

Exploring the interactive relationship between foreign ownership and ESG: Empirical evidence in Korea

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2024년 국제경영학회 추계학술대회



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Social trends emphasizing ESG management for sustainability

The importance of ESG

- In recent years, there has been a significant increase in global focus on environmental, social responsibility, and governance performance (ESG).
- ESG plays a key role in helping companies build long-term success and social trust through sustainable and responsible management (Hu et al., 2023).
- ESG performance is closely linked to corporate image, consumer trust, and long-term performance (Tripopsakul et al., 2022).
- With the increased focus on ESG's importance, investors have increasingly emphasized ESG considerations (Van Duuren et al., 2016).
- In South Korea, ESG evaluation is also becoming an important corporate value indicator.
- The 'Corporate Governance Report' has been required to be disclosed by KOSPI-listed companies with more than \$1.5 billion in assets from 2019, followed by all KOSPI-listed companies from 2026 (Korea FSC, 2023).

The importance of Foreign Ownership

- Foreign investors specialize in monitoring management and are perceived as owners independent of management and controlling shareholders (Choi and Park, 2019).
- Some researchers state that foreign ownership can influence the company's operation, which affects financial and non-financial performance (Asmaranti et al., 2020).
- Foreign investors boost a company's business transparency and sustainability (García-Sánchez et al., 2020).
- Foreign ownership is playing an increasingly important role in corporate governance.
- Since the 1990s, as foreign investment became more accessible in South Korea, the number of shares held by foreigners in the domestic market gradually increased (Choe et al., 1999).
- Foreign ownership in South Korea exceeded 32% by market capitalization in 2024 (KRX, 2024).
- This phenomenon has affected various economic variables, such as the stock market, money supply, and exchange rates (Yoon, 1998).

Theoretical background

❖ Stakeholder Theory

- The corporate-stakeholder relationship is essential, contrasting with the traditional focus solely on shareholders (Jamali, 2008).
- According to stakeholder theory, a firm's long-term success is enhanced by effectively managing its relationships with all stakeholders (Peng and Isa., 2020).
- Encourages companies to increase CSR efforts to meet evolving stakeholder demands and expectations (Mosca et al., 2017).
- Exposure to global stakeholders helps to avoid CSR decoupling (Tashman et al., 2019).
- ESG indicators can help stakeholders understand and assess the intricate and diverse elements of emerging business ethics and sustainability (Cappucci, 2018).

❖ Social Transmission Theory

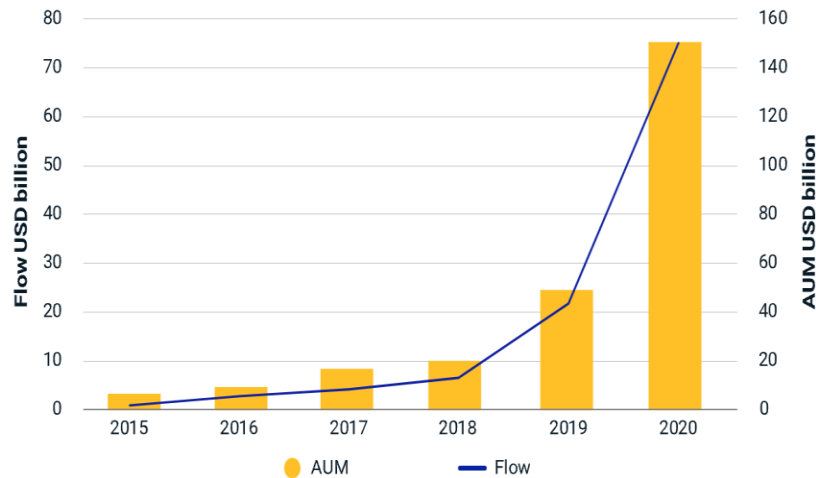
- Strong awareness and values in social responsibility influence other stakeholders' views on CSR (Dyck et al., 2019).
- Stakeholders are likely to evaluate CSR initiatives in terms of their expectations based on their knowledge of competitors' CSR initiatives (Bhattacharya and Sen, 2004).
- Communicates social awareness and shifts stakeholders' perspectives on social responsibility.
- The impact of foreign investors on CSR improvement is due to social delivery rather than profit maximization (Cheng et al., 2024)
- In the case of Korea, a significant proportion of overseas investment comes from countries with high CSR performance, such as Europe and North America (Oh et al., 2011).

