



# The Effect Of Environmental, Social, and Governance (ESG) Pillars and State Ownership on Firm Costs of Debt

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## ABSTRACT

The relevance of environmental, social, and governance (ESG) factors has become increasingly significant in the business world due to the growing recognition of sustainability principles. This study investigates the impact of ESG pillars and state ownership on the cost of debt in non-financial companies. The analysis is conducted on publicly listed firms in emerging Asian countries over the period 2016 to 2023, using panel data regression. Drawing on various theories such as agency theory, stakeholder theory, and signaling theory, the research demonstrates that state-owned enterprises with higher ESG scores incur lower debt costs. Another finding is that the social pillar positively influences debt costs. Although the environmental pillar is negatively associated with debt costs, its impact is not significant. Meanwhile, the governance pillar has a significant negative effect on debt costs, consistent with agency theory. The results of this study are expected to provide insights for stakeholders, particularly managers and company owners, regarding the role of ESG and state ownership in determining firm cost of debt.

## INTRODUCTION

In recent times, the objectives of companies have evolved beyond merely generating profit to also focusing on sustainability. Sustainability is closely linked to the fulfillment of ESG aspects. ESG refers to environmental, social, and governance factors that can influence a company's performance and value. Recently, ESG has garnered attention due to its potential to impact risk perception and investor confidence in companies. Effective implementation of ESG aspects can help companies manage risks, improve operational efficiency, enhance reputation, and create competitive advantages. This can reduce reputational risk and increase the trust of investors and creditors in the company's ability to meet its financial obligations, thereby lowering the cost of debt. (Eliwa et al., 2021).

The use of debt by companies as a source of funding has increased significantly due to the COVID-19 pandemic. This rise in corporate debt has resulted in higher debt costs for affected

companies (Almaghrabi, 2022). According to an article by the World Bank (2022), the COVID-19 pandemic has had a significant impact on corporate debt worldwide, including in emerging Asian countries. The pandemic's impact on corporate debt in emerging markets includes increased leverage in the non-financial sector. COVID-19 has exerted pressure on cash flows in the corporate sector. Additionally, research notes that leverage in the non-financial corporate sector in emerging markets has risen alongside a decline in borrower credit quality, looser underwriting standards, and increased interconnectedness (IMF, 2020).

The IMF (2022) reports rapid growth in sustainable practices in emerging countries. ESG principles are gaining popularity and influencing business decisions and investment strategies. The sustainable finance ecosystem in these countries is expanding, incorporating instruments like green bonds as well as other social and sustainable tools. Implementing ESG can offer emerging nations more stable funding sources and help mature their sustainable finance ecosystems. However, policymakers must monitor risks, including financial stability concerns from a diverse investor base and heightened sensitivity to global financial conditions, especially as central banks in developed countries raise interest rates and tighten post-pandemic policies.

As a result of the pandemic and amidst the threat of climate change, the social and environmental aspects of ESG have garnered increased attention from companies and stakeholders. From the perspective of investors and creditors, ESG factors are becoming increasingly important in decision-making, as they indicate better corporate performance and value. Companies with strong reputations for meeting ESG challenges are more likely to gain greater access to capital and benefit from lower cost of capital. (Al-Fakir Al Rabab'a et al., 2023).

Regarding corporate debt costs, several studies have shown that companies with strong ESG performance tend to have lower cost of debt (Apergis et al., 2022; Eliwa et al., 2021). In addition to ESG factors, state ownership also significantly affects cost of debt. Research indicates that state-owned enterprises, especially those publicly traded, tend to have lower cost of debt due to higher levels of oversight (Ge et al., 2020).

This phenomenon presents an interesting empirical research opportunity to examine whether the implementation of ESG by companies impacts corporate finance, particularly the cost of debt involving creditors as stakeholders. This study adds state ownership as a factor to investigate its impact on firms' cost of debt. The aim of this research is to test the impact of ESG performance, proxied by ESG scores, and state ownership on the cost of debt for non-financial companies in emerging Asian countries (China, India, Indonesia, Thailand, Vietnam, Malaysia, and the Philippines) from 2016 to 2023.

