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Navigating Capital Structures Through ESG and Gender Diversity: Evidence from ASEAN Countries

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Abstract

The integration of Environmental, Social, and Governance (ESG) criteria into corporate strategies has gained prominence as companies aim to improve transparency, reduce capital costs, and meet stakeholder expectations. Simultaneously, board gender diversity has been recognized as a critical factor influencing corporate governance and financial decision-making. This study aims to examine and analyze the influence of ESG performance and board gender diversity on capital structure. This research was conducted in 5 ASEAN countries, using the Random Effect Model static panel regression test and a research period of 6 years, from 2018 to 2023. The results showed that ESG performance negatively affects the capital structure as measured by book leverage. Meanwhile, gender diversity shows a positive effect on capital structure as measured by book leverage. This finding aligns with Stakeholder Theory, which posits that ESG engagement builds investor trust, leading to a preference for equity financing.

Keywords: ESG performance, Board gender diversity, capital structure, book leverage

INTRODUCTION

The evolution of business practices in recent decades reflects a significant paradigm shift from the traditional focus on maximizing shareholder value to adopting a stakeholder-oriented model. This transition recognizes the importance of a diverse range of stakeholders, including employees, consumers, investors, local communities, and the environment, in determining long-term corporate success. The modern business landscape increasingly prioritizes sustainable practices and ethical considerations, emphasizing value creation that benefits all stakeholders while addressing global challenges. Companies adopting this approach often experience strategic advantages, such as reduced capital costs, enhanced corporate efficiency, and mitigated information asymmetry, enabling them to better navigate competitive markets (Adeneye et al., 2023; Csapi et al., 2024). Frameworks like Corporate Social Responsibility (CSR) and Environmental, Social, and Governance (ESG) have emerged as critical components in this shift, as they embed ethical behavior, sustainability, and accountability into core business strategies.

Among these frameworks, ESG has become a cornerstone in evaluating corporate sustainability and ethical performance. ESG encompasses three dimensions: environmental stewardship, social equity, and governance integrity. Companies with strong ESG performance demonstrate a commitment to sustainable practices that contribute to long-term value creation and societal well-being. These practices include addressing environmental issues such as carbon emissions and resource conservation, promoting social equity through diversity and fair labor practices, and ensuring robust governance mechanisms to foster transparency and accountability. Research indicates that firms with high ESG scores benefit from increased investor trust, reduced information asymmetry, and lower capital costs, enhancing their financial stability and strategic flexibility (Li et al., 2024; Asimakopoulos et al., 2023). ESG's alignment with pecking order theory, which prioritizes internal funding over external debt and equity, reflects its potential to reduce borrowing costs and promote a favorable equity-to-debt ratio.

In 2015, the United Nations (UN) published the Sustainable Development Goals (SDGs) which consist of 17 global goals consisting of three categories, namely social, environmental, and sustainable economy and the 5P consisting of planet, people, peace, prosperity, and partnership. In line with the SDGs, ASEAN countries have begun to develop sustainability issues initiated in the ASEAN Socio-Cultural Community (ASCC) in line with the increasing global challenges related to the environment and social inequality and recognize the need for a holistic approach to sustainable development. Regulations governing sustainability are also growing and some ASEAN countries have made it mandatory. This will certainly open up wider investment opportunities for ASEAN countries, which will affect the company's capital structure.

However, the relationship between ESG performance and financial outcomes remains complex and multifaceted. While some studies posit that robust ESG performance is associated with lower borrowing costs and improved equity financing, others suggest that high ESG scores correlate with higher book leverage. Adeneye et al. (2023) found that

firms with superior ESG practices are more inclined to use debt, leveraging their enhanced credit profiles to finance sustainable initiatives. This aligns with the trade-off theory, which balances the tax advantages of debt against financial distress risks. Conversely, Zahid et al. (2023) observed that firms with strong ESG ratings tend to rely more on equity financing, consistent with pecking order theory, which emphasizes internal funding before resorting to external sources. These conflicting findings underscore the need for further investigation, particularly in diverse regional contexts where economic, regulatory, and cultural dynamics shape corporate behavior.