Foreign Ownership and ESG

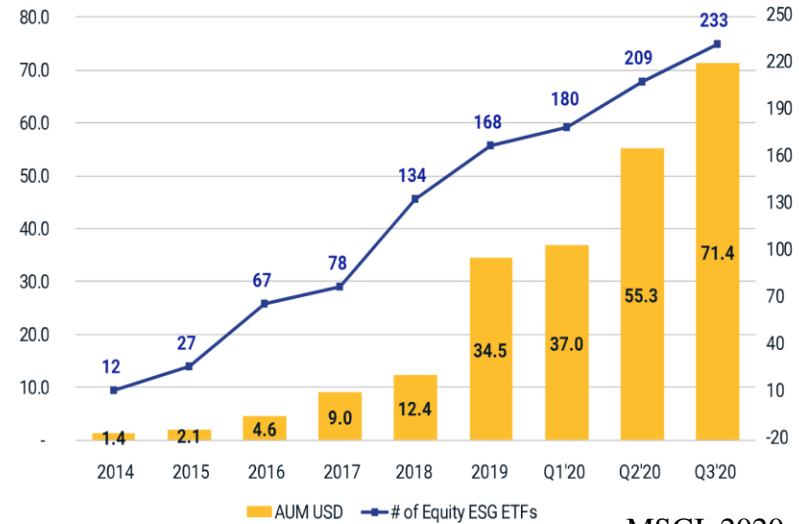
- Global investment firms have recently emphasized ESG management in their investment decision-making processes (Kun and Sirui, 2022).
- Foreign investors tend to trust non-financial information (ESG, CSR) rather than public information to address information asymmetries (Oh et al., 2011).
- Foreign investors are attracted to good ESG performance because they need reliable signals when making investment decisions (Alregab, 2022).
- CSR activities can compensate for institutional deficiencies in a company's home country, reduce foreign liability by mitigating information asymmetries, and serve as a positive signal of responsible management to investors (Yahia et al., 2023, Cui et al., 2012).
- Studies of foreign capital allocation in emerging economies have found a positive relationship between CSR performance and foreign institutional holdings, indicating foreign investors' aversion to companies with poor CSR performance (Yahia et al., 2023).
- Foreign investors may favour a company that tries to enhance high ESG performance (Lee et al., 2017).
- Foreign investors tend to encourage corporate involvement in social initiatives for the company's sustainable development (Alregab, 2022).
- Investors can indirectly influence a company's choices by threatening to exit or by selecting only companies with specific Environmental and Social policies (Dyck, 2019).
- Foreign investors put pressure on ESG activities and encourage companies to participate (Alregab, 2022).
- In recent years, the proportion of foreign investors in China has increased, which positively affects the CSR performance of Chinese companies (According to McGuinness et al., 2017).

Trends of Foreign Ownership and ESG

Global ESG ETF Growth 2015 – 2020



ETFs Based on MSCI ESG Indexes



MSCI, 2020

2020 Sustainability Actions

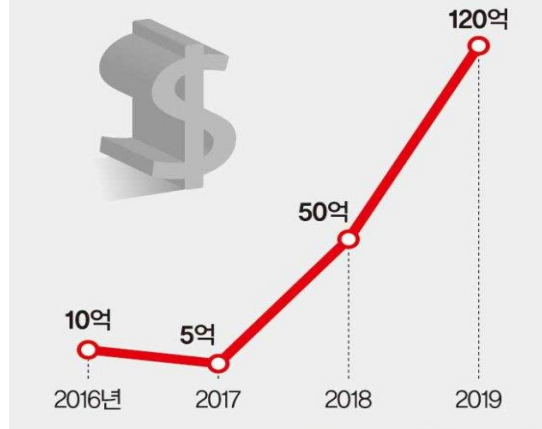
- 100% of active and advisory strategies ESG-integrated, covering \$2.9 trillion in AUM
- Introduced 100 new sustainable solutions in 2020 to provide investors with more choice
- Launched Aladdin Climate, setting a new standard for assessing environmental risks across asset classes in investment portfolios
- Added 1,200 sustainability metrics to Aladdin to enable clients to understand ESG and physical climate risks
- Intensified engagement and transparency through investment stewardship

