

“Does competitive advantage strengthen the value relevance of ESG disclosure?”

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ARTICLE INFO	Thi Hanh Dung Truong, Dung Tan Huynh and Anh Tuan Dang (2026). Does competitive advantage strengthen the value relevance of ESG disclosure?. <i>Accounting and Financial Control</i> , 7(2), 89-103. doi: 10.21511/afc.07(2).2026.06
DOI	http://dx.doi.org/10.21511/afc.07(2).2026.06
RELEASED ON	Wednesday, 07 October 2026
RECEIVED ON	Tuesday, 02 June 2026
ACCEPTED ON	Wednesday, 16 September 2026
LICENSE	 This work is licensed under a Creative Commons Attribution 4.0 International License
JOURNAL	"Accounting and Financial Control"
ISSN PRINT	2543-5485
ISSN ONLINE	2544-1450
PUBLISHER	LLC “Consulting Publishing Company “Business Perspectives”
FOUNDER	Sp. z o.o. Kozmenko Science Publishing


NUMBER OF REFERENCES
47


NUMBER OF FIGURES
3


NUMBER OF TABLES
5

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BUSINESS PERSPECTIVES



LLC "CPC "Business Perspectives"
Hryhorii Skovoroda lane, 10,
Sumy, 40022, Ukraine
www.businessperspectives.org

Type of the article: Research Article

Received on: 2nd June, 2026

Accepted on: 16th of September, 2026

Published on: 7th of October, 2026

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Conflict of interest statement:

Author(s) reported no conflict of interest

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DOES COMPETITIVE ADVANTAGE STRENGTHEN THE VALUE RELEVANCE OF ESG DISCLOSURE?

Abstract

In the evolving landscape of ASEAN capital markets, environmental, social, and governance (ESG) disclosure is increasingly recognized as a strategic driver of corporate value, with competitive advantage determining the extent to which its benefits are realized. This study aims to examine how competitive advantage moderates the relationship between ESG disclosure and firm value in the ASEAN emergent context. The study applies panel data comprising 2,801 observations from 726 listed companies in ASEAN during 2015-2023. Regression analysis was conducted using the two-step System Generalized Method of Moments, accompanied by a series of robustness tests. The findings emphasize ESG reporting benefits, as ESG disclosure positively influences all firm value proxies in baseline models ($\beta_{\text{ESG_Tobin'sQ}} = 0.0034$, p-value < 0.05; $\beta_{\text{ESG_LogMC}} = 0.0040$, p-value < 0.01; $\beta_{\text{ESG_PB}} = 0.0047$, p-value < 0.05). The interaction between ESG disclosure and competitive advantage is also positive and significant across the three measures ($\beta_{\text{ESGxCA_Tobin'sQ}} = 0.0545$, p-value < 0.05; $\beta_{\text{ESGxCA_LogMC}} = 0.0254$, p-value < 0.01; $\beta_{\text{ESGxCA_PB}} = 0.0678$, p-value < 0.01). These results suggest that the valuation implications of ESG disclosure are contingent on firms' competitive advantage, with the estimated marginal effect generally increasing as competitive advantage improves. Accordingly, the study enriches the literature by resonating with the intersection between stakeholder theory and the resource-based view (RBV), demonstrating how competitive advantage conditions the link between ESG disclosure and firm value in ASEAN capital markets. The study suggests that managers should align financial objectives with stakeholder expectations and integrate ESG disclosure into broader corporate strategies to enhance valuation purposes.

Keywords

ESG disclosure, firm value, competitive advantage, sustainability management, ASEAN

JEL Classification

M14, M41, G39

INTRODUCTION

The 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015, has reinforced global commitments to sustainable development and international cooperation (Meutia et al., 2021). However, the complexity of global business environments makes a one-size-fits-all approach to ESG difficult to achieve, underscoring the need for further research into the contextual factors that shape the effectiveness of ESG practices (Makarenko et al., 2024). Existing studies have largely investigated the direct nexus between ESG disclosure and firm value, with limited attention to whether firms' internal value creation capability determines how ESG disclosure translates into market valuation, particularly in the Association of Southeast Asian Nations (ASEAN) institutional environment. This gap is particularly relevant in ASEAN, a heterogeneous regional context that remains underexamined in the ESG literature (Awuah et al., 2024).

ASEAN, originally formed in 1967, is considered a prosperous economic zone. In 2022, ASEAN's economy grew by 5.7% and reached a nominal GDP of US\$3.6 trillion, positioning it as the 5th largest in the world and the 3rd largest in Asia (KPMG, 2021). Although described

as an economic growth center, the region's economy relies heavily on agriculture, natural resources, and forestry; the community is also facing a fast-growing rate of urbanization, high population pressure, and worsening environmental conditions such as unsustainable land use, environmental degradation, and large ecological footprints (Jahanger et al., 2023). Aware of these challenges, ASEAN Member States have progressively incorporated ESG reporting into listing requirements and supplemented these initiatives with guidance and training programs. These response measures are expected to improve transparency and disclosures, equip companies with a competitive edge over their competitors, signaling to investors a company's commitment to innovative and prosperous development (Nemoto & Morgan, 2020). Notwithstanding, the ASEAN community is not tightly institutionalized but grounded in consensus-based decision-making and legally non-binding arrangements (KPMG, 2021). Besides, ASEAN has no central bureaucracy coordinating climate action; each country's formal institutional structure is typically state-led and faces institutional barriers such as weak local financial markets, lack of effective policy enforcement mechanisms, and contract standardization (Azhgaliyeva et al., 2020). Against these unique backgrounds, the need to provide empirical evidence that analyzes the sophisticated impacts of ASEAN's sustainability efforts and competitive advantage on firm value emerges. Improved understanding of this issue would contribute to more effective sustainability strategies and support investors and policymakers in promoting sustainable corporate development across emerging capital markets.

1. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Many prior studies learning the relationship between ESG ratings and firm performance have provided evidence denoting that stakeholders reward firms in Western countries, such as EU members, for good ESG ratings (Bax et al., 2024; Dkhili, 2023; Elamer et al., 2024; Ye et al., 2022). Similarly, Al-Hiyari and Kolsi (2021) found that ESG practices are positively rewarded by market participants and add incremental information content to earnings and book value of equity from the Middle East and North Africa (MENA). Ahmad (2022) confirmed that ESG scores are positively and significantly associated with firm value, and that the main driver of ESG value in Gulf Cooperation Council (GCC) countries comes from stock price appreciation. Nevertheless, there are also some opposite findings when examining the relationship using cross-country samples. Wasiuzzaman et al. (2023), Bedi and Singh (2024), and Gupta (2025) confirmed that the links between sustainability reporting and firm performance are significantly negative. In ASEAN, most ESG studies remain country-specific, such as Indonesia (Yawika & Handayani, 2019; Toti & Johan, 2022), Malaysia (Rosley et al., 2023; Wong et al., 2021), Thailand (Suttipun, 2023), and Vietnam (Bui et al., 2024; Tran, 2023). More directly, Lerskullawat and

Ungphakorn (2024), Prabawati and Rahmawati (2022), and Truong (2024) assess ESG–market value links across ASEAN firms, but findings remain mixed, with both positive, negative, and insignificant effects reported.

In this study, we anchored the baseline relationship between ESG disclosure and firm value based on stakeholder theory. In a competitive environment, stakeholders often judge that companies with good sustainability disclosure will perform better. These businesses will benefit from stakeholder support through higher consumer spending, greater investment from investors, higher employee productivity, and even better society's recognition for legitimate efforts, which in turn leads to increased corporate value (Freeman & Dmytriiev, 2017; Ruziwa & Nomlala, 2025).

Recently, scholars have begun to examine how competitive advantage strengthens the ESG disclosure–firm value relationship. Employing 661 firms listed on Bursa Malaysia during 2012–2017, Mohammad and Wasiuzzaman (2021) noted that ESG activity improves firm performance even after controlling for the interaction with competitive advantage. Dkhili (2023) used panel data comprising 720 firms from eight European countries during 2007–2019, presenting that ESG positively impacts Tobin's Q via the moderating effect of competitive advantage. Following this, Igbini and Agbadua (2023), examining 20 Nigerian quot-

ed manufacturing firms in 2017–2021, have concluded that ESG reporting displayed no impact on firm value, but firm advantage significantly moderated the ESG-firm value relationship. In the same vein, Wahyuni et al. (2024) indicated that ESG disclosure does not significantly affect firm value relevance; however, competitive advantage can reinforce the relationship between ESG disclosure and firm value relevance on the Indonesia Stock Exchange during 2020–2022. Recently, Joshua and Chalid (2025) analyzed 90 firms across five ASEAN countries from 2018 to 2023 and discovered that higher ESG scores are negatively associated with firm value; nonetheless, competitive advantage can convert the situation by enabling stronger firms to better absorb ESG-related risks and reduce the negative valuation effect.

The resource-based view (RBV) is the most influential one in explaining firm resources and sustainable competitive advantage. The RBV proposes that firms achieve competitive advantage through possessing and supervising internal valuable, rare, inimitable, and non-substitutable (VRIN) resources (Barney, 1991; Sirmon et al., 2011). Extending the original RBV, Hart (1995) proposed the natural-resource-based view (NRBV), which suggests future strategy and competitive advantage will be stemmed in capabilities that assist environmentally sustainable economic activities. Conforming to the NRBV, we posited that ESG disclosure links to a firm's competitive advantage in terms of lowering environmental emission costs, minimizing firm growth pressure, and hence, this firm would outperform competitors and be rewarded with future performance (Hart, 1995).

In summary, prior research provides substantial evidence that ESG disclosure is associated with corporate value; however, the direction and magnitude of this relationship remain inconclusive across institutional settings. While firms in developed markets generally receive favorable market valuations for strong ESG scores, empirical evidence from emerging economies and cross-country studies remains inconsistent. At the same time, recent studies suggest that competitive advantage may represent an important boundary condition through which firms are better able to transform ESG initiatives into market value. Nevertheless, empirical evidence on this moderating mecha-

nism remains scarce, particularly within the diverse institutional environment of ASEAN.

Grounded in stakeholder theory and the natural resource-based view, this study aims to examine the effect of ESG disclosure on firm value and investigate the moderating role of competitive advantage in this relationship. Accordingly, the following hypotheses are proposed:

- H1: *There is a significant positive relationship between ESG disclosure and firm value.*
- H2: *Competitive advantage positively moderates the relationship between ESG disclosure and firm value.*

2. RESEARCH METHODOLOGY

This study adopts a quantitative research approach to empirically examine the relationships among ESG disclosure, competitive advantage, and firm value. All data were extracted from the Refinitiv (LSEG) database and companies' annual reports for the period 2015–2023. Companies selected into the research sample had to qualify for two criteria: (1) available ESG ratings on the database, and (2) sufficient financial information to calculate all proxies of variables employed. After the screening process, countries with unavailable ESG ratings or inadequate financial data on Refinitiv (Cambodia, Lao PDR, Myanmar) and countries with no stock exchanges (Brunei Darussalam, Timor-Leste) were excluded from the sample. Therefore, the final research sample includes 726 listed companies in 6 ASEAN countries (Indonesia, Malaysia, Philippines, Singapore, Thailand, and Vietnam) between 2015 and 2023, forming an unbalanced panel data consisting of 2,801 firm-year observations. Malaysia contributes the largest proportion of the sample, representing 338 firms (46.56%) and 1,026 observations (36.63%), followed by Thailand with 161 firms (22.18%) and 602 observations (21.49%), and Singapore with 91 firms (12.53%) and 487 observations (17.39%). Indonesia accounts for 83 firms (11.43%) and 399 observations (14.25%), while the Philippines and Vietnam contribute 39 firms (5.37%) with 234 observations (8.35%) and 14 firms (1.93%) with 53 observations (1.89%), respectively.