While extensive research has examined the impact of ESG on financial performance, the role of board gender diversity in influencing capital structure remains underexplored. Gender-diverse boards bring varied perspectives, enhance decision-making, and contribute to improved governance practices. Female board members, often associated with lower-risk strategies, cautious financial decision-making, and enhanced corporate disclosures, play a pivotal role in reducing borrowing costs and fostering investor confidence (Ezeani et al., 2023; Krystyniak & Staneva, 2024). These attributes support firms in achieving financial stability and aligning their practices with sustainability goals. However, the cautious approach commonly attributed to female directors may result in slower adjustments to target leverage, particularly in family-owned firms or those with high transaction costs (Sardo et al., 2022). This nuanced relationship highlights the need to investigate how gender diversity interacts with ESG performance to shape financial outcomes.

This study seeks to bridge this research gap by exploring the dual impact of ESG performance and board gender diversity on capital structure within ASEAN from 2018 to 2023. Specifically, it addresses the following research questions: How does ESG performance influence the capital structure of firms? What is the role of board gender diversity in shaping leverage decisions? By integrating ESG metrics with governance characteristics, this research aims to provide a comprehensive understanding of their interplay and implications for corporate financial strategies. This study contributes to a deeper understanding of how ESG performance and board gender diversity shape corporate financial strategies, providing valuable insights for stakeholders seeking to navigate the evolving landscape of sustainable business practices.

THEORETICAL FRAMEWORK AND EMPIRICAL STUDIES

Agency Theory

Agency Theory, as introduced by Jensen & Meckling (1976), focuses on the principal-agent relationship, highlighting conflicts arising due to differing goals between shareholders and management (Ahmed & Atif, 2021; Datta et al., 2021; Sardo et al., 2022). These conflicts, known as agency costs, include monitoring costs, bonding costs, and residual losses, which influence decisions on capital structure and corporate governance. Jensen (1986) posited that leveraging debt can discipline managers by reducing free cash flow, compelling them to prioritize value-creating projects. However, excessive debt

increases bankruptcy risks, necessitating a balance between financial discipline and risk (Adeneye et al., 2023).

Pecking Order Theory

Myers and Majluf (1984) introduced the Pecking Order Theory, which posits that firms prioritize internal financing, followed by debt, and finally external equity, to mitigate adverse selection costs arising from information asymmetry between management and investors (Ibrahim & Zulkafli, 2023). This theory suggests that companies with high profitability tend to rely on retained earnings, thereby reducing their leverage. Conversely, firms with limited internal funds resort to external debt financing as a cost-effective alternative (Adeneye et al., 2023).

Trade – Off Theory

The Trade-Off Theory is a foundational concept in capital structure literature, emphasizing the balance between the tax benefits of debt (tax shields) and the costs of financial distress. The Static Trade-Off Theory posits that firms aim to optimize their capital structure by equating the marginal benefits of tax savings from debt with the present value of bankruptcy costs, including direct costs such as legal fees and indirect costs like reputational damage and operational disruptions (Myers, 2001; Modigliani & Miller, 1963). Larger firms with stable cash flows are more likely to leverage higher debt levels due to their lower bankruptcy risk, while smaller or riskier firms adopt more conservative strategies (Nguyen et al., 2021; Pujiastuti et al., 2024).

Upper Echelons Theory

Upper Echelons Theory, introduced by Hambrick & Mason (1984), links organizational outcomes to managerial characteristics such as gender, age, and experience (Hiebl, 2014). Gender diversity in top management has been shown to influence decision-making styles, with male directors often being risk-seeking, while female directors tend toward risk aversion (Hiebl, 2014; Roberson et al., 2024). Diversity in board composition enhances strategic decision-making by incorporating varied perspectives, leadership styles, and expertise, ultimately benefiting corporate performance (Tjahjadi et al., 2024).

ESG performance and Capital Structure

The adoption of Environmental, Social, and Governance (ESG) principles is central to sustainable business practices, shaping both long-term viability and financial structures by promoting transparency and stakeholder trust (Brigham & Houston, 2010). Capital structure refers to the mix of internal and external funding sources used by a company, including long-term debt, preferred shares, and equity. Optimal capital structure aims to balance the proportion of debt and equity to minimize the overall cost of capital. The leverage ratio, which measures the extent of debt use in relation to total equity, is a key indicator of a company's ability to meet financial obligations. A firm's capital structure is crucial in achieving an optimal balance between risk and return, thus influencing its financial performance (Pahlevi & Anwar, 2021; Spitsin et al., 2021).