2021 Sustainability Commitments

- Incorporating climate considerations into our capital markets assumptions, which underpins portfolio construction at BlackRock
- Publishing a temperature alignment metric for our public equity and bond funds, where sufficient data is available
- Implementing a "heightened-scrutiny model" in our active portfolios as a framework for managing holdings that pose significant climate risk (including flagging holdings for potential exit)
- Launching investment products with explicit temperature alignment goals, including products aligned to a net zero pathway
- Using stewardship to encourage the companies that our clients are invested in to both mitigate climate risk and consider the opportunities presented by the net zero transition

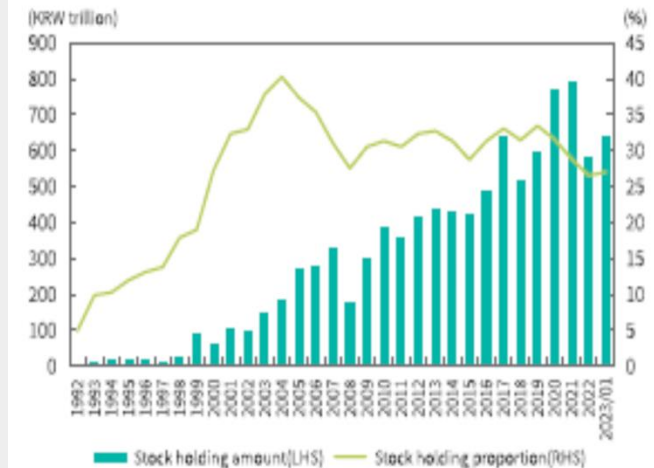
Blackrock, 2020

한국 ESG 채권 발행 추이 (단위 : 달러)



자료 : 블룸버그·교보증권 리서치센터

fnNEWS, 2020



Source: Financial Supervisory Service

KCMI, 2023

In this context, there is a need for studies that explore the relationship between foreign ownership and ESG management.

3. Research Purpose and Hypothesis

Research Purpose

- Since 2019, with the growing global emphasis on sustainability and responsible investment, the interest in ESG has markedly increased.
- As a result, foreign investors are now more likely to actively drive firms to enhance their ESG performance to align with global sustainability standards.
- In particular, given the unique environment of Korean companies and the increase in foreign ownership, it is important to analyze the interaction between foreign investors and ESG performance.
- This study divides the analysis into two periods: before 2019 and after 2019.
- At past points in time ($t-2, t-1$), this study examines the effect of a firm's ESG grade on its foreign ownership to understand how ESG performance influenced foreign investors' investment decisions.
- In contrast, the present and future analysis ($t, t+1, t+2$) focuses on how foreign ownership impacts firms' ESG grade, exploring the extent to which foreign shareholders contribute to enhancing ESG performance.



Hypothesis

Hypothesis 1: A firm's higher ESG grade will have a positive effect on the growth of initial foreign investment.

Hypothesis 2: Foreign ownership will have a positive impact on a company's ESG rating over multiple time periods

4. Research model and Methods

• Research Model

| | |
|---------------------|---|
| Regression Equation | <ul style="list-style-type: none">$lnforeign_{it} = \beta_0 + \beta_1 ESG\ Grade_{it} + \beta_2 Institution_{it} + \beta_3 lnEmp_{it} + \beta_4 lnDebt_{it} + \beta_5 lnMarketing_{it} + \beta_6 lnAge_{it} + \beta_7 lnNI_{it} + \beta_8 lnDiv_{it} + \sum Year + \varepsilon_{it}$$ESG\ grade_{it} = \beta_0 + \beta_1 lnforeign_{it} + \beta_2 Institution_{it} + \beta_3 lnEmp_{it} + \beta_4 lnDebt_{it} + \beta_5 lnMarketing_{it} + \beta_6 lnAge_{it} + \beta_7 lnNI_{it} + \beta_8 lnDiv_{it} + \sum Year + \varepsilon_{it}$ |
| Variable | <ul style="list-style-type: none">553 manufacturing companies listed on the KOSPI and KOSDAQ from 2016 to 2022.The ESG ratings data are collected from the Korean Institute of Corporate Governance and Sustainability (KCGS)Each ratings ($D \sim S$) have been converted into numerical values from 0 to 6 for analytical purposes.The foreign ownership percentage of each firm in the Korea’s electronic disclosure system (DART).Control variables include domestic institution, total number of employee, debt ratio, firm age, net income and dividend from the Korea’s electronic disclosure system (DART). |
| Empirical Methods | <ul style="list-style-type: none">Panel data analysis using Stata program (xtgee, GMM)Generalized Estimating Equation (GEE) Model<ol style="list-style-type: none">As the main variables used in this study are categorical, the GEE model is an appropriate method of analysis to reflect the characteristics of the data (Lee et al., 2007).GEE models have been shown to be robust to the problem of autocorrelation (Liang and Zeger, 1986).This study uses a GEE model to analyze the relationship between ESG grade and foreign ownership from t-2 to t+2, with 2019 as time t.This study analyze the effect of ESG ratings on foreign ownership from t-2 to t-1 and the effect of foreign ownership on ESG grade from t to t+2.Two-step system GMM analysis<ol style="list-style-type: none">Two-step System GMM can address endogeneity issues more effectively (Ullah et al., 2018).In the level equation, the differenced lags of explanatory variables are used as instruments, while in the first-differenced equation, the level lags of explanatory variables serve as instruments, effectively controlling for endogeneity (Blundell and Bond, 1998).System GMMs are particularly effective at addressing endogeneity issues that can arise in bidirectional causal analyses (De vita et al., 2018). |