## LITERATURE REVIEW

### Agency Theory

A company is essentially a nexus of contracts between principals, who are the resource owners, and managers, who act as agents using these resources to operate the company (Jensen & Meckling, 1976). Agency theory identifies the principal-agent relationship, such as that between shareholders and management. In this relationship, potential conflicts of interest, known as agency problems, can arise between principals and agents (Ross et al., 2019). These agency problems can lead to agency costs (Mallin, 2012). One cause of agency problems, information asymmetry, can increase debt costs as creditors may believe that management possesses information not shared with them as principals (Bellucci et al., 2023). To address this, good governance mechanisms need to be implemented to reduce information asymmetry. (Gigante & Manglaviti, 2022).

## Stakeholder Theory

A theory related to agency theory is stakeholder theory, which expands the focus beyond shareholders to include a broader group of constituents. One way to consider other stakeholders, in addition to shareholders as the primary stakeholder group, is through the implementation of ESG practices. The effectiveness of ESG implementation can be indicated by scores issued by authorized institutions. High ESG scores demonstrate a company's dedication to all its stakeholders. (Benlemlih, 2019).

## Signalling Theory

The reduction in cost of debt for companies with high ESG ratings can be attributed to two perspectives: signaling theory and reputation enhancement (W. Li et al., 2024). A high ESG rating serves as a positive signal of the company's commitment to social and environmental issues. It also acts as a signal from management to stakeholders, demonstrating their commitment to mitigating negative business risks. As a result, company management can leverage high ESG scores to secure long-term debt at lower interest rates and benefit from reduced monitoring by creditors (W. W. Li et al., 2024).

## Hypothesis Development

ESG factors can serve as a reference to broaden investors' risk universe and enhance the quality of investment decision-making. For companies, ESG factors encompass reporting and compliance requirements as well as a conceptual framework for analyzing and managing risk. The link between ESG and debt costs is clearer than most investors realize. Research findings indicate that all ESG pillars have a significant and negative impact on bond returns (Apergis et al., 2022). Similar results were found by Eliwa et al. (2021), based on legitimacy theory and institutional theory, their research shows that companies can benefit from better ESG performance and disclosure. These findings suggest that market forces, represented by credit institutions, initially play a crucial role in enhancing the relevance and credibility of ESG performance and disclosure, as well as the effects of sustainability.

Specifically regarding environmental and social factors, agency problems can arise when the expectations of lenders do not align with those of borrowers. Since environmental damage risks can be transferred to creditors, lenders expect borrowers to take more steps to mitigate environmental and social risks, which may not align with the company's management prospects. The underlying assumption is that lenders typically demand higher interest rates as compensation for agency costs resulting from managers' irresponsible actions towards the environment that benefit shareholders at the expense of lenders (Fonseka et al., 2019). To address this issue, companies need to implement good governance mechanisms to reduce information asymmetry and mitigate agency problems (Gigante & Manglaviti, 2022).

H1: The ESG score has a significant negative impact on the debt costs of non-financial sector companies.

H2: The environmental, social, and governance (ESG) pillars have significant negative effects on the debt costs of non-financial sector companies.

Regarding the ownership status of companies by the state or government, Ge et al. (2020) conducted research examining how state ownership of a company affects bond issuance costs and the subsequent impact of bond issuance on a company's financial distress. Their findings indicate clear differences between state-owned enterprises (SOEs) and non-SOEs in China, suggesting that state ownership affects the financial conditions of companies differently. Compared to SOEs, non-SOEs in China face significantly higher bond issuance costs. Another study by (Majeed & Yan, 2021), supports the claim that state-owned enterprises are perceived to have lower default risks due to state protection. Most banks in China are state-owned and

provide the majority of loans to industrial and commercial sectors. These state-owned banks support SOEs in credit decision-making. Additionally, one of the primary goals of SOEs is to achieve social and political objectives, not just profit and business. Therefore, SOEs find it easier to obtain financing at lower costs compared to non-SOEs.

H3: ESG factors have a significant negative impact on the debt costs of state-owned non-financial sector companies.

## METHODS

### Research Data

This research utilizes secondary data, chosen for its verification by other parties to ensure validity, making it more reliable for research purposes. The data sources include Refinitiv DataStream, IMF economic data, and annual financial reports or company websites.