Research on the relationship between ESG performance and capital structure has been expanding in recent years. Companies with strong ESG performance are often considered lower-risk, which can result in more favorable financing conditions. Previous studies have shown mixed evidence regarding the relationship between ESG performance and capital structure. Adeneye et al. (2023) demonstrated that companies with higher ESG scores tend to have higher book leverage, suggesting a preference for debt financing in line with sustainable practices. This finding supports the agency theory, where companies with superior ESG performance face lower agency costs and reduced information asymmetry, leading to an optimal capital structure. Similarly, Asimakopoulos et al. (2023) reported that firms with higher ESG ratings experience a reduction in both market and book leverage, suggesting that ESG acts as a signaling mechanism to reduce information asymmetry and thus lowers debt pricing.

In contrast, Zahid et al. (2023) found that firms with superior ESG performance often access equity financing more easily, thus lowering their reliance on debt. This aligns with the pecking order theory, which posits that companies prefer internal or equity financing over debt to minimize the costs associated with information asymmetry and avoid signaling negative information to the market (Myers & Majluf, 1984). Further, Madyan & Widuri (2023) reported that while ESG performance has a positive influence on capital structure, good corporate governance does not necessarily moderate this relationship.

Trade-off theory also provides a lens through which to view the impact of ESG on capital structure. According to Friedman (2007), firms should invest in ESG activities if the benefits exceed the associated costs. By leveraging debt, firms can take advantage of tax shields, but they must balance this against the risk of financial distress (Pemer et al., 2020). Bhuiyan & Nguyen (2020) found that firms with strong CSR commitments benefit from lower costs in both debt and equity markets. Similarly, Attig et al. (2013) highlighted that companies with high social performance are likely to receive higher credit ratings, resulting in lower financing costs.

Based on the description above, the following hypothesis is proposed:
H1. ESG performance has a significant impact on capital structure.

Board Gender Diversity and Capital Structure

Board gender diversity, a critical element of corporate governance, has garnered significant attention for its potential impact on capital structure decisions. The upper echelon theory emphasizes the role of individual characteristics, such as gender, in influencing organizational decision-making and strategic outcomes (Hambrick & Mason, 1984). Gender-diverse boards bring broader knowledge and varied perspectives, enhancing decision-making quality and fostering better risk management strategies (Poletti-Hughes & Briano-Turrent, 2019). Female directors, in particular, are associated with more cautious and deliberative financial decisions, emphasizing long-term stability over short-term gains (Hernández-Nicolás et al., 2022).

According to Pecking Order Theory (POT), firms prioritize internal financing before turning to external debt, and equity is considered a last resort due to the adverse selection costs associated with new equity issuance (Myers & Majluf, 1984). This financing hierarchy aligns with the conservative approach generally associated with female directors, who tend to favor internal financing and minimize reliance on debt, thereby lowering a firm's leverage levels (Wahid, 2019). Hernández-Nicolás et al. (2022) empirically found that firms with female board members as CEOs typically demonstrate lower leverage levels, as female directors tend to employ strategies that minimize debt and financial risk.

Moreover, research suggests that gender-diverse boards contribute to stronger corporate governance by enhancing transparency and reducing agency costs. According to Agency Theory (Jensen & Meckling, 1976), greater board diversity, including gender diversity, improves oversight, limits excessive risk-taking by managers, and aligns managerial actions with shareholder interests (Poletti-Hughes & Briano-Turrent, 2019). Ezeani et al. (2023) highlighted that female board members mitigate agency conflicts through disciplined financial practices and robust governance, leading to a preference for lower debt levels in capital structure.

Empirical studies further corroborate the influence of gender diversity on conservative financing strategies. For instance, Datta et al. (2021) found that female directors favor internal funding over external debt, which reduces corporate leverage. Similarly, Terjesen et al. (2016), in a study across 47 countries, concluded that female board members enhance board effectiveness, particularly in risk management, thus reducing reliance on debt. These findings collectively reinforce the critical role of board gender diversity in shaping cautious financial management, optimizing capital structure, and promoting long-term corporate sustainability.

Based on the description above, the following hypothesis is proposed:
H2. Board Gender Diversity has a significant impact on capital structure.

RESEARCH METHODS

This type of research is quantitative research and using panel data, a combination of time series data and cross section data. This study used secondary data sources. The data used in this study are ESG score, board gender diversity, and financial data from Refinitiv Eikon, period 2018 – 2023. The population in this study is non-financial companies in ASEAN countries, which consist of 5 countries i.e. Indonesia, Malaysia, Thailand, Philippines, and Singapore.