To test hypothesis 1, we constructed the baseline model (equation 1) to reflect the impact of disclosure of ESG on firm value, with a dynamic panel data model including lagged dependent variables as regressors, as follows:

$$\begin{aligned} & TobinsQ / LogMC / PB_{i,t} \\ &= \alpha TobinsQ / LogMC / PB_{i,t-1} \\ &+ \beta_1 ESG_{i,t-1} + \sum \beta_j Controls_{i,t-1} \\ &+ i \cdot Year + i \cdot Country + \varepsilon_{i,t}. \end{aligned} \quad (1)$$

Next, to examine hypothesis 2 on the moderating role of competitive advantage in the disclosure of ESG performance – firm value nexus, we created an interaction term between competitive advantage and ESG disclosure ($CA \times ESG$) into equation 1 to get equation 2. The regression model for moderation analysis is shown:

$$\begin{aligned} & TobinsQ / LogMC / PB_{i,t} \\ &= \alpha TobinsQ / LogMC / PB_{i,t-1} \\ &+ \beta_1 ESG_{i,t-1} + \beta_2 CA_{i,t-1} \\ &+ \beta_3 CA_{i,t-1} \times ESG_{i,t-1} + \sum \beta_j Controls_{i,t-1} \\ &+ i \cdot Year + i \cdot Country + \varepsilon_{i,t}, \end{aligned} \quad (2)$$

where $TobinsQ/LogMC/PB$ indicates three alternative proxies: Tobin's Q, the logarithm of the firm's market valuation, and the Price-To-Book ratio for firm value; ESG denotes ESG disclosure scores sourced from the Refinitiv (LSEG) database, and CA signifies competitive advantage.

In this study, competitive advantage is considered the intervening variable, moderating the relationship between ESG disclosure and firm value. Consistent with prior studies, competitive advantage (CA) is measured as the difference between the rates of return on resources, i.e., return on invested capital ($ROIC$) minus the weighted average cost of capital ($WACC$) (Gjerde et al., 2010; Mohammad & Wasiuzzaman, 2021; Rohendi et al., 2024). The use of the resource-based model of competitive advantage (Gjerde et al., 2010) is reasonable, as our study is framed on RBV, which posits that firms are bundles of heterogeneous resources and capabilities that underpin their competitive strategies and constitute the primary driv-

ers of economic returns (Barney, 1991; Wernerfelt, 1984). From this perspective, differences in firm performance across time are attributed primarily to the possession and effective deployment of valuable, rare, inimitable, and nonsubstitutable resources and capabilities, rather than to industry structural factors (Gjerde et al., 2010). The calculation of CA is then expressed as follows:

$$CA = ROIC - WACC, \quad (3)$$

With:

$$ROIC = \frac{\left(\begin{array}{c} \text{Operating income} \\ \text{before interest} \\ \text{and taxes} \end{array} \right) \cdot (1 - \text{Tax rate})}{\text{Total debt} + \text{Total equity}}, \quad (4)$$

$$\begin{aligned} WACC &= \frac{\text{Book value of Equity}}{\text{Total Debt} + \text{Total Equity}} \\ &\times \text{Cost of equity} + \frac{\text{Total Debt}}{\text{Total Debt} + \text{Total Equity}} \\ &\times \text{Cost of debt} \cdot (1 - \text{Tax rate}), \end{aligned} \quad (5)$$

(Frank & Shen, 2016).

In particular, the cost of equity and the cost of debt were obtained directly from the Refinitiv Eikon (LSEG) database, under the Weighted Average Cost of Capital category. The use of Refinitiv's standardized methodology ensures consistent measurement across the six ASEAN countries and enhances the comparability of cross-country analyses.

Following prior studies, control variables comprise firm size ($Size$) measured by the natural log of total assets, financial leverage (Lev) rated by dividing total debt to total assets, cash ratio ($Cash$) calculated by total cash and cash equivalents divided to total assets, ownership concentration (Single controlling shareholder – SCS) measured by the ownership percentage of the single largest controlling shareholder from annual reports, profit growth ($Prfgrowth$) measured by net profit growth divided to net profit of last year, audit committee ($Audcom$) measured by percentage of independent board members on the audit committee as stipulated by the company, and GDP per

capital (GDPcap) measured by logarithm of total output divided to total population (Mohammad & Wasiuzzaman, 2021; Truong, 2024). We also control for country and year dummies to capture heterogeneity between countries and potential events that may affect the researched relationships.

We tested the moderating role of competitive advantage using panel data regression techniques for each of equations (1) and (2). We ran pooled OLS, random, and fixed-effect regressions to decide which estimations were more appropriate. The Breusch-Pagan Lagrange multiplier test and Hausman test concluded that panel-data estimation was preferable, and fixed effects was a valid estimation strategy. We then used the Modified Wald test for groupwise heteroskedasticity in fixed-effects regression models and the Wooldridge test for autocorrelation in the panel data of short T and large N . The test results demonstrated that our fixed-effects models faced heteroskedasticity and autocorrelation within individuals. Furthermore, potential endogeneity of the regressors was assessed. The diagnostic tests did not reject the assumed exogeneity of ESG disclosure, whereas control variables showed evidence inconsistent with strict exogeneity in the estimations of equations 1 and 2. We also estimated that our dependent variable, firm value proxied by Tobin's Q , LogMC, and PB, is persistent in nature. According to Blundell and Bond (1998), we concluded that employing the GMM estimator is suitable for our data analysis. The GMM estimator is supposed to provide a more robust framework by addressing three key sources of endogeneity, including unobserved heterogeneity, simultaneity, and dynamic endogeneity (Khatib, 2025). Specifically, two-step System GMM with Windmeijer-corrected robust standard errors was employed to address potential endogeneity while accommodating time-invariant regressors, the unbalanced panel structure, and severe downward bias. Across the main and robustness specifications, Hansen-test p -values ranged from 0.2613 to 0.7325; thus, the null hypothesis of jointly valid overidentifying restrictions was not rejected (Keya Otinga et al., 2025; Kiviet & Kripfganz, 2021). Moreover, the AR(1) tests were significant as expected, whereas the AR(2) p -values ranged from 0.2474 to 0.8095, indicating no evidence of second-order serial correlation (Roodman, 2009).