The population for this study encompasses all non-financial sector companies in emerging Asian countries listed as public companies from 2016 to 2023. The sample selection process employs purposive sampling, where samples are chosen based on criteria such as having ESG scores during the study period and the availability of other data used as variables in this research.

### Research Model

This research applies a model developed from previous studies related to the dependent variable, cost of debt. This empirical model is employed to investigate the impact of ESG and its individual pillars, as well as state ownership, on the debt costs of non-financial sector companies in emerging Asian countries. The study includes control variables such as company size, company risk, company performance, company age, and inflation factors as country-specific control variables.

#### Model 1:

$$COD_{i,t} = \beta_0 + \beta_1 ESG_{i,t-1} + \beta_2 SIZE_{i,t-1} + \beta_3 DER_{i,t-1} + \beta_4 ROE_{i,t-1} + \beta_5 AGE_{i,t} + \beta_6 IR_t + \varepsilon$$

Information:

*COD*= cost of debt at company *i*, year *t*

*ESG* = ESG score in company *i*, year *t-1*

*Size*= company size for company *i*, year *t-1*

*DER*= company risk for company *i*, year *t-1*

*ROE*= company performance for company *i*, year *t-1*

*Age*= age of the company *i* since it was listed on the stock exchange

*IR*= inflation rate of the country in which the company operates year *t*

#### Model 2:

Model 2 utilizes the independent variables of the environmental, social, and governance pillars to examine their respective impacts on the cost of debt for companies. The research model is structured as follows:

$$COD_{i,t} = \beta_0 + \beta_1 ENV_{i,t-1} + \beta_2 SOC_{i,t-1} + \beta_3 GOV_{i,t-1} + \beta_4 SIZE_{i,t-1} + \beta_5 DER_{i,t-1} + \beta_6 ROE_{i,t-1} + \beta_7 AGE_{i,t} + \beta_8 IR_t + \varepsilon$$

Information:

*COD*= cost of debt at company *i*, year *t*

*ENV* = environmental pillar score in company *i*, year *t-1*

*SOC*= social pillar score in company *i*, year *t-1*

*GOV*= governance pillar score in company *i*, year *t-1*

*Size*= company size for company *i*, year *t-1*

*DER*= company risk for company *i*, year *t-1*

*ROE*= company performance for company *i*, year *t-1*

*Age*= age of the company *i* since it was listed on the stock exchange

*IR*= inflation rate of the country in which the company operates year *t*

This model is distinguished from the first model by separately incorporating scores from the constituent pillars of ESG. The separation of this model aims to discern the specific influences of each pillar on the cost of debt for non-financial sector companies, particularly in emerging Asian countries.

### **Dependent Variables**

This study selects cost of debt as the dependent variable. Cost of debt is defined as the interest expense reported in the income statement divided by the average of short-term and long-term interest-bearing debt from the balance sheet, as documented in prior research (Majeed & Yan, 2021). S. Li et al., (2020) in their research on the impact of ownership separation on the cost of debt, also use interest expense divided by average debt and expressed as a percentage, as a measure for the debt cost variable.

### **Independent Variables**

This study employs ESG performance factors along with the individual pillars of environmental, social, and governance as independent variables. ESG performance factors and their respective pillars are measured using ESG scores available through Refinitiv DataStream (Apergis et al., 2022). Refinitiv (2022) constructs ESG scores from three pillar scores (environmental, social, governance). The scores for these three pillars that form the final ESG score are formulated from values categorized into 10 categories reflecting company ESG performance, commitment, and effectiveness based on publicly reported information. These 10 categories and their weights are as follows: the environmental pillar comprises resource use (20), emissions (28), and innovation (20). The social pillar includes workforce (30), human rights (8), community (14), and product responsibility (10). Lastly, the governance pillar consists of management (35), shareholders (12), and CSR strategy (9).

