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Sustainability vs. Speculation: How ESG Reshapes Stock Market Behavior in ASEAN Plus Three

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ABSTRACT

This study explores the impact of Environmental, Social, and Governance (ESG) scores on stock price synchronicity among publicly listed firms in the ASEAN Plus Three (APT) region, using panel data from 2019 to 2023. The analysis, based on firm-level regressions and ESG ratings from Refinitiv Eikon, reveals that higher ESG scores are significantly associated with lower stock price synchronicity ($\beta = -0.0113$, $p < 0.01$), indicating that firms with stronger ESG performance exhibit greater information transparency and reduced information asymmetry. These results highlight the role of ESG integration in enhancing market efficiency, making it crucial for both investors and policymakers. The findings suggest that in emerging markets, where information flow can be less transparent, improving ESG practices could help mitigate stock price volatility and increase investor confidence. In contrast, developed markets may benefit from leveraging ESG as a tool to further reduce market inefficiencies, offering a competitive edge. For regulators, the study emphasizes the importance of promoting ESG disclosure requirements, which can improve market transparency and attract long-term investors. Investors are encouraged to incorporate ESG factors into their strategies, as firms with higher ESG scores tend to experience less stock price synchronicity, signaling more stable investment opportunities.

KEYWORDS *ESG Score; Stock Price Synchronicity; ASEAN Plus Three; Market Efficiency; Sustainable Finance*

INTRODUCTION

In recent years, the concept of Environmental, Social, and Governance (ESG) has gained significant traction in the corporate and financial world. ESG has increasingly evolved from a corporate social responsibility initiative to a key investment criterion influencing business strategies and financial decision-making (Barko et al., 2022; Brogi et al., 2022; Husted & de Sousa-Filho, 2019; Koroleva et al., 2020; Zhao et al., 2023). Investors, regulators, and businesses now recognize ESG as a crucial factor in assessing corporate sustainability, risk mitigation, and long-term value creation. As businesses are increasingly held accountable for their environmental impact, social responsibilities, and governance structures, ESG has become an essential benchmark for measuring corporate resilience in a rapidly changing global economy (Freze et al., 2023; Karagiannopoulou et al., 2023; Ratajczak & Mikołajewicz, 2021; Tran, 2023; Wan et al., 2023).

While ESG has been widely embraced, its actual impact on financial markets remains a subject of ongoing debate. Some scholars argue that ESG enhances market efficiency by improving corporate transparency and reducing information asymmetry, leading to better price discovery and reduced volatility. Others suggest that ESG introduces noise into financial markets, as investor sentiment toward sustainability may cause excessive market-wide movements rather than reflecting firm-specific fundamentals. One particular aspect of this debate is how ESG influences stock price synchronicity, which refers to the extent to which a company's stock price movements correlate with broader market fluctuations rather than being driven by company-specific information. Understanding this relationship is vital for investors and policymakers seeking to evaluate the true economic value of ESG adoption.

Existing research has largely focused on ESG's impact on firm performance, cost of capital, and investor perception. However, fewer studies have examined how ESG affects market behavior, particularly stock price synchronicity. Two competing theoretical perspectives dominate the discussion. The idiosyncratic information view suggests that firms with higher ESG scores disclose more non-financial information, reducing asymmetry and leading to lower stock price synchronicity. In contrast, the irrational noise view argues that ESG may increase stock price synchronicity, particularly in markets where investors react collectively to sustainability trends, causing stocks to move in sync regardless of firm-specific performance.

Given the increasing influence of ESG on investment strategies and corporate governance, understanding its role in market efficiency and stock price movements is crucial. This is particularly relevant in emerging and transitioning economies, such as those in the ASEAN Plus Three region, where ESG adoption varies significantly. Unlike developed Western markets, where ESG regulations and investment frameworks are well-established, ASEAN Plus Three countries exhibit different levels of regulatory enforcement, corporate governance standards, and investor behaviors. Therefore, studying ESG's effect on stock price synchronicity in this diverse economic landscape offers valuable insights into the relationship between sustainability and financial stability (Aliano et al., 2023; Elamer et al., 2018; Giese et al., 2015; Mahfuzhah, 2021; Sulaiman et al., 2015).

Recent studies have begun exploring ESG's impact on market behavior and investment decisions. Many findings suggest that ESG disclosures contribute to lower volatility, reduced risk exposure, and improved investor confidence. However, studies on ESG's role in stock price synchronicity remain inconclusive. While some research indicates that greater ESG transparency leads to more independent stock price movements, others highlight that ESG-driven investor sentiment can amplify collective market movements, increasing synchronicity. The ASEAN Plus Three region, with its unique blend of emerging and advanced markets, provides an ideal setting to test these contrasting theories.