5. Variable description

- The definition, and sources for each dependent, independent, and control variable used in this study are as follows

| <i>Variable Type</i> | <i>Variable Name</i> | <i>Variable symbol</i> | <i>Definition</i> | <i>Source</i> |
|--|----------------------|------------------------|---|---------------|
| <i>Dependent Variable</i> <i>Independent Variable</i> | ESG Grade | <i>ESG_grade</i> | Total ESG Grade | KCGS |
| | Foreign Ownership | <i>foreign</i> | A ratio of foreign stock holdings to total stock | DART |
| <i>Control Variable</i> | Institution | <i>Institution</i> | Whether there are domestic institutional investors holding more than 5% of stocks | DART |
| | Employee | <i>Emp</i> | The total number of employee | DART |
| | Debt Ratio | <i>Debt</i> | A financial ratio that measures the extent of a company's debt | DART |
| | Marketing | <i>Marketing</i> | A ratio of marketing spend to revenue | DART |
| | Firm Age | <i>Age</i> | The number of years that firm has been established | DART |
| | Net income | <i>NI</i> | The sum of income less all costs and expenses | DART |
| | Dividend | <i>Div</i> | The company's dividend payout ratio | DART |

6. Basic statistics and correlations

- With a relatively low standard deviation of 0.891 meaning that most companies are likely to have similar levels of ESG performance.
- The mean of the foreign ownership ratio is 1.914, with a standard deviation of 1.044, indicating a high degree of dispersion, indicating that some companies are attracting high interest from foreign investors.

| | <i>Variable</i> | <i>Obs</i> | <i>Mean</i> | <i>Std. Dev</i> | <i>Min</i> | <i>Max</i> |
|----------------------|---------------------|------------|-------------|-----------------|------------|------------|
| <i>t - 2 ~ t - 1</i> | <i>ln_foreign</i> | 2,141 | 1.914 | 1.044 | 0 | 4.367 |
| | <i>ESG_grade</i> | 1,958 | 1.738 | 0.891 | 0 | 5 |
| | <i>Institution</i> | 2,175 | 0.213 | 0.409 | 0 | 1 |
| | <i>ln_emp</i> | 2,125 | 6.087 | 1.317 | 1.386 | 11.564 |
| | <i>ln_Debt</i> | 1,779 | 0.352 | 0.141 | 0.035 | 1.000 |
| | <i>ln_Marketing</i> | 1,815 | 0.008 | 0.029 | 0 | 0.820 |
| | <i>ln_Age</i> | 2,179 | 3.425 | 0.799 | 0 | 4.812 |
| | <i>ln_NI</i> | 1,811 | 0.004 | 0.156 | -3.507 | 2.024 |
| | <i>ln_Div</i> | 1,816 | 2.131 | 1.797 | 0 | 8.574 |

6. Basic statistics and correlations

- The standard deviation is relatively high at 1.419, which means there is a large difference in ESG performance between companies.
- The average foreign ownership is 1.898, with some firms having very high levels (maximum value of 4.367), suggesting that foreign investors are investing heavily in certain firms.
- This suggests that higher foreign ownership is likely to have a positive impact on improving ESG performance.