The sample selection technique in this study used the purposive sampling method. As explained by Sugiyono (2019), purposive sampling is a technique in which the sample is selected based on certain criteria. The following criteria are:

1. Companies listed on the stock exchanges of each ASEAN country, excluding banking and financial sectors due to their unique financial characteristics.

2. Companies with disclosed ESG Scores in the Refinitiv Eikon database from 2018 to 2023.
3. Companies with complete data and not delisted during the study period.

The dependent variable in this study is the capital structure measured using book value leverage (Blev) ratio. This measurement is used in this study because it reflects better on the capital structure of company management than market value leverage (Adeneye et al., 2023; Lemma & Negash, 2014). Book value leverage is calculated by dividing the firm's long-term debt by the total book value of assets as used in the previous study by Asimakopoulos et al. (2023).

The first independent variable in this study is ESG performance, which measures corporate sustainability through environmental, social, and governance (ESG) scores. For this research, ESG scores from Refinitiv Eikon are utilized due to their comprehensive coverage and integration with financial analysis platforms, facilitating the combination of ESG data with financial metrics (Erhart, 2022). The second independent variable is board gender diversity. Board gender diversity is quantified as the proportion of women on the board of directors, calculated as the percentage of female directors relative to the total number of board members. This measure aligns with prior studies that highlight gender diversity's influence on board dynamics, which can significantly impact corporate policies, including those related to capital structure (Ezeani, 2021). Data for board gender diversity is sourced from Refinitiv Eikon. Besides the two main independent variables, this study also uses controls variables. Control variables are part of the independent variables that are extraneous or not implicitly explained in the study. This study uses five control variables that describe the characteristics of the company and two country level variables, considered from the results of previous studies such as Haron et al. (2013); Zafar et al. (2019) and Adeneye et al. (2023). The first control variable is profitability which is measured by dividing the value of earnings before interest and tax to the total book value of assets. The second control variable is tangibility which is measured using the book value of plant, property and equipment divided by the total book value of assets. The third control variable is firm size which is measured using the company's total assets. The fourth control variable is Market to Book Ratio which is measured by comparing the book value and market value of outstanding shares. And the fifth control variable is the non-debt tax shield which is measured by dividing the accumulated depreciation value to the total book value of assets. As for country level variables using GDP growth and inflation rates in countries in the sample.

The methods used in this study to test the hypothesis are using panel static regression model. The test was carried out by selecting the best model using the chow test and the Hausman test, and the results showed that the best model in static panel regression used a random effect model.

The equation used to test the static panel regression model is as follows:

$$\mathbf{Lev_{it}} = \alpha_i + \beta_1 \mathbf{ESG_{it}} + \beta_2 \mathbf{Gender\_Div_{it}} + \beta_3 \mathbf{Profit_{it}} + \beta_4 \mathbf{Size_{it}} + \beta_5 \mathbf{Tang_{it}} + \beta_6 \mathbf{MTB_{it}} + \beta_7 \mathbf{NDTS_{it}} + \beta_8 \mathbf{GDP_{it}} + \beta_9 \mathbf{INF_{it}} + \varepsilon_{it}$$

RESULTS AND DISCUSSION

Descriptive Statistics

Table 1 presents the descriptive statistics for the variables used in the study, specifically focusing on the ASEAN region. The dependent variable, book leverage (BLEV), has a means of 24.78%, indicating that on average firms' total assets are financed by long-term debt. The relatively low mean suggests conservative financial practices, consistent with the findings of Adeneye et al. (2023) and Lemma & Negash (2014). The independent variable, ESG score, has a mean value of 56.1929, indicating that firms achieve moderate levels of sustainability compliance, though the average score remains below the 70% benchmark suggested by Velte (2016). The range (6.97–91.59) highlights significant variability. The highest ESG score reflects robust sustainability practices and the lowest highlighting areas for improvement. Board gender diversity, measured as the percentage of female board members, has a mean of 17.49%. This indicates moderate representation of women on boards across the sample, with some firms having no female board members. The maximum diversity observed is 57.14%, showcasing firms that have embraced gender inclusion at the board level, aligning with global trends emphasizing the importance of diversity in corporate leadership (Ezeani, 2021).