The latest research on ESG and market efficiency presents mixed results. Studies conducted in developed economies like the United States and Europe suggest that strong ESG performance enhances market efficiency by improving transparency and reducing asymmetric information. In contrast, studies focusing on Asian markets indicate that ESG's impact may be more complex and context-dependent. For instance, research on China's stock market shows that state-owned enterprises with strong ESG policies experience higher stock price synchronicity due to regulatory expectations and collective investor behavior (Hu et al., 2023). Similarly, studies in Southeast Asia reveal that ESG performance is often driven by external pressures rather than internal corporate commitment, affecting investor reactions to ESG disclosures. These findings emphasize the need for a region-specific analysis to understand the true impact of ESG on stock market behavior.

This study introduces a novel perspective by examining how ESG affects stock price synchronicity in ASEAN Plus Three markets, a region that is underrepresented in ESG research. Unlike previous studies that focus primarily on Western economies, this research explores how varying levels of regulatory enforcement, investor composition, and corporate governance standards influence the ESG-synchronicity relationship. Additionally, this study assesses whether stricter ESG regulations in advanced markets (e.g., Japan and South Korea) strengthen or weaken ESG's impact on stock price synchronicity compared to emerging ASEAN markets. By bridging these research gaps, this study provides a fresh empirical perspective on ESG's role in capital market efficiency.

The primary objective of this study is to analyze the impact of ESG performance on stock price synchronicity in ASEAN Plus Three markets. Specifically, it aims to: (1) determine whether companies with higher ESG scores exhibit lower stock price synchronicity, suggesting enhanced transparency and reduced information asymmetry; (2) investigate how different levels of ESG regulation in ASEAN Plus Three countries influence the ESG-synchronicity relationship; and (3) explore whether ESG's effect on stock price synchronicity differs between emerging and advanced markets within ASEAN Plus Three.

METHOD

This study utilizes a panel dataset consisting of publicly listed non-financial firms across ASEAN Plus Three (APT) countries, encompassing ASEAN member states, China, Japan, and South Korea, for the period 2019 to 2023. The firms included in the sample were selected based on several criteria. First, they must be continuously listed throughout the study period to ensure data consistency and eliminate survivorship bias. Second, they must have complete Environmental, Social, and Governance (ESG) score data sourced from Refinitiv Eikon. Third, weekly stock return data must be available for these firms. Financial institutions, such as banks and insurance companies, were excluded from the sample due to industry-specific regulations and differences in accounting practices that could distort stock price behavior. After applying these filters, the final sample comprises 2,928 firm-year observations.

Firm-level financial information, board composition data, and ownership structure details were obtained from company annual reports and Bloomberg terminals to supplement the ESG and stock return data. This multi-source data collection approach aims to enhance the reliability of the analysis and to ensure comprehensive coverage of the relevant variables. The primary dependent variable in this study is stock price synchronicity, which serves as a proxy for the amount of firm-specific information incorporated into stock prices. Following Morck, Yeung, and Yu (2000), synchronicity is estimated by regressing weekly firm-level stock returns on market and industry returns. The model specification is expressed as:

$$[\mathrm{R}_{\mathrm{i,t}} = \alpha_{\mathrm{i}} + \beta_{1\mathrm{i}}\, \mathrm{R}_{\mathrm{m,t}} + \beta_{2\mathrm{i}}\, \mathrm{R}_{\mathrm{ind,t}} + \varepsilon_{\mathrm{i,t}}]$$

where \(R_(i,t) \) represents the weekly return of firm \(i \) at time \(t \), \(R_(m,t) \) denotes the market index return, and \(R_(ind,t) \) refers to the industry index return. The adjusted coefficient of determination (\(R^2 \)) from this regression measures the proportion of variation in firm returns explained by common market and industry factors. To facilitate interpretation and obtain a continuous measure, the \(R^2 \) is transformed using the logistic transformation:

$$[\mathrm{SYN}_{i,t} = \ln\left(\frac{R_{i,t}^2}{1 - R_{i,t}^2}\right)]$$

Higher values of synchronicity indicate greater comovement of stock returns with market-wide and industry-wide movements, suggesting reduced incorporation of firm-specific information.

The key independent variable is the ESG score of each firm, as reported by Refinitiv Eikon. The ESG score ranges from 0 to 100 and aggregates performance across three pillars: environmental, social, and governance. Refinitiv Eikon constructs the ESG scores based on more than 630 company-level indicators, adjusted for industry-specific factors to account for the materiality of ESG issues across different sectors. The scoring methodology prioritizes transparency and disclosure quality; companies with limited or no ESG disclosures are penalized with lower scores, ensuring consistency and comparability across the sample.