| | <i>Variable</i> | <i>Obs</i> | <i>Mean</i> | <i>Std. Dev</i> | <i>Min</i> | <i>Max</i> |
|------------------|---------------------|------------|-------------|-----------------|------------|------------|
| <i>t ~ t + 2</i> | <i>ESG_grade</i> | 2,050 | 1.711 | 1.419 | 0 | 5 |
| | <i>ln_foreign</i> | 1,637 | 1.898 | 1.014 | 0 | 4.367 |
| | <i>Institution</i> | 2,100 | 0.200 | 0.400 | 0 | 1 |
| | <i>ln_Emp</i> | 2,070 | 6.081 | 1.368 | 0 | 11.707 |
| | <i>ln_Debt</i> | 1,835 | 0.373 | 0.212 | 0 | 2.930 |
| | <i>ln_Marketing</i> | 1,862 | 0.089 | 0.320 | - 0.006 | 3.142 |
| | <i>ln_Age</i> | 2,203 | 3.534 | 0.685 | 0.693 | 0.385 |
| | <i>ln_NI</i> | 1,403 | -0.005 | 0.152 | -3.507 | 0.385 |
| | <i>ln_Div</i> | 1,830 | 2.004 | 1.792 | 0 | 9.202 |
| | | | | | | |

6. Basic statistics and correlations

- Correlation Matrix (t to t+2)

| <i>Model1</i> ($t - 2 \sim t - 1$) | <i>ln_foreign</i> | <i>ESG_grade</i> | <i>Institution</i> | <i>ln_Emp</i> | <i>ln_Debt</i> | <i>ln_Marketing</i> | <i>ln_Age</i> | <i>ln_NI</i> | <i>ln_Div</i> |
|---|-------------------|------------------|--------------------|---------------|----------------|---------------------|---------------|--------------|---------------|
| <i>ln_foreign</i> | 1 | | | | | | | | |
| <i>ESG_grade</i> | 0.376*** | 1 | | | | | | | |
| <i>Institution</i> | 0.307*** | 0.366*** | 1 | | | | | | |
| <i>ln_Emp</i> | 0.461*** | 0.548*** | 0.413*** | 1 | | | | | |
| <i>ln_Debt</i> | -0.241*** | 0.102*** | 0.092*** | 0.202*** | 1 | | | | |
| <i>ln_Marketing</i> | 0.048** | -0.024 | 0.030 | 0.015*** | -0.097*** | 1 | | | |
| <i>ln_Age</i> | -0.106*** | -0.110*** | -0.095*** | -0.045** | 0.000 | -0.063*** | 1 | | |
| <i>ln_NI</i> | 0.140*** | 0.110*** | 0.090*** | 0.123*** | -0.150*** | 0.022 | -0.003 | 1 | |
| <i>ln_Div</i> | 0.283*** | 0.159*** | 0.157*** | 0.097*** | -0.289*** | 0.060** | -0.039* | 0.229*** | 1 |

- There is a positive correlation between foreign ownership and ESG grade, suggesting that ESG performance was an important factor in foreign investors' investment decisions.
- The negative correlation between debt and foreign ownership suggests that financial stability is an important factor in foreign investors' decision-making.

6. Basic statistics and correlations

- Correlation Matrix (t to t+2)

| <i>Model1</i> ($t \sim t + 2$) | <i>ESG_grade</i> | <i>ln_foreign</i> | <i>Institution</i> | <i>ln_Emp</i> | <i>ln_Debt</i> | <i>ln_Marketing</i> | <i>ln_Age</i> | <i>ln_NI</i> | <i>ln_Div</i> |
|-------------------------------------|------------------|-------------------|--------------------|---------------|----------------|---------------------|---------------|--------------|---------------|
| <i>ESG_grade</i> | 1 | | | | | | | | |
| <i>ln_foreign</i> | 0.338*** | 1 | | | | | | | |
| <i>Institution</i> | 0.448*** | 0.384*** | 1 | | | | | | |
| <i>ln_Emp</i> | 0.527*** | 0.446*** | 0.437*** | 1 | | | | | |
| <i>ln_Debt</i> | 0.131*** | -0.261*** | 0.087*** | 0.117*** | 1 | | | | |
| <i>ln_Marketing</i> | -0.037 | 0.062** | 0.051** | 0.063*** | 0.027 | 1 | | | |
| <i>ln_Age</i> | -0.179*** | -0.126*** | -0.156*** | -0.083*** | 0.011 | 0.009 | 1 | | |
| <i>ln_NI</i> | 0.128*** | 0.148*** | 0.114*** | 0.132*** | -0.197*** | -0.016 | 0.026 | 1 | |
| <i>ln_Div</i> | 0.214*** | 0.280*** | 0.205*** | 0.128*** | -0.094*** | -0.000 | -0.054** | 0.307*** | 1 |

- There is a positive correlation between ESG grade, foreign ownership, number of employees, and dividend payout ratio.
- The correlations between most variables are statistically significant, especially between ESG grade and foreign ownership and institutional investors.