Table 1
Descriptive Statistics

Variable	N	Mean	Std. Dev.	Min	Max
Book Leverage	900	0.2478	0.1585	0.000025	0.86384
ESG Score	900	56.1929	16.6395	6.97630	91.5979
Gender Diversity	900	17.4999	13.1943	0.00	57.1428
PROFIT	900	0.0716	0.0948	-0.21804	1.2303
SIZE	900	22.3993	1.0477	19.10106	25.3358
TANG	900	0.3478	0.2186	0.00001	0.97071
MTB	900	3.1256	7.1894	-0.82852	60.4974
NDTS	900	0.2848	0.2993	0.00002	2.23625
GDP	900	0.02806	0.0417	-0.09518	0.09691
INF	900	0.0227	0.0200	-0.01138	0.06121

Source: Researcher, (2024)

Control variables provide additional insights into firm-level and country-level characteristics. Based on Table 1, Tangibility (TANG), representing the proportion of tangible fixed assets, has a mean of 0.3478, indicating that approximately one-third of firms' total assets are tangible. Profitability (PROFIT), proxied by return on assets, has a mean value of 7.16%, suggesting moderate financial performance, with some firms experiencing negative returns. Firm size (SIZE), measured as the natural logarithm of total assets, averages 22.3993, equivalent to approximately USD 5 billion. The market-to-book ratio (MTB) has a mean of 3.1256, reflecting that the market value of equity generally

exceeds its book value, with substantial variability (standard deviation of 7.1894). At the macroeconomic level, GDP growth (GDP) averages 2.806% annually, with a minimum of -9.518% and a maximum of 9.691%. This highlights the economic disparities and growth potential across the region. Inflation (INF) has a mean value of 2.27%, reflecting stable price levels during the observation period.

Correlation Matrix

The correlation matrix presented in Table 2, based on Pearson's correlation approach, examines the relationships between independent variables. Pearson's method provides a value between -1 and 1, where 0 indicates no correlation, 1 represents perfect positive correlation, and -1 indicates perfect negative correlation. The results show that all correlation values between independent variables are below the threshold of 0.8, indicating no significant multicollinearity issues within the model. This suggests that the independent variables are sufficiently distinct and do not exhibit strong interdependencies, supporting the robustness of the regression model for further analysis.

Table 2
Correlation Matrix

	blev	esg	gender	prof	size	tang	mtb	ndts	gdp	inf
blev	1									
esg	-0,0256	1								
gender	-0.0948	0.1087	1							
prof	-0.2661	0.0235	0.0353	1						
size	0.3098	0.1796	-0.1097	-0.2602	1					
tang	0.0337	0.0939	-0.0367	0.1351	0.0011	1				
mtb	-0.0600	0.1043	0.0773	0.4390	-0.2885	0.2234	1			
ndts	-0.0255	0.1314	0.0404	0.0682	-0.0182	0.5576	0.2122	1		
gdp	-0.0724	-0.0316	0.0213	0.0621	-0,0369	-0.0375	-0.0178	-0,0140	1	
inf	0.0263	0.0184	-0.0624	0.0242	0,0970	-0.1056	-0.0684	-0.0432	0.5071	1

Source: Researcher, (2024)

ESG Performance and Leverage

The results from the Random Effects Model (REM) regression, as presented in Table 3, highlight a statistically significant negative relationship between ESG performance and book leverage (BLEV), with a coefficient of -0.000585 and a p-value of 0.052 (significant at the 10% level). This supports Hypothesis 1, which posits that higher ESG performance is associated with reduced leverage levels. This finding is consistent with several theoretical frameworks and empirical studies, providing valuable insights into the interplay between sustainability practices and corporate financing decisions.

One plausible explanation for the observed negative relationship is grounded in the Pecking Order Theory (Myers & Majluf, 1984). According to this theory, firms with higher ESG scores tend to reduce information asymmetry and increase investor trust and credibility. This enhanced transparency and ethical standing allow firms to prioritize equity financing over debt, as they face fewer barriers in accessing equity capital. Equity financing, compared to debt, carries lower financial risk and avoids additional costs

associated with interest payments. This is further supported by Cantino et al. (2017), who demonstrated that firms with robust ESG performance experience reduced costs of equity due to lower perceived risks and stronger market credibility.

Signalling Theory (Spence, 1973) also provides a compelling rationale. High ESG scores serve as a positive signal to the market, indicating a firm's commitment to sustainability, transparency, and ethical practices. Such signalling enhances investor confidence and strengthens the firm's reputation in financial markets. As Chava (2014) noted, firms with superior ESG performance are often seen as lower-risk entities, which translates into better financing terms, including reduced equity costs and decreased dependency on debt financing.