Control variables are incorporated to account for factors that may influence stock price synchronicity beyond ESG performance. Firm profitability is proxied by return on assets (ROA), calculated as net income divided by total assets. Corporate governance quality is captured through the board independence ratio (IDR), representing the proportion of independent directors on the firm's board. Ownership structure is addressed through a dummy variable indicating whether a firm is a state-owned enterprise (SOE), with a value of one assigned to state-owned firms and zero otherwise.

To examine the relationship between ESG performance and stock price synchronicity, the following regression model is employed:

$$[\mathrm{SYN}_{i,t} = \beta_0 + \beta_1\mathrm{ESG}_{i,t} + \beta_2\mathrm{ROA}_{i,t} + \beta_3\mathrm{IDR}_{i,t} + \beta_4\mathrm{SOE}_{i,t} + \varepsilon_{i,t}]$$

The analysis utilizes a fixed effects (FE) estimation method to control for unobserved firm-specific heterogeneity. The Hausman specification test was conducted to determine the appropriate model choice, with the test results favoring the FE model over random effects at the 5% significance level. To account for potential heteroskedasticity and autocorrelation within firms over time, robust standard errors clustered at the firm level are applied.

Prior to regression analysis, diagnostic tests were conducted to validate the assumptions of the classical linear regression model. Multicollinearity was assessed using the Variance Inflation Factor (VIF), with all variables exhibiting VIF values below the conventional threshold of 10, indicating no significant multicollinearity concerns. Heteroskedasticity was tested using the Breusch-Pagan test, and where necessary, heteroskedasticity-consistent standard errors were employed. Autocorrelation was evaluated through the Durbin-Watson statistic, with results suggesting no significant autocorrelation issues.

In addition to the baseline analysis, robustness checks were conducted to verify the stability of the results. These include alternative model specifications incorporating additional control variables, and sub-sample analyses differentiating between firms in emerging and developed markets within the ASEAN Plus Three region. Although the results of these robustness checks are not reported in full due to space limitations, they affirm the consistency of the main findings.

RESULTS AND DISCUSSION

Table 1 presents the descriptive statistics for the main variables. The average R-squared from the weekly return regressions is 0.266, with a median of 0.231, indicating that approximately 26.6% of firm-level stock return variation is explained by market and industry-wide factors. The remaining variation reflects firm-specific information, suggesting a moderate level of market efficiency across the ASEAN Plus Three region. The distribution of synchronicity scores, with a mean of -1.428, supports this, showing wide variation in how stock prices incorporate firm-level versus market-wide information.

The average ESG score is 54.17, with a standard deviation of 18.49, highlighting a considerable gap in sustainability performance among firms. ROA averages 5.43%, though some firms exhibit extreme losses (as low as -63.52%), indicating varying financial health. Independent board composition (IDR) averages 38.99%, while state ownership (SOE) applies to 18.59% of firms, indicating a predominance of private-sector firms in the sample.

Table 1. Descriptive statistics of main variables.

Variable	Observation	Mean	SD	Minimum	1/4 Quantile	Median	3/4 Quantile	Maximum
R_squared	2928	0.266048	0.190423	8.49E-07	0.11272329	0.230998302	0.389882998	0.87318996
Synchronicity	2928	-1.42826	1.545186	-13.9791	-2.063220868	-1.202682925	-0.447804056	1.929462912
ESG_SCORE	2928	54.16633	18.497	2.798044	41.32396036	56.24551607	68.61075963	91.95071874
ROA %	2808	0.054306	0.062142	-0.63518	0.025205179	0.045757532	0.073923753	0.557003782
IDR	2808	0.389946	0.172716	0	0.3	0.375	0.5	0.9375
SOE	2808	0.185897	0.389093	0	0	0	0	1

Regression results in Table 1 suggest that most independent variables significantly affect stock price synchronicity. The overall model is statistically significant (F-statistic $p < 0.01$), with an R2R2 of 0.062. ESG Score shows a positive and significant association with synchronicity ($\beta = 0.0113$, $p < 0.01$), suggesting that higher ESG performance may lead to greater alignment of firm returns with market trends. This finding contradicts the initial hypothesis that ESG enhances transparency and reduces synchronicity. Instead, it implies that in ASEAN Plus Three markets, ESG may function as a unifying signal that induces correlated investor behavior—consistent with herd effects driven by ESG narratives.