6. Basic statistics and correlations

- Variance Inflation Factor (VIF)

| | | <i>VIF</i> | <i>1/VIF</i> |
|----------------------|---------------------|------------|--------------|
| | <i>ln_foreign</i> | | |
| <i>t - 2 ~ t - 1</i> | <i>ESG_grade</i> | 1.57 | 0.638 |
| | <i>Institution</i> | 1.57 | 0.753 |
| | <i>ln_Emp</i> | 1.74 | 0.575 |
| | <i>ln_Debt</i> | 1.20 | 0.835 |
| | <i>ln_Marketing</i> | 1.07 | 0.934 |
| | <i>ln_Age</i> | 1.06 | 0.945 |
| | <i>ln_NI</i> | 1.10 | 0.907 |
| | <i>ln_Div</i> | 1.18 | 0.846 |
| | <i>Mean VIF</i> | 1.28 | |

| | | <i>VIF</i> | <i>1/VIF</i> |
|------------------|---------------------|------------|--------------|
| | <i>ESG_grade</i> | | |
| <i>t ~ t + 2</i> | <i>ln_foreign</i> | 1.71 | 0.584 |
| | <i>Institution</i> | 1.44 | 0.696 |
| | <i>ln_Emp</i> | 1.65 | 0.607 |
| | <i>ln_Debt</i> | 1.35 | 0.740 |
| | <i>ln_Marketing</i> | 1.08 | 0.928 |
| | <i>ln_Age</i> | 1.06 | 0.948 |
| | <i>ln_NI</i> | 1.17 | 0.854 |
| | <i>ln_Div</i> | 1.21 | 0.827 |
| | <i>Mean VIF</i> | 1.33 | |

- The VIF value for foreign ownership (*ln_foreign*) at time t-2 to t-1 is 1.28, which is low on average, and all variables have VIF values below 2.
- The VIF value for ESG grade at time t to t+2 is also very low, averaging 1.33, and all variables have VIF values below 2.
- ✓ The results confirm that there are no multicollinearity issues, suggesting that the effects of each of the independent variables on the dependent variable are reliable

7. Empirical Result (t-1 ~ t-2)

| | <i>ln_foreign</i> | |
|---------------------|----------------------|----------------------|
| | (<i>t</i> − 1) | (<i>t</i> − 2) |
| <i>ESG_grade</i> | 0.034* (0.018) | 0.051** (0.026) |
| <i>Institution</i> | 0.131*** (0.041) | 0.129*** (0.044) |
| <i>ln_Emp</i> | 0.290*** (0.033) | 0.328*** (0.035) |
| <i>ln_Debt</i> | -1.272*** (0.254) | -1.742*** (0.328) |
| <i>ln_Marketing</i> | -0.527 (2.105) | -0.241 (2.784) |
| <i>ln_Age</i> | -0.130*** (0.065) | -0.085 (0.059) |
| <i>ln_NI</i> | -0.036 (0.115) | 0.210** (0.091) |
| <i>ln_Div</i> | 0.010 (0.008) | 0.011 (0.011) |
| <i>Cons</i> | 1.005*** (0.337) | 0.729*** (0.351) |
| <i>Year dummy</i> | Yes | Yes |
| <i>Wald chi2</i> | 186.04*** | 224.14*** |
| <i>N</i> | 1,004 | 663 |

Note: Figures in parentheses are adjusted to Robust standard errors. *, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively.

| | |
|------------------|--|
| Empirical Result | <ul style="list-style-type: none">At time t-1, the coefficient of ESG grade is 0.034, meaning that ESG ratings is associated with increase in foreign ownership.At time t-2, the coefficient on ESG grade increases to 0.051, which suggests that ESG performance has a stronger positive impact on foreign ownership the further back in time (t-2).The coefficient on the debt ratio is -1.272 at t-1 and -1.742 at t-2, suggesting that foreign ownership decreases as the debt ratio increases |
|------------------|--|