We use a one-year lag of all independent variables based on the assumption that the market value of the current year is associated with last-year operations. Also, by employing lagged explanatory variables, we facilitate the GMM estimator and respond appropriately to endogeneity concerns (Bellemare et al., 2017). For robustness, we perform various tests to validate the empirical results. First, we replace Tobin's Q with the logarithm of the firm's market valuation (LogMC) and the price-to-book ratio (PB) as substitute proxies for firm value and re-run all steps in moderation tests to guarantee consistent findings. Second, we exclude financial firms (such as banks, insurance companies, and other financial intermediaries) from the main sample because their business models, regulatory frameworks, and accounting structures differ fundamentally from those of non-financial firms. The new sample includes only 621 non-financial companies, producing 2,364 observations. Finally, we exclude Malaysia from the sample and re-estimate the regression models because Malaysia contributes the largest number of observations in the sample (Appendix A). This robustness test assesses whether the main findings are driven by a single country.

3. RESULTS

Table 1 presents basic descriptive statistics. To avoid extreme outliers, all variables are winsorized at the 1% and 99% levels. In Table 1, firm value (Tobin's Q) with maximum and minimum values were 10.7280 and 0.5169 respectively, the mean of 1.7240, with a standard deviation of 1.5678, and kurtosis of 17.8979 indicating that there was a sharp fluctuation in firm value within 2,801 observations. LogMC has a mean of 9.1378, standard deviation of 0.7465, kurtosis of 2.3439, and ranges between 7.4625 and 10.5815, implying a fairly symmetric distribution of market capitalization across the sample. PB ranges from 0.1750 to 24.4314, with a mean of 2.4139, standard deviation of 3.3466, and kurtosis value of 25.0167, highlighting wide variation in the Price-to-Book ratio in the sample. ESG disclosure has an average value of 47.4223 with the highest score of 85.8532 and the lowest score of 10.2356, showing that companies in our research sample have satisfactory relative ESG performance and moderate transparency

Table 1. Descriptive statistics

Variable	Obs	Mean	Std. dev.	Min	Max	Kurtosis
TobinsQ	2,801	1.7240	1.5678	0.5169	10.7280	17.8979
LogMC	2,801	9.1378	0.7465	7.4625	10.5815	2.3439
PB	2,801	2.4139	3.3466	0.1750	24.4314	25.0167
ESG	2,801	47.4223	18.1975	10.2356	85.8532	2.2107
CA	2,801	0.0063	0.1159	-0.3053	0.5781	10.6662
Size	2,801	9.3168	0.7952	7.7126	10.9250	2.4164
Lev	2,801	0.5398	0.2143	0.0880	0.9228	2.1260
Cash	2,801	0.1168	0.1115	0.0000	0.5278	4.9687
SCS	2,801	0.3783	0.2013	0.0220	0.8499	2.1159
Audcom	2,801	0.4963	0.2233	0.0119	0.8684	2.5665
Prfgrowth	2,801	0.0231	2.2682	-10.2803	11.1201	15.2509
GDPcap	2,801	4.0203	0.4117	3.4880	4.9209	2.9373

in the public disclosure of relevant ESG data on average. Competitive advantage has a mean value of 0.0063 with a standard deviation of 0.1159, kurtosis of 10.6662, while the maximum value is 0.5781 and the minimum value is -0.3053, indicating that, on average, most firms have pretty good competitive advantages due to higher return on invested capital or lower financing costs, however there are large discrepancies between firms in the research sample.

Table 2 presents the results of the two-step system GMM estimation examining the moderating effect of competitive advantage on the relationship between ESG disclosure and firm value. Columns (1) and (2) report the outcomes of baseline and moderation equations where firm value is measured by Tobin's Q, while Columns (3) and (4) provide the results using the alternative proxy of market valuation, measured as the natural logarithm of market capitalization (LogMC). Columns (5) and (6) further extend the analysis by employing the Price-to-Book ratio (PB) as an additional measure of firm value. The positive significant impacts of lagged of dependent variable on dependent variable firm value across all models ($\alpha_{t-1 \text{ TobinQ Eq1}} = 0.7683$, $p < 0.01$; $\alpha_{t-1 \text{ TobinQ Eq2}} = 0.7340$, $p < 0.01$; $\alpha_{t-1 \text{ LogMC Eq1}} = 0.8993$, $p < 0.01$; $\alpha_{t-1 \text{ LogMC Eq2}} = 0.8466$, $p < 0.01$; $\alpha_{t-1 \text{ PB Eq1}} = 0.8311$, $p < 0.01$; $\alpha_{t-1 \text{ PB Eq2}} = 0.7484$, $p < 0.01$) validate the dynamic nature of firm market valuation, hence employing two-step system GMM estimator is found to be appropriate in this study. About diagnostic tests, the AR1 test is significant ($p = 0.0000 - 0.0136$), as expected in dynamic models due to first-order correlation in differenced residuals. More importantly, the AR2 test is insignificant ($p = 0.2840 - 0.7943$), indicat-

ing no evidence of second-order serial correlation. The Hansen test shows p-values between 0.3430 and 0.6195, suggesting that there is no evidence against the joint validity of the overidentifying restrictions.

The results in Table 2 provide important insights into the role of ESG disclosure and competitive advantage in shaping firm value. First, about the impact of ESG disclosure on firm value, ESG disclosure shows a consistent positive impact on Tobin's Q, LogMC, and PB ($\beta_{1t-1 \text{ TobinQ Eq1}} = 0.0034$, $p < 0.05$; $\beta_{1t-1 \text{ LogMC Eq1}} = 0.0040$, $p < 0.01$; $\beta_{1t-1 \text{ PB Eq1}} = 0.0047$, $p < 0.05$), which strongly supports *H1*. This indicates that greater ESG transparency is positively valued by market participants. Second, in respect of the moderation role of competitive advantage, the interactive terms of ESG disclosure and competitive advantage on market valuation were found significantly positive ($\beta_{3t-1 \text{ CAxESG-TobinQ}} = 0.0545$, $p < 0.05$; $\beta_{3t-1 \text{ CAxESG-LogMC}} = 0.0254$, $p < 0.01$; $\beta_{3t-1 \text{ CAxESG-PB}} = 0.0678$, $p < 0.01$), revealing that the marginal association between ESG disclosure and firm value increases with competitive advantage. Specifically, the conditional marginal-effects estimates at five percentiles of competitive advantage (P10, P25, median, P75, and P90) reported in Appendix B and the corresponding plots in Appendices C-E illustrate this finding. For Tobin's Q, the marginal effect is positive and significant at all five reported percentiles. For LogMC, it is insignificant at P10 but positive and significant from P25 onward. For PB, it is insignificant from P10 through the median but becomes positive and significant at P75 and P90. At the extreme lower levels of competitive advantage, the point estimates for LogMC and PB become negative, but