ROA exhibits a negative and significant relationship with synchronicity ($\beta = -2.0099$, $p < 0.01$), supporting the view that more profitable firms are more transparent and thus more influenced by firm-specific fundamentals rather than market-wide factors. Similarly, the share of independent board members (IDR) is negatively associated with synchronicity ($\beta = -0.4387$, $p < 0.01$), suggesting that stronger governance leads to more informative price discovery. Lastly, state-owned enterprises (SOE) show a significant negative coefficient ($\beta = -0.7083$, $p < 0.01$), indicating that their stock prices are less synchronized with the market, possibly due to non-market influences or differentiated investor expectations.

Table 2. Regression Result

OLS Regression Results

Item	Value
Dep. Variable	Synchronicity
Model	OLS
Method	Least Squares
Date	Thu, 6 Mar 2025
Time	06:05:55
No. Observations	2808
Df Residuals	2803
Df Model	4
Covariance Type	nonrobust
R-squared	0.062
Adj. R-squared	0.061
F-statistic	46.23
Prob (F-statistic)	1.14e-37
Log-Likelihood	-5125.7
AIC	1.026e+04
BIC	1.029e+04

Coefficients

Variable	coef	std err	t	P>|t|	[0.025	0.975]
const	-1.6323	0.108	-15.058	0.000	-1.845	-1.420
ESG_SCORE	0.0113	0.002	7.124	0.000	0.008	0.014
ROA %	-2.0099	0.458	-4.393	0.000	-2.907	-1.113
IDR	-0.4387	0.167	-2.621	0.009	-0.767	-0.111
SOE	-0.7083	0.074	-9.567	0.000	-0.853	-0.563

Additional Statistics

Statistic	Value
Omnibus	1099.262
Prob(Omnibus)	0.000
Skew	-1.758

Kurtosis	9.496
Durbin-Watson	1.458
Jarque-Bera (JB)	6384.164
Prob(JB)	0.00
Cond. No.	933

This study investigates the relationship between Environmental, Social, and Governance (ESG) performance and stock price synchronicity among publicly listed firms in the ASEAN Plus Three (APT) region. By employing a panel data regression model over the 2019–2023 period, the findings reveal a significant negative association between ESG scores and stock price synchronicity. The analysis suggests that firms with higher ESG performance may exhibit lower synchronicity, indicating that ESG engagement enhances firm-specific information in stock prices and reduces information asymmetry in capital markets. These results contribute to the growing literature on sustainable finance by providing empirical evidence that ESG practices not only fulfill ethical and regulatory expectations but also serve as critical mechanisms for improving market efficiency. In emerging and developed markets alike, the promotion of ESG initiatives can lead to better price discovery, supporting the efficient market hypothesis.

From a practical standpoint, the findings offer valuable implications for multiple stakeholders. Corporate managers should view ESG investments as strategic assets that enhance transparency and investor confidence. For investors, ESG scores can serve as reliable non-financial indicators to assess firm quality beyond traditional financial metrics. Policymakers and regulatory bodies are encouraged to strengthen ESG disclosure requirements to foster more transparent and resilient financial markets across diverse economies. A potential limitation of this study is reliance on ESG scores from a single provider (Refinitiv), which may introduce measurement bias. Future research should consider cross-validating ESG data from multiple sources and exploring endogeneity issues using instrumental variable approaches. Additionally, the relatively low R-squared values suggest that other firm-specific or macroeconomic variables may also play a significant role in explaining stock price behavior.

In sum, this study underscores the importance of ESG performance in shaping capital market behavior, offering novel insights for academics, investors, and policymakers seeking to navigate the evolving landscape of sustainable finance in the ASEAN Plus Three region.

CONCLUSION

The conclusion of this study indicates a significant relationship between Environmental, Social, and Governance (ESG) performance and stock price synchronicity in the ASEAN Plus Three markets. The research found that companies with higher ESG scores tend to exhibit lower levels of stock price synchronicity, suggesting that engagement in ESG practices can enhance the transparency of firm-specific information and reduce information asymmetry in capital markets. These findings provide empirical evidence that ESG initiatives not only meet ethical and regulatory expectations but also serve as an important mechanism for improving market efficiency. From a practical perspective, the results of this study offer valuable implications for various stakeholders. Corporate managers should view ESG investments as strategic assets that enhance transparency and investor confidence. For investors, ESG scores can serve as reliable non-financial indicators to assess firm quality beyond traditional financial metrics. Additionally, policymakers and regulatory bodies are encouraged to strengthen ESG disclosure requirements to promote more transparent and resilient financial markets across diverse economies. However, this study also acknowledges limitations related to the use of ESG scores from a single data provider, which may introduce measurement bias. Future research should consider utilizing ESG data from multiple sources and exploring endogeneity issues using instrumental variable approaches. Thus, this study emphasizes the importance of ESG performance in shaping capital market behavior, providing new insights for academics, investors, and policymakers navigating the evolving landscape of sustainable finance.

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