7. Empirical Result (t ~ t+2)

| | ESG grade | | |
|--------------|----------------------|----------------------|----------------------|
| | (t) | (t + 1) | (t + 2) |
| ln_foreign | 0.160*** (0.039) | 0.172*** (0.044) | 0.165*** (0.058) |
| Institution | 0.271** (0.076) | 0.299*** (0.098) | 0.500*** (0.141) |
| ln_Emp | 0.275*** (0.038) | 0.257*** (0.040) | 0.205*** (0.038) |
| ln_Debt | 0.817*** (0.265) | 0.491* (0.298) | 0.666** (0.333) |
| ln_Marketing | 2.820 (2.287) | -0.101 (2.593) | 4.534 (3.608) |
| ln_Age | -0.259*** (0.053) | -0.281*** (0.058) | -0.241*** (0.063) |
| ln_NI | 0.196 (0.129) | -0.091 (0.237) | 0.412 (0.407) |
| ln_Div | 0.044*** (0.013) | -0.002 (0.014) | 0.047* (0.026) |
| Cons | 0.580*** (0.292) | 0.863*** (0.326) | 0.640*** (0.325) |
| Year dummy | Yes | Yes | Yes |
| Wald chi2 | 479.89*** | 286.71*** | 250.41*** |
| N | 1,098 | 733 | 366 |

Note: Figures in parentheses are adjusted to Robust standard errors. *, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively.

Empirical Result

- The coefficient of foreign ownership at time t is 0.160, 0.172 at t+1, and 0.165 at t+2, indicating that higher foreign ownership tends to improve a firm's ESG performance.
- This suggests that foreign investors can have a positive impact on strengthening the sustainability of companies.
- The coefficient is 0.271 at time t, 0.299 at t+1, and 0.500 at t+2, indicating that the positive impact of domestic institutional investors on firms' ESG performance strengthens over time.

7. Empirical Result (Two-step System GMM)

| | <i>ln_foreign</i> |
|-----------------------|---------------------|
| <i>ln_foreign(L1)</i> | 0.409** (0.163) |
| <i>ESGgrade(L1)</i> | 0.168** (0.080) |
| <i>Institution</i> | 0.680** (0.328) |
| <i>ln_Emp</i> | 0.110 (0.088) |
| <i>ln_Debt</i> | -4.420** (2.118) |
| <i>ln_Marketing</i> | -5.696 (3.651) |
| <i>ln_Age</i> | -0.011 (0.068) |
| <i>ln_NI</i> | -0.641* (0.365) |
| <i>ln_Div</i> | 0.086 (0.070) |
| <i>Cons</i> | 1.497** (0.727) |
| <i>N</i> | 1,750 |

| <i>Test</i> | <i>Statistic (Chi2, df)</i> | <i>p – value</i> |
|--|-----------------------------|------------------|
| <i>Arellano – Bond Test for AR(1)</i> | z = -5.81 | 0.000 |
| <i>Arellano – Bond Test for AR(2)</i> | z = -0.30 | 0.767 |
| <i>Sargan Test of Overidentifying Restrictions</i> | chi2(14) = 39.67 | 0.000 |
| <i>Hansen Test of Overidentifying Restrictions</i> | chi2(14) = 18.42 | 0.188 |

| <i>Difference in Hansen Tests</i> | <i>Statistic (Chi2, df)</i> | <i>p – value</i> |
|--|-----------------------------|------------------|
| <i>GMM instruments f or levels</i> | chi2(7) = 7.63 | 0.366 |
| <i>Difference (null H = exogenous)</i> | chi2(7) = 10.79 | 0.148 |
| <i>IV Hansen test excluding group</i> | chi2(10) = 14.68 | 0.144 |
| <i>Difference (null H = exogenous)</i> | chi2(4) = 3.74 | 0.433 |

Note: Figures in parentheses are adjusted to Robust standard errors.
*, **, and*** represent significance at the 10%, 5%, and 1% levels, respectively.