### **Control Variables**

This research also incorporates control variables to mitigate potential biases in calculations and to better control causal relationships, aiming to achieve a comprehensive and robust empirical model. The control variables used in this research include firm-level factors such as firm age, firm size, firm risk, and firm performance, as well as country-level factors like inflation rate. Firm age refers to the duration since a company's initial public offering or listing on the respective stock exchange (Hu et al., 2024). It is calculated from the initial public offering year until 2023. Firm size, measured by the natural logarithm of total assets, affects the cost of debt as smaller firms typically face higher default risks, potentially leading to higher interest expenses (Al-Fakir Al Rabab'a et al., 2023; Majeed & Yan, 2021). Firm risk is assessed through solvency ratios, often represented by the debt-to-equity ratio (DER), reflecting the company's capital structure and financial risk (Al-Fakir Al Rabab'a et al., 2023). Firm performance, indicated by

profitability, influences the likelihood of debt default, with higher profitability generally associated with lower default risk and hence lower debt costs (Malik & Kashiramka, 2024). Firm performance is typically measured by return on equity (ROE). At the country-level, inflation rate is considered as it impacts the cost of debt by influencing interest rates, reflecting the economic environment's stability, and monetary policy (Priwidiantari & Viverita, 2023).

## RESULTS

### Data and Samples

The sample selection process resulted in unbalanced panel data comprising 1,663 observation-years from 238 companies spanning the period from 2016 to 2023. Table 1 below illustrates the sample selection process.

**Table 1 Sample Selection Process**

Description	Asean	China	India	Total
Criterion 1: Public Company Non-Financial Sector	3.572	4.999	3811	12.382
Criterion 2: Have a complete ESG score	118	61	75	254
Criterion 3: Have complete variable data	110	61	67	238
Observation unbalanced data panel	777	449	492	1.718
Outlier				55
Observation tested				1.663

Based on the sample selection criteria, most of the sample came from India, with 67 companies contributing 457 observation-years. Among the ASEAN countries, Malaysia had the highest number of samples, with 37 companies providing 246 observations, while no companies from Vietnam met the sample criteria. Further details can be found in Table 3.

**Table 2 Number of samples per year**

Years	Observation	%
2016	179	10.76%
2017	193	11.61%
2018	205	12.33%
2019	213	12.81%
2020	219	13.17%
2021	225	13.53%
2022	225	13.53%
2023	204	12.27%
Total	1.663	100,00%

**Table 3 Number of Samples per country**

Country	Company	Observation	%
China	61	448	26.94%
India	67	457	27.48%
Indonesia	27	165	9.92%
Thailand	26	196	11.79%
Malaysia	37	246	14.79%
Filipina	20	151	9.08%

Country	Company	Observation	%
Vietnam	0	0	0.00%
Total	238	1.663	100%

Looking at the distribution across years, Table 2 shows that each year contributed approximately 200 observations, accounting for about 12-13% of the total observations used in this study.

### Descriptive Statistics

Descriptive statistics are used to illustrate the overall characteristics of the data. Table 4 presents a summary of the descriptive statistics of the sample variables used in this study's model, including cost of debt (*COD*) as the dependent variable, ESG performance (*ESG*) and its pillars as the independent variables, and firm size, risk, performance, age, and inflation rate (*SIZE*, *DER*, *ROE*, *AGE*, *IR*) as control variables. The descriptive statistics summarize the mean, maximum, minimum, and standard deviation of each variable.

**Table 4 Descriptive Statistical Summary**

Variable	Obs.	Mean	Std. Dev.	Min.	Max.
COD	1.663	0,0494	0,0477	0,0001	0,9680
ESG	1.663	50,2990	18,4277	2,4539	92,6778
ENV	1.663	46,6413	23,6007	0,1282	97,1944
SOC	1.663	51,6786	23,3888	1,8370	96,7202
GOV	1.663	51,5829	22,2411	1,1750	97,3536
SIZE	1.663	22,8646	1,2820	19,3427	26,6995
DER	1.663	1,1011	1,4956	0,0002	20,3458
ROE	1.663	0,1223	0,1711	-0,9085	1,9291
AGE	1.663	3,0039	0,4858	0,6931	4,3174
INF	1.663	2,9438	1,9142	-1,139	6,661