Empirical evidence further substantiates these theoretical underpinnings. Cheng et al. (2014) highlighted that firms with high ESG scores exhibit enhanced financial flexibility, enabling them to reduce their leverage levels. This is achieved through increased access to equity financing and reduced borrowing costs. Similarly, Eccles et al. (2014) found that firms with strong ESG practices benefit from greater trust among stakeholders, which facilitates their ability to secure funding at more favorable terms. This trust diminishes the need for excessive reliance on debt, allowing firms to maintain lower leverage ratios.

Another critical mechanism at play is the reduction in the cost of debt associated with high ESG performance. Firms with strong ESG ratings are perceived as lower-risk borrowers due to their adherence to sound governance practices, commitment to sustainability, and reduced exposure to environmental and social liabilities. This perception lowers the risk premium demanded by creditors, enabling ESG-compliant firms to access debt financing at reduced costs. Attig et al. (2013) demonstrated that corporate social responsibility (CSR), as an integral component of ESG, positively influences credit ratings, thereby reducing the cost of debt. Similarly, Giese et al. (2019) emphasized that ESG integration into business practices reduces a firm's risk profile, which in turn enhances its creditworthiness and lowers borrowing costs.

The findings of this study also align with the work of Chasiotis et al. (2024), who observed that firms with low ESG reputations face challenges in obtaining external funding, both equity and debt. These challenges reinforce the strategic advantage of robust ESG performance, which enables firms to secure better financing terms and reduce leverage. Furthermore, firms with high ESG scores are likely to attract socially responsible investors, who prioritize sustainability and long-term value creation over short-term gains. This investor preference contributes to an increased reliance on equity financing and a corresponding reduction in debt levels.

Lastly, the reputational capital associated with ESG compliance further reinforces this dynamic. As suggested by Eccles et al. (2014), firms with strong ESG practices enjoy enhanced reputational standing, which not only bolsters their attractiveness to socially responsible investors but also strengthens their overall market position. This reputational advantage allows these firms to negotiate better financing terms, further reducing their

reliance on debt and supporting the observed negative relationship between ESG performance and leverage.

In conclusion, the findings of this study provide robust evidence that higher ESG performance leads to reduced leverage levels. This relationship is underpinned by theoretical insights from Pecking Order Theory and Signalling Theory and is supported by empirical findings from prior studies. The ability of ESG-compliant firms to reduce financial risks, enhance investor trust, and secure better financing terms underscores the strategic importance of integrating sustainability practices into corporate governance and financial strategies.

Table 3
ESG Performance and Board Gender Diversity on Leverage

Var Dep: *BLev*	Coefficient	Std. Error	t	P-Value
ESG Score	-0,0005856	0.0003009	-1.95	0.052*
GenderDiv	0.0007906	0.0003592	2.20	0.028**
Profit	-0.1117558	0.0341163	-3.28	0.001***
Size	0.0526616	0.008797	5.99	0.000***
Tang	0.1832162	0.0383332	4.78	0.000***
MTB	0,0027347	0.0008093	3.38	0.001***
NDTS	-0.1330015	0.0283186	-4.70	0.000***
GDP	-0.1793526	0.0636979	-2.82	0.005***
INF	0.3521848	0.1547947	2.28	0.023**
Constanta	-0.9420673	-0.1976221	-4.77	0.000
N		900		
R^2		0,1161		
Prob > chi2		0,0000		
Year Dummy	*Yes*	*Yes*	*Yes*	*Yes*
Country Dummy	*Yes*	*Yes*	*Yes*	*Yes*
Industry Dummy	*Yes*	*Yes*	*Yes*	*Yes*

Notes: Standard errors in parentheses*; *p < 0.1; **p < 0.05; ***p < 0.01*
Source: Researcher, (2024).

Board Gender Diversity and Leverage

The result in Table 3 indicates a significant positive relationship between board gender diversity and book leverage, with a coefficient of 0.0007906 and a p-value of 0.028 (significant at the 5% level). This result supports Hypothesis 2, which posits that greater gender diversity influences leverage decisions positively. Contrary to conventional arguments suggesting that female directors adopt conservative financial strategies and prefer lower leverage due to risk aversion (Peni & Vähämaa, 2010), the findings highlight a positive impact of gender diversity on leverage. This could indicate that gender-diverse boards are not inherently risk-averse but are pragmatic in their decision-making. In scenarios where external financing is necessary, diverse boards may collaboratively decide to utilize debt as a feasible and efficient funding option.