Table 2. Regression results for the full sample

Variables	1	2	3	4	5	6
	TobinQ (Eq 1)	TobinQ (Eq 2)	LogMC (Eq 1)	LogMC (Eq 2)	PB (Eq 1)	PB (Eq 2)
L.TobinQ/LogMC/PB	0.7683*** (0.0187)	0.7340*** (0.0288)	0.8993*** (0.0431)	0.8466*** (0.0548)	0.8311*** (0.0158)	0.7484*** (0.0241)
L.ESGCS	0.0034** (0.0015)	0.0230*** (0.0043)	0.0040*** (0.0013)	0.0043*** (0.0015)	0.0047** (0.0019)	0.0064* (0.0036)
L.CA		-2.2235* (1.3371)		-1.1057*** (0.2763)		-3.7953*** (1.4501)
L.CAxESG		0.0545** (0.0242)		0.0254*** (0.0054)		0.0678*** (0.0245)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Country effects	Yes	Yes	Yes	Yes	Yes	Yes
Year effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,058	2,058	2,058	2,058	2,058	2,058
No. of instruments	89	90	90	88	96	89
AR1 tests	0.0136	0.0166	0.0000	0.0000	0.0005	0.0005
AR2 tests	0.6010	0.7603	0.2840	0.4104	0.6428	0.7943
Hansen test	0.4350	0.6195	0.3430	0.3679	0.3766	0.4372

Note: Standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

their confidence intervals include zero. Based on these findings, *H2* receives qualified support, with stronger evidence of a positive moderating role at moderate-to-high levels of competitive advantage.

For comprehensive robustness tests, we removed financial institutions from the original sample and rechecked the moderation analyses to strengthen

the conclusions. The regression results on the sample excluding non-financial firms in Table 3 are broadly consistent with the results on the original sample. The positive effects of ESG disclosure ($\beta_{\text{It-1 TobinQ Eq1}} = 0.0270$, $p < 0.01$; $\beta_{\text{It-1 LogMC Eq1}} = 0.0053$, $p < 0.01$; $\beta_{\text{It-1 PB Eq1}} = 0.0199$, $p < 0.01$) and the interaction terms between ESG disclosure and competitive advantage ($\beta_{\text{3t-1 CAXESG-TobinQ}} = 0.0545$,

Table 3. Robustness test results for the non-financial firm sample

Variables	1	2	3	4	5	6
	TobinQ (Eq 1)	TobinQ (Eq 2)	LogMC (Eq 1)	LogMC (Eq 2)	PB (Eq 1)	PB (Eq 2)
L.TobinQ/LogMC/PB	0.6326*** (0.0325)	0.7126*** (0.0289)	0.7235*** (0.0627)	0.7906*** (0.0616)	0.7519*** (0.0164)	0.5510*** (0.0422)
L.ESG	0.0270*** (0.0077)	0.0135*** (0.0048)	0.0053*** (0.0020)	0.0037*** (0.0012)	0.0199*** (0.0076)	0.0550*** (0.0173)
L.CA		-2.7454** (1.1438)		-0.5638* (0.3129)		-8.9954*** (3.2193)
L.CAxESG		0.0545*** (0.0194)		0.0118** (0.0048)		0.1824*** (0.0504)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Country effects	Yes	Yes	Yes	Yes	Yes	Yes
Year effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,727	1,727	1,727	1,727	1,727	1,727
No. of instruments	85	82	79	80	74	73
AR1 tests	0.0251	0.0289	0.0000	0.0000	0.0008	0.0008
AR2 tests	0.7242	0.7283	0.8095	0.7501	0.7555	0.7026
Hansen test	0.6691	0.2613	0.3808	0.3999	0.3564	0.5060

Note: Standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

$p < 0.01$; $\beta_{3t-1 \text{ CAXESG-LogMC}} = 0.0118$, $p < 0.05$; $\beta_{3t-1 \text{ CAXESG-PB}} = 0.1824$, $p < 0.01$) on market valuation proxied by Tobin's Q, the logarithm of the firm's market valuation, and the price-to-book ratio are verified. Overall, the findings are not driven by the inclusion of financial institutions and provide additional support for H1 and fair support for H2.

Next, we exclude Malaysia, the country with the largest number of observations, from the sample and re-estimate the regression models to assess whether the findings are driven by the dominance of a single country. The results remain qualitatively unchanged and are reported in Appendix A.

4. DISCUSSIONS

Compared to current literature, our study is unique in several ways. First, by using a broad sample of ASEAN-6 countries, our work produces more generalizable results that distinguish it from previous country-based sample research (Igbinovia & Agbadua, 2023; Mohammad & Wasiuzzaman, 2021; Wahyuni et al., 2024) and increases its comparability with European cross-country research (Dkhili, 2023).

Second, the two-step System GMM estimates show that lagged ESG disclosure is positively and significantly associated with Tobin's Q, LogMC, and PB. This evidence is consistent with previous studies suggesting that greater ESG transparency is positively valued by market participants (Dkhili, 2023; Mohammad & Wasiuzzaman, 2021). The significant coefficients on lagged firm value also illustrate persistence in market valuation. By explicitly modelling this dynamic structure and mitigating concerns related to potential endogeneity and unobserved firm-level heterogeneity, the analysis complements prior evidence on the ESG disclosure–firm value relationship (Dkhili, 2023; Gupta, 2025; Truong, 2024; Wasiuzzaman et al., 2023). Taken together, our findings underscore both the persistence of firm value and the positive link between sustainability efforts and firm market valuation in ASEAN listed companies.