From Table 4, the average cost of debt for companies in emerging Asian countries is 4.94%, with a minimum value of 0.01% and a maximum value of 96.80%, and a standard deviation of 4.77%. The relatively low average cost of debt is due to the low cost of debt in China, which is one of the most observed countries, at only 3.27%. The average ESG score is 50.29, categorized as B-, indicating that the ESG performance of companies in emerging Asian countries is relatively good and transparency in reporting key ESG data is above average. However, the range is very large, with the lowest ESG score being 2.45 for Sinoma International Engineering Co Ltd from China, and the highest being 92.67 for the Indian technology company Infosys Ltd. The environmental pillar has the lowest average score among the three pillars, at only 46.64, while the social and governance pillars have average scores of 51.67 and 51.58, respectively. This indicates that companies in emerging Asian countries are more focused on social and governance factors than on environmental factors. Additionally, the average inflation rate in the countries studied is 2.94%, with a minimum value of -1.13% in Malaysia during the COVID-19 pandemic in 2020.

### Correlation Results

The following Table 5 shows the correlations among the variables used in this study.

**Table 5 Correlation Matrix Between Variables**

	COD	ESG	ENV	SOC	GOV	SIZE	DER	ROE	AGE	IR
COD	1,000									
ESG	-0,058	1,000								

	COD	ESG	ENV	SOC	GOV	SIZE	DER	ROE	AGE	IR
ENV	-0,151	0,843	1,000							
SOC	-0,019	0,908	0,733	1,000						
GOV	-0,019	0,705	0,350	0,468	1,000					
SIZE	-0,125	0,196	0,247	0,204	0,033	1,000				
DER	0,081	-0,043	-0,077	-0,041	-0,029	0,135	1,000			
ROE	-0,011	0,094	0,028	0,054	0,132	-0,266	0,037	1,000		
AGE	-0,072	0,132	0,219	0,131	-0,027	0,128	-0,117	-0,025	1,000	
IR	0,056	-0,028	-0,012	-0,049	0,011	0,058	-0,008	0,010	0,120	1,000

The cost of debt is found to be negatively correlated with ESG, albeit with a weak relationship, consistent with the findings of Gracia & Siregar (2021). Similarly, the cost of debt is negatively correlated with the environmental, social, and governance pillars, with relatively weak relationships. This suggests the possibility that lenders may not yet fully consider ESG performance factors in their credit evaluations, preferring to rely on traditional financial performance and macroeconomic conditions to assess company risk in determining the cost of debt. Furthermore, the cost of debt is negatively correlated with firm size, performance, and age. This indicates that the larger the firm, the better its performance, and the longer it has been listed on the stock exchange, the lower the perceived credit risk by debtholders, leading to a lower cost of debt. Additionally, the cost of debt is positively correlated with the debt-to-equity ratio and the inflation rate of each country. This indicates that the higher the firm's risk and the country's inflation rate, the higher the cost of debt borne by non-financial firms in emerging Asian countries.

### Hypothesis Testing

After conducting model selection tests and classical assumption tests, the Fixed Effects Model (FEM) using OLS regression was employed to test the research model. The Fixed Effects Model was chosen because the results of the Chow test and Hausman test rejected the null hypothesis (H0). The panel data regression results with the Fixed Effects Model were used to test two models for hypothesis testing. The first model examines the impact of ESG performance on the cost of debt for companies, the second model investigates the impact of the individual E (Environmental), S (Social), and G (Governance) pillars on the cost of debt, and the third model assesses the influence of ESG scores on the cost of debt for state-owned enterprises (SOE).

**Table 6 Regression Results Of ESG Effect And Its Pillars On Cost Of Debt**

Variable	Model 1			Model 2		
	Coef.	t-Stat.	Prob.	Coef.	t-Stat.	Prob.
X_ESG	-0,0002	-0,5064	0,6127			
X_ENV				-0,0003	-0,7613	0,4466
<b>X_SOC</b>				<b>0,0001</b>	<b>2,7623</b>	<b>0,0058***</b>
<b>X_GOV</b>				<b>-0,0001</b>	<b>-3,7206</b>	<b>0,0002***</b>
C_SIZE	-0,0041	-2,3299	0,0200**	-0,0047	-2,6836	0,0074***
C_DER	0,0005	1,1753	0,2401	0,0004	0,8938	0,3716
C_ROE	0,0020	0,6458	0,5185	0,0024	0,7729	0,4397
C_AGE	0,0071	2,2911	0,0221**	0,0063	2,0313	0,0424**
C_IR	-0,0001	-0,4722	0,6368	-0,0002	-0,5784	0,5631
R-squared			0,7294			0,7330
Adj. R-Squared			0,6831			0,6868
F-Statistic		15,7479			15,8802	
Prob(F-stat)			0,0000***			0,0000***