This result can be analyzed through the lens of upper echelon theory (Hambrick & Mason, 1984), which postulates that the composition of a firm's top management team, including its board of directors, shapes organizational outcomes, including financial strategies. Female directors are often perceived to bring diverse perspectives, rigorous oversight, and enhanced decision-making quality to the boardroom (Adams & Ferreira, 2009). However, the positive association with leverage suggests that gender-diverse boards may also recognize the strategic advantages of debt financing under certain circumstances. The agency theory perspective further supports this relationship. Gender-diverse boards are likely to enhance monitoring and reduce agency conflicts between management and shareholders, potentially enabling firms to undertake higher leverage without compromising financial discipline (Faccio et al., 2016). This increased oversight may also mitigate risks associated with debt, making leverage a viable option for financing growth and operational activities.

The findings contrast with prior research suggesting that female directors typically favor conservative financial policies and are less inclined toward high leverage due to risk aversion (Ezeani, 2021). In this study, the positive relationship between gender diversity and leverage could indicate a more nuanced dynamic, where the presence of female directors does not necessarily result in uniformly risk-averse behavior. Instead, gender-diverse boards may balance risk-taking and prudence, leveraging debt as a strategic tool when required by firm-specific contexts. Additionally, these results align with Krystyniak and Staneva (2024), who argued that gender diversity does not inherently dictate conservative financing preferences. Instead, they emphasized that the impact of gender diversity on corporate decisions depends on contextual factors such as industry norms, economic conditions, and the firm's financial needs. The findings here suggest that gender-diverse boards are flexible and pragmatic, adopting financing strategies that best suit the firm's objectives and market opportunities.

Control Variable

The control variables in this study provide essential insights into the internal factors influencing a company's leverage. Profitability (PROFIT) has a significant negative impact on leverage, with a coefficient of −0.1118-0.1118−0.1118. This finding indicates that more profitable companies tend to rely less on debt financing. According to the trade-off theory, firms with higher profitability have sufficient operational cash flows to meet their financing needs, reducing reliance on debt to gain tax benefits from interest payments (DeAngelo & Masulis, 1980). Recent research by Kalantonis et al. (2021) supports this result, highlighting that higher profitability enables firms to utilize internal funding, thus lowering their dependence on external debt in their capital structure.

Firm size (SIZE) has a significant positive impact on leverage, with a coefficient of 0.0527. This finding suggests that larger firms have better access to capital markets and can secure loans on more favourable terms. This aligns with Rajan and Zingales (1995), who argue that larger firms face lower default risks due to their diversified asset base, making them more credible to creditors. Additionally, Shah (2022) found that firm size is

a critical determinant of leverage in emerging markets, demonstrating that larger firms are more likely to increase leverage to support growth initiatives.

Tangibility (TANG) also shows a significant positive impact on leverage, with a coefficient of 0.1832. High tangible assets enable firms to secure debt financing more easily, as these assets can serve as collateral for creditors (Harris & Raviv, 1991). Research by Lemma and Negash (2014) in developing markets highlights that tangibility is one of the primary factors influencing a firm's ability to access debt financing. Similarly, Babajide (2019) found a positive relationship between tangible assets and leverage in developing countries, particularly in industries reliant on physical assets.

Market-to-book ratio (MTB) has a significant positive impact on leverage, with a coefficient of 0.0027. This result indicates that firms with relatively higher market value tend to utilize leverage to finance growth opportunities. Baker and Wurgler (2002) observed that firms often capitalize on favourable market conditions to increase leverage for strategic expansion. More recently, Aggarwal et al. (2023) argued that a high market-to-book ratio reflects optimistic growth expectations, encouraging firms to take on more risk in their capital structure.

Conversely, Non-Debt Tax Shields (NDTS) exhibit a significant negative impact on leverage, with a coefficient of -0.1330. This suggests that firms with higher NDTS, such as depreciation benefits, tend to reduce their reliance on debt, as the tax advantages from depreciation are sufficient to lower their tax liabilities (DeAngelo & Masulis, 1980). Studies by Chang et al. (2014) and Vuong (2014) confirm this finding, indicating that high NDTS can substitute the need for tax benefits derived from interest payments, leading to a more conservative capital structure.