Third, the positive and significant interaction coefficients indicate that the marginal relationship between ESG disclosure and firm value becomes more positive as competitive advantage

increases. However, the conditional marginal effect of ESG disclosure is not uniformly positive and significant across the observed range of competitive advantage for all three measures of firm value. Particularly, the effect is broadly evident for Tobin's Q but emerges mainly at moderate-to-high levels of competitive advantage for LogMC and PB (Appendices B-E). In other words, the positive association between ESG disclosure and firm value is more pronounced among firms with higher levels of competitive advantage than among those with lower levels. This pattern is consistent with the resource-based view, suggesting that firms with stronger competitive positions are better situated to translate ESG disclosure into greater market valuation. It is also broadly consistent with prior evidence of a positive moderating role of competitive advantage in the relationship between ESG and market-based firm performance (Dkhili, 2023; Mohammad & Wasiuzzaman, 2021).

This study offers several implications for managers, investors, and policymakers in ASEAN. First, the findings indicate that the market value created by ESG disclosure depends on firms' competitive capabilities. Although ESG disclosure is generally positively associated with firm value, this association is stronger among firms with greater competitive advantage. Therefore, managers should pursue more stable objectives that include a variety of stakeholders to harmonize profit and society's impacts rather than treating ESG reporting as a unique strategy. Second, the variations in conditional effects identified in this study suggest that managers should allocate sustainability initiatives strategically according to their firms' internal capabilities. Rather than implementing broad ESG programs indiscriminately, firms should prioritize initiatives that complement their existing strategic strengths and enhance long-term value creation. In general, managers should avoid adopting ESG practices in isolation. Instead, coordinating ESG strategies with the development and deployment of complementary operational capabilities may help firms realize greater valuation benefits (Sirmon et al., 2011). Third, investors should assess ESG disclosure together with firms' competitive and value-creation capacity. ESG information may be more strongly associated with market valuation when accompanied by evidence that a firm can generate returns exceeding its cost of capital.

Finally, policymakers may use these findings to support initiatives that improve the consistency, comparability, and credibility of ESG disclosure and help firms develop the capabilities required to implement sustainability practices effectively. We support the view that ESG reporting practices should be institutionalized and legally binding, rather than being a catchy trend. This is because

organizations want to be within the framework of institutionalized practices to uphold the beliefs of stakeholders and avoid operational difficulties when following something unique, voluntary, uncertain, or unfit (Makarenko et al., 2024; Mynhardt et al., 2017). Such improvements may also benefit investors by improving information quality and supporting more effective decision-making.

CONCLUSION

The primary objective of this study was to examine the effect of ESG disclosure on firm value and to investigate whether competitive advantage moderates this relationship in the context of listed companies across ASEAN countries. The results are validated through a series of stringent robustness tests. Three significant conclusions were discovered in this study. First, our study supports mainstream positive findings between ESG disclosure and firm performance (Friede et al., 2015), highlighting the positive effects of investors' reactions to ESG reporting by ASEAN-listed companies. Second, consistent empirical evidence affirms our hypothesis of competitive advantage as an effective moderator in the associations between ESG disclosure and firm value. Third, our findings indicate that the economic benefits of ESG disclosure depend on firms' competitive capabilities. Accordingly, managers should integrate ESG disclosure with broader strategies that strengthen firms' core capacities, enabling sustainability initiatives to generate greater market value.

This study also has limitations. Regarding the measurement of competitive advantage, our study employs the ROIC-WACC spread as a single proxy, following previous research (Mohammad & Wasiuzzaman, 2021; Rohendi et al., 2024). This measure should be interpreted primarily as an indicator of the economic value dimension of competitive advantage rather than as a comprehensive representation of strategic attributes such as innovation, brand strength, market position, or VRIN resources. In terms of data collection, we conducted the research with the best of our resource capacity using the Refinitiv database. Although Refinitiv is a well-known ESG rating agency with high brand awareness among academicians and practitioners, our study does not mention the quality of the rated information and cannot address the issue of greenwashing and its controlling mechanisms. Other ESG rating agencies or constructed disclosure instruments should be further investigated. Furthermore, this study does mention the interactions between competitive advantage and individual components of environmental, social, and governance disclosure on firm market performance. It also does not separately identify how major external shocks, such as the COVID-19 pandemic, may alter the ESG–firm value relationship. Another limitation relates to cross-country institutional heterogeneity. Although the analysis controls for country and year fixed effects, it does not explicitly account for differences in ESG-related regulatory environments across ASEAN countries or their evolution over time. These gaps highlight an important avenue for future research and call for deeper scholarly investigation.

Our study provides several promising directions for future research. Firstly, pundits may explore the relationships between ESG disclosure, firm value, and the role of competitive advantage as both a moderator and a mediator for various sensitive industries and countries to provide more specific practical insights (Rohendi et al., 2024). Secondly, future research could emphasize culture, structure, informal practices, and norms of institutions to understand more dynamics behind institutional contexts that may cause disparities in sustainability efforts. Finally, this study is also paving the way for more complicated models, such as moderated mediation and mediated moderation, where researchers could provide additional insights into the mechanisms through which ESG disclosure and competitive capabilities relate to firm value.

AUTHOR CONTRIBUTIONS

Conceptualization: Thi Hanh Dung Truong.

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Project administration: Thi Hanh Dung Truong.

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Supervision: Thi Hanh Dung Truong, Tan Dung Huynh, Anh Tuan Dang.

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Visualization: Thi Hanh Dung Truong.

Writing – original draft: Thi Hanh Dung Truong.

Writing – review & editing: Thi Hanh Dung Truong, Tan Dung Huynh, Anh Tuan Dang.