Note: \* $p < 0,1$ ; \*\* $p < 0,05$ ;  $p < 0,01$



The adjusted R-squared value for model 1 is 0.6831, indicating that 68.31% of the dependent variable can be explained by the independent variables and control variables in this research model. Meanwhile, for model 2, which uses the ESG pillars as independent variables, the adjusted R-squared value is 0.6868, meaning that 68.68% of the dependent variable can be explained by the independent variables and control variables. This demonstrates that both research models are a good fit, as the adjusted R-squared value is more than 50%.

The F-statistic value for model 1 is 15.7479 with a p-value of 0.0000, which is less than the 0.01 significance level. Similarly, the F-statistic value for model 2 is 15.8802 with a p-value of 0.0000, also less than the 0.01 significance level. This means that both ESG and the environmental, social, and governance pillars, along with the control variables used in this study, such as firm size (total assets), firm risk (DER), firm performance (ROE), firm age (since IPO), and the inflation rate of each country, collectively have a significant impact on the cost of debt for non-financial companies in emerging Asian countries for the period 2016 to 2023.

For the next hypothesis testing, the sample companies are divided into state-owned enterprises (SOEs) and non-SOEs. This test also uses the Fixed Effects Model. The comparison of the regression results from this test is as follows:

**Table 7 Regression Comparison Of ESG Variables Between SOE And Non-Soe**

Variable	SOE			Non-SOE		
	Coef.	t-Stat.	Prob.	Coef.	t-Stat.	Prob.
X_ESG	<b>-0,0003</b>	<b>-2,0734</b>	<b>0,0388**</b>	0,0001	0,4768	0,6336
C_SIZE	0,0065	0,8209	0,4122	-0,0074	-1,2893	0,1976
C_DER	0,0007	0,6939	0,4881	-0,0006	-0,3514	0,7254
C_ROE	0,0020	0,1759	0,8604	0,0157	1,4761	0,1402
C_AGE	-0,0152	-1,5272	0,1275	0,0270	2,4291	0,0153**
C_IR	-0,0023	-2,1543	0,0319**	-0,0007	-0,7319	0,4644
R-squared			0,5568			0,5188
Adj. R-Squared			0,4812			0,4335
F-Statistic		7.3623			6.0827	
Prob(F-stat)			0.0000***			0.0000***

Note: \* $p < 0,1$ ; \*\* $p < 0,05$ ;  $p < 0,01$

Based on Table 7, it can be observed that the adjusted R-squared value for the regression on state-owned enterprises (SOEs) is 0.4812, indicating that 48.12% of the dependent variable can be explained by the independent variables and control variables in this research model. Meanwhile, the adjusted R-squared value for the regression on non-SOEs is 0.4335, meaning that 43.35% of the dependent variable can be explained by the independent variables and control variables. This shows that both research models are not sufficiently fit, as the adjusted R-squared values are less than 50%.

The F-statistic value for the regression results on SOEs is 7.3623 with a p-value of 0.0000, which is less than the 0.01 significance level. Similarly, the F-statistic value for the regression results on non-SOEs is 6.0827 with a p-value of 0.0000, also less than the 0.01 significance level. This means that both ESG and the control variables used in this study, such as firm size (total assets), firm risk (DER), firm performance (ROE), firm age (since IPO), and the inflation rate of each country, collectively have a significant impact on the cost of debt for non-financial companies, both SOEs and non-SOEs, in emerging Asian countries for the period 2016 to 2023.

## DISCUSSION

### ESG Scores and Cost of Debt

From Table 6, it is observed that the coefficient value for the ESG variable is negative (-0.0002) with a p-value of 0.6127, which is greater than the 0.05 significance level, indicating that H0 is accepted. This implies that while ESG is negatively associated with the cost of debt, it does not have a statistically significant impact. These findings do not align with those of Apergis et al., (2022) and Eliwa et al., (2021). Contrary to expectations, this suggests that creditors have not yet considered the implementation of ESG aspects by companies in their creditworthiness assessments.