Robustness Test

A country-level static panel regression was conducted for six countries (Indonesia, Malaysia, Singapore, Thailand, and Philippines) to test the consistency of the relationship between ESG performance, board gender diversity, and leverage. The results, shown in Table 6, indicate that ESG performance consistently has a negative coefficient across all countries, except Philippines, aligning with the main model's hypothesis that higher ESG performance reduces leverage levels, with significant effects in Indonesia and Thailand. These findings suggest that firms in these countries with stronger ESG practices rely less on debt, potentially due to improved transparency, reduced agency costs, and better access to equity markets. Conversely, ESG performance does not exhibit a statistically significant effect in Malaysia, and Singapore, highlighting differences in the role of ESG in financial decision-making across institutional contexts.

The effect of board gender diversity on leverage is mixed across countries. In the Philippines, gender diversity has a significant negative effect on leverage, reflecting the risk-averse nature of female directors. Conversely, Singapore shows a positive and significant relationship, indicating that gender-diverse boards may facilitate access to external debt or encourage higher leverage for growth strategies or for specific contexts. No significant relationship was observed in Indonesia, Malaysia, or Thailand, suggesting

that its role in shaping capital structure decisions may depend on specific corporate governance practices and cultural factors. Among control variables, tangibility consistently shows a positive and significant relationship with leverage across all countries, reinforcing its role in providing collateral for debt financing, However, profitability, firm size, and market-to-book ratio exhibit mixed results across countries.

Table 6
Country Level Analysis of ESG Performance and Gender Diversity On Leverage

Var Dep: BLev	(1) IND	(2) MAS	(3) SING	(4) THAI	(5) PHIL
ESG Score	-0.0006**	-0,0002	-0,0008	-0,0024**	0,0017**
	(0.0007)	(0,0006)	(0,0006)	(0,0007)	(0,0007)
Gender Div	-0.0003	0,0006	0,0011*	-0,0001	-0,0060***
	(0.0009)	(0,0007)	(0,0006)	(0,0010)	(0,0013)
Profit	0.5226***	-0,0165	-0,4736**	-0,6455**	0,7290**
	(0.0943)	(0,0525)	(0,1559)	(0,1881)	(0,3442)
Size	0.0589***	0,0377	0,0246	0,0556***	0,0448**
	(0.0163)	(0,0390)	(0,0174)	(0,0126)	(0,0175)
Tang	0.1287**	0,5625***	0,1860**	0,1406**	0,2484**
	(0.0610)	(0,0908)	(0,0855)	(0,0683)	(0,1004)
MTB	0.0028**	0,0033**	0,0032	-0,0075	-0,0183*
	(0.0012)	(0,0014)	(0,0062)	(0,0053)	(0,028)
NDTS	-0.0822*	-0,3608***	-0,1838**	-0,2036***	0,0158
	(0.0452)	(0,0832)	(0,0895)	(0,0469)	(0,0771)
GDP	0.1863	-0,3237*	-0,1519*	-0,1397	-0,0939
	(0.5647)	(0,1904)	(0,0878)	(0,3472)	(0,2255)
INF	-0.7545	0,8343	0,3394*	0,8421	0,2140
	(1.5994)	(0,6290)	(0,1929)	(0,5324)	(0,8883)
Constanta	-0,9643	-0,7221	-0,3086	-0,7366	-0,8198
N	162	270	174	180	114
R^2	0,2871	0,3029	0,2246	0,3227	0,3357
Year Dummy	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*

Source: Researcher, (2024)

CONCLUSION

This study investigates the impact of Environmental Social Governance (ESG) performance and board gender diversity on capital structure in non-financial sector companies across ASEAN countries and South Korea during the period 2018–2023. Using panel static regression model the findings reveal significant relationships between these variables and corporate financial decisions. ESG performance negatively influences leverage, indicating that companies with higher ESG scores tend to reduce their reliance on debt. This can be attributed to enhanced transparency and increased investor trust, which shift funding preferences towards equity financing. On the other hand, board gender diversity positively affects leverage, suggesting that the presence of female directors increases debt levels. While female directors are often associated with risk aversion, the results reveal that their decisions may reflect practical funding preferences, utilizing debt when necessary to meet external financing needs. This challenges the traditional

perception of female directors as overly conservative and underscores their ability to adapt financial strategies effectively. These findings provide valuable insights for corporate decision-makers and policymakers, highlighting the importance of integrating ESG practices and gender diversity into sustainable and inclusive financial management.

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