7. Empirical Result (Two-step System GMM)

| | <i>ESGgrade</i> |
|-----------------------|---------------------|
| <i>ESGgrade(L1)</i> | 1.042*** (0.106) |
| <i>ln_foreign(L1)</i> | 0.537** (0.245) |
| <i>Institution</i> | 0.029 (0.311) |
| <i>ln_Emp</i> | -0.199** (0.098) |
| <i>ln_Debt</i> | 2.468*** (0.793) |
| <i>ln_Marketing</i> | 12.554** (5.067) |
| <i>ln_Age</i> | 1.497** (0.614) |
| <i>ln_NI</i> | 1.215 (1.170) |
| <i>ln_Div</i> | -0.012 (0.0226) |
| <i>Cons</i> | -6.171** (2.401) |
| <i>N</i> | 1,371 |

| <i>Test</i> | <i>Statistic (Chi2, df)</i> | <i>p – value</i> |
|--|-----------------------------|------------------|
| <i>Arellano – Bond Test for AR(1)</i> | z = -6.96 | 0.000 |
| <i>Arellano – Bond Test for AR(2)</i> | z = 1.48 | 0.140 |
| <i>Sargan Test of Overidentifying Restrictions</i> | chi2(19) = 23.23 | 0.227 |
| <i>Hansen Test of Overidentifying Restrictions</i> | chi2(19) = 0.361 | 0.361 |

| <i>Difference in Hansen Tests</i> | <i>Statistic (Chi2, df)</i> | <i>p – value</i> |
|--|-----------------------------|------------------|
| <i>GMM instruments f or levels</i> | chi2(13) = 14.30 | 0.353 |
| <i>Difference (null H = exogenous)</i> | chi2(6) = 20.57 | 0.394 |
| <i>IV Hansen test excluding group</i> | chi2(9) = 9.87 | 0.361 |
| <i>Difference (null H = exogenous)</i> | chi2(10) = 10.70 | 0.382 |

Note: Figures in parentheses are adjusted to Robust standard errors.
*, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively.

Conclusions

◆ Impact of ESG Performance on Foreign Ownership (Analysis 1)

- In the analysis of t-2 and t-1 periods, it was observed that an increase in ESG ratings tends to attract more foreign investors.
- In particular, the ESG rating coefficient is higher in period t-2, suggesting that past ESG performance is an important investment indicator for foreign investors.
- This indicates that companies with consistently strong ESG performance gain the trust of foreign investors, leading to increased investment.
- By improving ESG performance, companies reduce information asymmetry and enhance transparency, making themselves more attractive to foreign investors who may have limited access to information.
- The results suggest that increased transparency reduces the uncertainties associated with investment decisions, thereby encouraging foreign investors to invest.

◆ Impact of Foreign Ownership on ESG Performance (Analysis 2)

- The results from the t, t+1, and t+2 analyses indicate that higher foreign ownership positively impacts a firm's ESG performance over time.
- The findings, especially at t+2, suggest that long-term foreign investments and active engagement contribute to improvements in a company's ESG efforts.
- This shows that foreign investors are not only focusing on the financial performance of the companies they invest in, but are also considering non-financial aspects (ESG ratings).
- According to social transmission theory, foreign investors transfer the international norms and expectations from their own environments to the company.
- It suggests that foreign investors, with their long-term perspective, assess a firm's sustainability and may exert influence or provide resources to enhance the company's ESG performance.

Conclusions

◆ Addressing Bidirectional Causality and Endogeneity (Analysis 3, 4)

- The objective of this study was to explore the bidirectional relationship between ESG performance and foreign ownership, focusing on how companies can leverage ESG initiatives to attract foreign investment and, conversely, how increased foreign ownership influences corporate sustainability efforts.
- By using both GEE and GMM methodologies, this research effectively addresses endogeneity issues that often arise when analyzing mutual influences between variables.
- In particular, by using of the Two-step System GMM model allowed for a robust examination of these dynamics, ensuring that the results are not biased due to potential endogeneity.
- The results show that improving ESG performance is a strategic means for companies to reduce information asymmetries and increase transparency, thereby attracting foreign investors.
- At the same time, higher foreign ownership drives companies to improve their ESG performance, suggesting a positive feedback loop where foreign investment and sustainability practices reinforce one another.

Implications

- Companies can leverage ESG performance improvements to reduce information asymmetry and provide greater transparency, which are critical factors for attracting foreign investment.
- By disclosing comprehensive ESG information, firms make it easier for foreign investors to assess their value and make informed investment decisions.
- Since foreign investors increasingly consider ESG performance as a critical investment criterion, enhancing ESG initiatives can drive long-term capital inflows.
- Companies should recognize that investing in ESG initiatives is not merely a cost but a strategic tool to attract long-term investments.
- Strengthening ESG management practices and ensuring transparent disclosure of ESG information can foster trust among investors, particularly those from abroad.

Thanks for Listening



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