This result is consistent with the findings of Hoepner et al., (2016) who did not find convincing evidence that corporate-level sustainability influences the interest rates charged by banks to corporate borrowers. A plausible explanation is that creditors in emerging Asian countries may prioritize traditional factors such as corporate profitability, leverage, and cash flow over ESG scores when determining the cost of debt. Additionally, factors such as political stability, currency risk, and macroeconomic conditions may have a more substantial impact on the cost of debt for companies in emerging Asian countries than ESG factors.

In contrast to Eliwa et al., (2021), who studied companies in Europe—where most countries are developed and have advanced ESG practices—many companies in emerging Asia are still in the early stages of implementing ESG practices despite increasing awareness of their importance. This suggests that ESG disclosures may not yet be mature enough to influence investor and creditor decisions. Moreover, ESG reporting standards may vary between countries and are not always consistent, making it difficult for creditors to compare and assess the impact of ESG on corporate credit risk. Emerging Asian countries also have less developed capital markets compared to developed nations, which means that ESG information may not be fully considered by the market, thereby having a limited impact on the cost of debt for companies.

### Environmental, Social, Governance Pillars and Cost of Debt

The regression results indicate that the environmental pillar is negatively related to the cost of debt but does not have a significant impact. This contrasts with the findings of Fonseka et al., (2019) who found that increased disclosure of environmental information reduced the cost of debt for energy companies in China. This study includes a sample of companies from all sectors except financial, which may result in the quality and detail of environmental disclosures being inadequate. If reports do not provide accurate or relevant data, investors and creditors may not consider environmental factors in their risk assessments.

Investors and creditors in emerging Asian countries may have different risk perceptions. Creditors might prioritize traditional financial factors such as profitability, leverage, macroeconomic conditions, and political stability over environmental factors when determining a company's cost of debt. In some emerging Asian countries, environmental regulations may not be as stringent as in developed nations, leading companies to feel less pressure to improve their environmental performance. Besides regulations, limitations in technology and infrastructure that support sustainable environmental practices may also hinder companies from enhancing their environmental performance.

An intriguing result of this study is the finding that contradicts the hypothesis, specifically regarding the positive impact of the social pillar on the cost of debt for companies. This result contrasts with Goss & Roberts (2011), who found that companies facing social responsibility issues pay higher costs compared to more responsible companies. However, it aligns with findings from Magnanelli & Izzo, (2017) which showed a positive relationship between social

performance and corporate debt costs, indicating that social responsibility aspects do not necessarily mitigate risk profiles impacting costs.

Consistent with Ye & Zhang (2011), who found that companies investing excessively in CSR incur higher debt financing costs, emerging Asian companies with high social pillar scores may be perceived as prioritizing social responsibility over profitability. Market participants may view companies with high social scores as focusing more on non-financial goals, influencing risk perception and debt financing costs. Effective social practices often require significant investment, adding financial burdens that can increase perceived risk among creditors, thereby raising the cost of debt. Moreover, investments in social initiatives may not yield immediate financial returns. If creditors and investors perceive that social investments do not directly contribute to profitability, they may prioritize short-term financial performance over long-term social initiatives. This uncertainty can lead creditors to demand higher risk premiums, thereby increasing corporate cost of debt.

The findings regarding the governance pillar align with the hypothesis of this study that companies implementing good corporate governance practices result in lower costs of debt. This outcome is consistent with Ghouma et al., (2018), who demonstrated a reduction in bond spreads due to overall corporate governance index quality. Strong governance practices enhance investor and creditor confidence in corporate management. This means that investors and creditors feel more secure in investing their capital in such companies, leading to reduced demand for risk premiums and thus lowering the cost of debt. Companies with robust governance frameworks tend to be more transparent in disclosing both financial and non-financial information. This transparency facilitates creditor risk assessment, potentially reducing yield spreads and the cost of debt.