CONFLICT OF INTEREST

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

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APPENDIX A

Table A1. Regression results excluding Malaysia from the main sample

Variables	1	2	3	4	5	6
	TobinQ (Eq 1)	TobinQ (Eq 2)	LogMC (Eq 1)	LogMC (Eq 2)	PB (Eq 1)	PB (Eq 2)
L.TobinQ/LogMC/PB	0.7096*** (0.0132)	0.8197*** (0.0321)	0.8200*** (0.0566)	0.6904*** (0.0400)	0.6474*** (0.0307)	0.7179*** (0.0297)
L.ESG	0.0023** (0.0012)	0.0023 (0.0047)	0.0043*** (0.0011)	0.0039*** (0.0011)	0.0316*** (0.0092)	0.0099 (0.0082)
L.CA		-4.9834*** (1.4771)		-0.2186 (0.2080)		-5.6352** (2.8252)
L.CAxESG		0.1177*** (0.0271)		0.0069** (0.0032)		0.1539*** (0.0462)
L.Size	-0.1626*** (0.0456)	-0.1329 (0.1485)	0.0205 (0.0601)	0.1933*** (0.0395)	-1.3822*** (0.2561)	-0.4949** (0.2484)
L.Lev	-0.1313 (0.1334)	0.4694 (0.6724)	-0.1266 (0.1732)	-0.3887*** (0.0836)	3.8125*** (0.9179)	1.7547*** (0.6123)
L.Cash	-0.9040*** (0.2025)	-0.5772 (0.5914)	-0.2198 (0.2002)	-0.4075*** (0.1522)	4.8092*** (1.2696)	-1.5725 (1.5670)
L.SCS	0.7143*** (0.2008)	1.8094*** (0.6611)	0.3894*** (0.0949)	0.4124*** (0.0789)	0.5603 (0.9526)	2.0132** (0.8099)
L.Audcom	-0.1630 (0.1760)	-0.1073 (0.5058)	-0.1891** (0.0839)	0.0997 (0.0679)	0.3036 (0.6833)	1.4664** (0.6510)
L.Prfgrowth	-0.0228*** (0.0083)	0.0141 (0.0176)	-0.0003 (0.0015)	0.0047 (0.0029)	-0.0094 (0.0099)	-0.0790 (0.0488)
L.GDPcap	3.3961*** (0.6532)	-4.4956** (2.1413)	1.9733*** (0.5356)	1.6323*** (0.3753)	12.4056*** (4.3485)	14.2068*** (3.6009)
_cons	-10.4299*** (2.3897)	16.5190** (7.7566)	-5.8066*** (1.9101)	-5.0384*** (1.3467)	-34.7962** (15.9750)	-48.6993*** (13.1512)
Country effects	Yes	Yes	Yes	Yes	Yes	Yes
Year effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,379	1,379	1,379	1,379	1,379	1,379
No. of instruments	111	66	79	104	75	79
AR1 tests	0.0469	0.0433	0.0000	0.0000	0.0012	0.0008
AR2 tests	0.2504	0.2474	0.6763	0.6583	0.7122	0.5294
Hansen test	0.6292	0.4373	0.2932	0.3655	0.7325	0.5450

Note: Standard errors in parentheses. * p < 0.1, ** p < 0.05, *** p < 0.01.

APPENDIX B

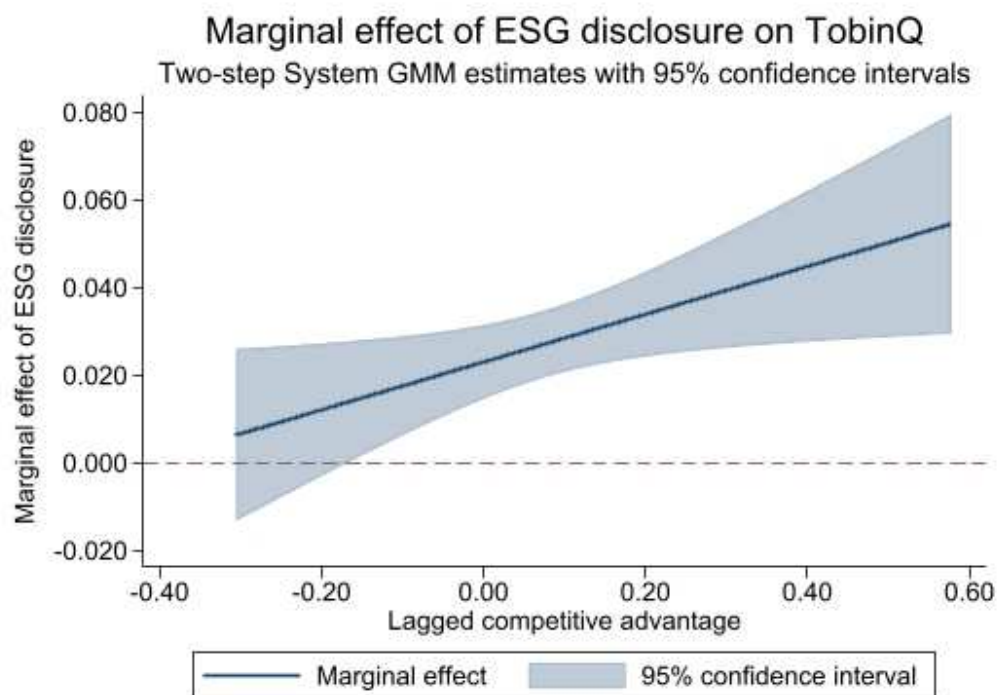
Table B1. Conditional marginal effects of ESG disclosure on firm value at representative levels of competitive advantage

Outcome	CA level	CA value	Simple slope	Standard error	t_stat	p_value	Lower_CI	Upper_CI	Interpretation
Tobin's Q	P10	-0.0864	0.0183	0.0055	3.3100	0.0010	0.0075	0.0292	Positive and significant
Tobin's Q	P25	-0.0485	0.0204	0.0049	4.1357	0.0000	0.0107	0.0301	Positive and significant
Tobin's Q	Median	-0.0021	0.0229	0.0043	5.2806	0.0000	0.0144	0.0315	Positive and significant
Tobin's Q	P75	0.0462	0.0256	0.0040	6.4204	0.0000	0.0177	0.0334	Positive and significant
Tobin's Q	P90	0.1166	0.0294	0.0040	7.2690	0.0000	0.0215	0.0373	Positive and significant

Table B1 (cont.). Conditional marginal effects of ESG disclosure on firm value at representative levels of competitive advantage

