication of these findings provide valuable insights for various stakeholders on the importance of ESG performance in shaping market valuation and capital structure decisions among firms in emerging ASEAN economies. Transparency in ESG reporting plays a crucial role in improving information flow between firms and investors, allowing markets to assess corporate value more accurately and closely to its fundamental level. Firms should also manage all three ESG pillars comprehensively while proactively adapting to tightening sustainability regulations. The findings show that companies with strong ESG performance tend to maintain healthier capital structures and experience less misvaluation, suggesting that attention to environmental and social issues supports long-term corporate resilience. Firms that genuinely acknowledge their social and environmental impact are more likely to thrive over time, benefiting both society and other stakeholders. Nevertheless, corporate governance must continue to improve, as its role shows limited significance in misvaluation and

solvency regression results. From a social perspective, companies with strong ESG performance generally maintain more positive relationships with communities and stakeholders, demonstrating greater concern for social issues.

**Disclosure of Interests:** The authors have no competing interests to declare that are relevant to the content of this article.

## References

1. Freeman, R. E. A stakeholder approach to strategic management. SSRN Electronic Journal. <https://doi.org/10.2139/ssrn.263511> (2001).
2. Freeman, R. & Phillips, Robert. Stakeholder Theory: A Libertarian Defense. *Business Ethics Quarterly*, 12. 10.2139/ssrn.263514 (2002).
3. Friede, G., Busch, T., & Bassen, A. ESG and financial performance: aggregated evidence from more than 2000 empirical studies. *Journal of Sustainable Finance & Investment*, 5(4), 210-233. <https://doi.org/10.1080/20430795.2015.1118917> (2015).
4. LSEG. ESG Scores. London Stock Exchange Group. <https://www.lseg.com/en/data-analytics/sustainable-finance/esg-scores> (2025).
5. Khan, M. A., Hassan, M. K., Maraghini, M. P., Paolo, B., & Valentinuz, G. Valuation effect of ESG and its impact on capital structure: Evidence from Europe. *International Review of Economics and Finance*, 91, 19-35. <https://doi.org/10.1016/j.iref.2024.01.002> (2024).
6. Wang, C., Li, D., Bai, Y., & Dang, Z. The impact of ESG performance on cost of equity capital. *Sustainability*, 17(3), Article 5471. <https://doi.org/10.3390/su17035471> (2025).
7. Chen, R. The Impact of ESG Performance on Corporate's Financial Performance: Evidence from China's Automobile Manufacturing Industry. (2024).
8. Setyawan, I. R. An Empirical Study on Market Timing Theory of Capital Structure. *Management Science Letters*, 4(2), 103–119. (2011).
9. Myers, S. C., & Majluf, N. S. Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics*, 13(2), 187–221. [https://doi.org/10.1016/0304-405X\(84\)90023-0](https://doi.org/10.1016/0304-405X(84)90023-0) (1984).
10. Akerlof, G. A. The Market for “Lemons”: Quality Uncertainty and the Market Mechanism. *The Quarterly Journal of Economics*, 84(3), 488–500. <https://doi.org/10.2307/1879431> (1970).
11. Baker, M., & Wurgler, J. A Catering Theory of Dividends. *The Journal of Finance*, 59(3), 1125-1165. <https://doi.org/10.1111/j.1540-6261.2004.00658.x> (2002).
12. Yazdani, S. Investor's Cognitive Bias and Stock Misvaluation. *semanticscholar*. <https://www.semanticscholar.org/paper/Investor's-Cognitive-Bias-and-Stock-Misvaluation-Yazdani/e738918b450388ca6dda1bbaf0780bf4af659ddf> (2011).
13. Chang, E. C., & Luo, Y. Investor psychology and misvaluation comovement. SSRN Electronic Journal. <https://doi.org/10.2139/ssrn.1360606> (2009).
14. Nguyen, H. T., & Pham, M. Does investor attention matter for market anomalies? *Journal of Behavioral and Experimental Finance*, 29, 100451. <https://doi.org/10.1016/j.jbef.2020.100451> (2021).
15. Dhaliwal, O. Z. Corporate social responsibility disclosure and the cost of equity capital: The roles of stakeholder orientation and financial transparency. *Journal of Accounting and Public Policy*, 328-355. (2014).
16. Luo, X. W. Corporate social performance, analyst stock recommendations, and firm future returns. *Strategic Management Journal*, 123–136. (2015).

17. Cui, J. J. Does corporate social responsibility affect information asymmetry? *Journal of Business Ethics*. (2018).
18. Scholtens, B. Corporate social responsibility and earnings management: Evidence from asian economies. *Corporate Social Responsibility and Environmental Management*, 95–112. (2013).
19. Zhao, X., & Zhang, H. How does ESG performance determine the level of specific financing in capital structure? New insights from China. *International Review of Financial Analysis*, 95. <https://doi.org/10.1016/j.irfa.2024.103508> (2024).
20. Miglo, A. The pecking order, trade-off, signaling, and market-timing models. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.1859452> (2011).
21. Liu, S., & Niu, W. Disclosure level, information asymmetry, cost of capital and capital structure. *China Finance Review International*, 2(4), 335–349. <https://doi.org/10.1108/20441391211283629> (2012).
22. Gujarati, D.N. and Porter, D.C. *Essentials of Econometrics*. 4th Edition, McGraw-Hill/Irwin, New York (2010)
23. Bofinger, Y., Heyden, K. J., & Rock, B. Corporate social responsibility and market efficiency: Evidence from ESG and misvaluation measures. *Journal of Banking & Finance*, 134. <https://doi.org/10.1016/j.jbankfin.2021.106322> (2022).
24. Marpaung, N.N.I. R. *Macroeconomic Factors and Jakarta Stock Exchange: A Comparative Analysis Pre- and Until the COVID-19 Pandemic*. SAGE Open (2024).
25. Badertscher, B.; D. Shanthikumar; and S. H. Teoh. “Private Firm Investment and Public Peer Misvaluation.” *Accounting Review*, 94(2019), 31–60 (2019).
26. Shyam-Sunder, L., & Myers, S. C. (1999). Testing static tradeoff against pecking order models of capital structure. *Journal of Financial Economics*, 51(2), 219–244. [https://doi.org/10.1016/S0304-405X\(98\)00051-8](https://doi.org/10.1016/S0304-405X(98)00051-8)
27. Sergio Sanfilippo-Azofra, Begoña Torre-Olmo, María Cantero-Saiz, Carlos López-Gutiérrez, Financial development and the bank lending channel in developing countries, *Journal of Macroeconomics*, 55, pp. 215–234, ISSN 0164-0704, <https://doi.org/10.1016/j.jmacro.2017.10.009> (2018).
28. Danila, N. Random Walk of Socially Responsible Investment in Emerging Market. *Sustainability* 2022, 14, 11846, <https://doi.org/10.3390/su141911846> (2022).
29. Ge, G., Xiao, X., Li, Z., & Dai, Q. Does ESG Performance Promote High-Quality Development of Enterprises in China? The Mediating Role of Innovation Input. *Sustainability*, 14(7), 1–24. <https://doi.org/10.3390/su14073843> (2022).
30. Huang, R & Jay R Ritter, Corporate Cash Shortfalls and Financing Decisions, *The Review of Financial Studies*, 34(4), April 2021, pp. 1789–1833, <https://doi.org/10.1093/rfs/hhaa099> (2021).
31. Bhuller, M. & Sigstad, H. 2SLS with multiple treatments, *Journal of Econometrics*, 242(1), 105785, ISSN 0304-4076, <https://doi.org/10.1016/j.jeconom.2024.105785>. (2024).

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