### **ESG Score and Cost of Debt for State-Owned Enterprises**

From Table 7, it is observed that the coefficient for the ESG variable is negative (-0.0003) with a p-value of 0.0388, which is greater than the significance level of 0.05, indicating that H0 is not rejected. This finding is consistent with studies by Eliwa et al., (2021) and Ge et al., (2020), which suggest that ESG factors and state ownership negatively influence corporate debt costs. This implies that state-owned enterprises (SOEs) with higher ESG scores tend to have better access to capital markets and financing. Investors and creditors often favor socially and environmentally responsible companies, perceiving them to have lower long-term risks, thereby resulting in lower borrowing costs. SOEs with high ESG scores typically exhibit more stable long-term financial prospects, especially with implicit guarantees from the state. This stability is attractive to creditors as it reduces the risk of default, ultimately lowering the cost of debt.

Companies with high ESG scores also tend to be more compliant with environmental, social, and governance regulations, which enhances their public reputation. Good ESG practices can also mitigate operational risks, such as those related to workplace accidents or environmental impact, making the company more appealing to creditors. Moreover, as SOEs are often subject to public scrutiny and stakeholder pressure to act responsibly, a high ESG score indicates responsiveness to these demands, potentially reducing reputational risks and lowering borrowing costs. These findings underscore the importance of robust ESG practices in enhancing financial stability and reducing perceived risks for state-owned enterprises, thereby positively influencing their cost of debt.

### **Sensitivity Testing**

Sensitivity testing was conducted to analyze the robustness of the main findings. This was done by excluding companies from China and India from the sample and only using data from companies in ASEAN countries. The initial sample showed high representation from companies in China and India. Therefore, to ensure the robustness of the results in the main model, the

study re-ran the main model after excluding companies from China and India from the sample. Overall, the sensitivity test results were not qualitatively different from the main analysis, showing consistent findings. This indicates the robustness of the results in the main model.

## CONCLUSION

In recent years, there has been an increasing trend emphasizing the importance of sustainability and the significance of debt financing costs. The main findings of this study indicate that ESG performance statistically has a negative impact on the cost of debt for state-owned enterprises. In emerging Asian countries, state-owned enterprises with high ESG scores tend to have better access to financing, owing to government support and oversight that can reduce the cost of debt. Additionally, state-owned enterprises are often perceived as having implicit guarantees from the state, leading to the belief that the government will support these companies in difficult situations.

Among the ESG pillars, governance has a significant negative impact on the cost of debt. Good governance practices reduce information asymmetry between creditors as principals and management as agents, thereby lowering the cost of debt. Conversely, the social pillar contradicts the hypothesis of this study. This may be because state-owned enterprises in emerging Asian countries with high social scores are perceived as prioritizing social responsibility over profitability, thus focusing more on non-financial goals, which affects risk perception and the cost of debt. Although the environmental pillar has a negative relationship, its impact on the cost of debt is not significant. Investors and creditors might prioritize traditional financial factors such as profitability and leverage, as well as macroeconomic factors and political stability, over the environmental pillar when determining a company's cost of debt.

The results of this study are expected to contribute significantly to the academic literature in the fields of corporate finance and sustainability. Practically, managers of non-financial companies, particularly state-owned enterprises in emerging Asia, should consider enhancing their ESG practices to reduce debt costs, especially focusing on the governance pillar, which has been shown to have a significant impact. These findings also highlight the importance of governments or regulators in promoting better ESG practices among public companies to improve sustainability practices and make ESG aspects more influential on corporate financial performance.

## SUGGESTION

This research uses variables based on accounting data as proxies for measurement. Future research could consider using market-based data to provide perspectives from investors and creditors. The industrial sector in this study is not considered a determinant factor in the relationship between ESG and the cost of debt. Given the weighting of ESG scores assigned to each category based on its relevance to specific industries, particularly for the environmental and social pillars, future research should consider using the industrial sector as a variable or determinant factor to examine the impact of ESG on the cost of debt. The study period spans eight years, from 2016 to 2023. A longer study period results in fewer company samples available due to the limited ESG data for companies in emerging Asian countries in Refinitiv Datastream. Future research could consider expanding the scope of the study or using alternative proxies for ESG, such as ratings from MSCI (Morgan Stanley Capital International) or indices from Bloomberg, to enrich the research findings.

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