Outcome	CA level	CA value	Simple slope	Standard error	t_stat	p_value	Lower_CI	Upper_CI	Interpretation
LogMC	P10	-0.0864	0.0021	0.0015	1.4210	0.1558	-0.0008	0.0051	Not statistically significant
LogMC	P25	-0.0485	0.0031	0.0015	2.0722	0.0386	0.0002	0.0060	Positive and significant
LogMC	Median	-0.0021	0.0043	0.0015	2.8082	0.0051	0.0013	0.0073	Positive and significant
LogMC	P75	0.0462	0.0055	0.0016	3.4530	0.0006	0.0024	0.0086	Positive and significant
LogMC	P90	0.1166	0.0073	0.0018	4.1419	0.0000	0.0038	0.0108	Positive and significant
PB	P10	-0.0864	0.0006	0.0041	0.1398	0.8889	-0.0074	0.0086	Not statistically significant
PB	P25	-0.0485	0.0031	0.0037	0.8436	0.3992	-0.0042	0.0105	Not statistically significant
PB	Median	-0.0021	0.0063	0.0036	1.7520	0.0802	-0.0008	0.0133	Not statistically significant
PB	P75	0.0462	0.0096	0.0038	2.5001	0.0127	0.0021	0.0171	Positive and significant
PB	P90	0.1166	0.0143	0.0047	3.0440	0.0024	0.0051	0.0236	Positive and significant

APPENDIX C

**Figure C1.** Marginal-effects plot for Tobin's Q

APPENDIX D

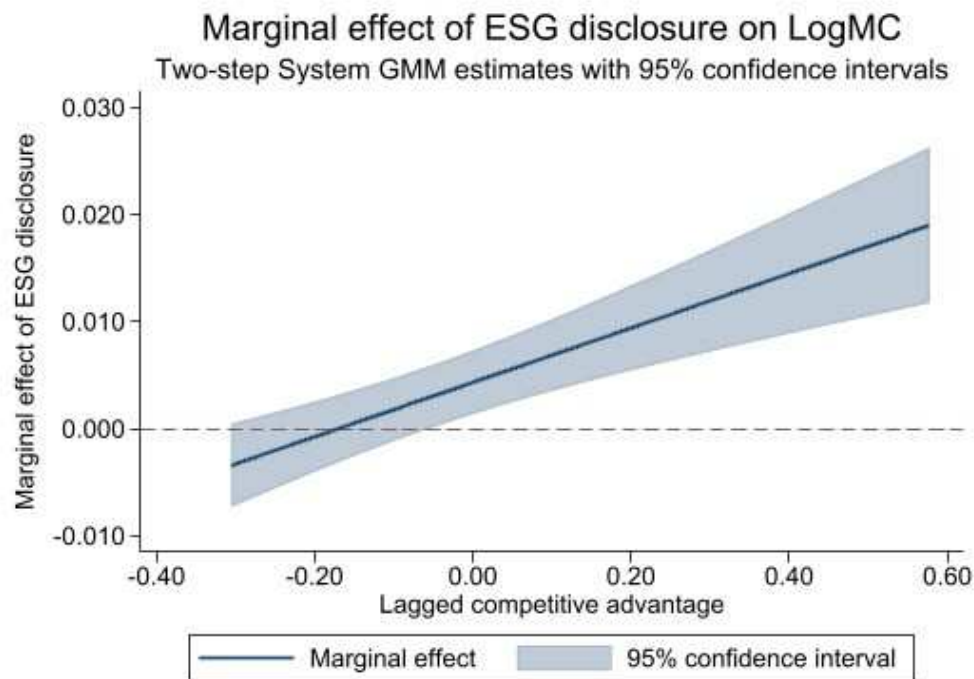


Figure D1. Marginal-effects plot for log market capitalization

APPENDIX E

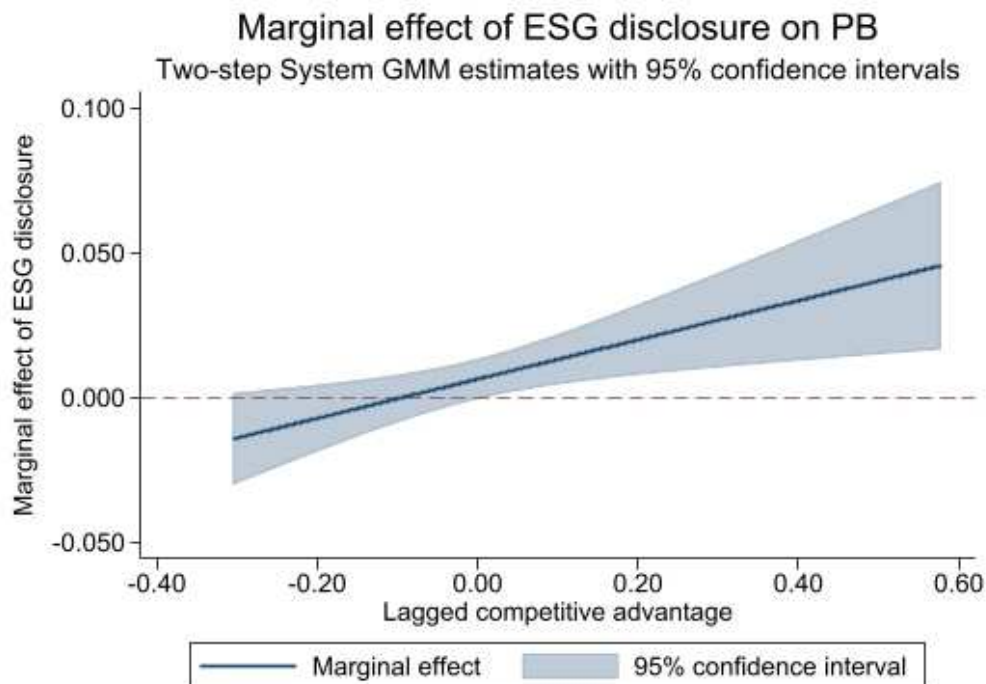


Figure E1. Marginal-effects plot for the price-to-book ratio