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Impact of ESG Scores and ESG Controversies on Firm Value in Southeast Asia (2018-2022), Moderated by Family Ownership Influence

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Keywords
ESG score; ESG controversies; family ownership; firm value.

ABSTRACT
The notion of Environmental, Social, and Governance (ESG) has become increasingly significant in global corporate strategies, particularly in addressing sustainability and climate change issues. This study analyzes the impact of differences between ESG scores and ESG controversies on Firm Value in publicly traded firms across Southeast Asia between 2018 and 2022, and family ownership serving as a moderating variable. This study provided a different perspective from previous research, which measured the difference between ESG Scores and ESG Controversies using ESG True Value and ESG Combined. The analysis used two regression models: Ordinary Least Squares (OLS) and Random Effects Model (REM). The results of this research showed that true value data tested using OLS and ESG Combined data using the REM model, the difference between ESG Score and ESG Controversies was proven to adversely impact corporate value. The adverse effect was determined to be stronger in family enterprises. This significant negative effect on family firms was influenced by factors including firm orientation, internal information dissemination in family firms, and their ESG disclosures.

INTRODUCTION

The notion of Environmental, Social, and Governance (ESG) has become increasingly significant in global corporate strategies, particularly in addressing sustainability and climate change issues. Sustainable investments increased significantly by 269% since 2016, reflecting investors' attention to corporate sustainability issues (Alliance, 2019). Now, ESG is not only a tool to measure corporate governance but also an important element in investment decision-making, especially in emerging markets (Wang et al., 2020). However, ESG implementation in emerging economies often faces challenges such as a lack of strict regulations, political instability, and social norms that do not yet support sustainability (Khanna & Palepu, 2000). For example, only 40 out of 890 public companies in Indonesia have reported on ESG in the last five years (Eikon, 2022). This showed the low level of ESG implementation in the region, influenced by regulations that do not yet require transparent ESG disclosure.

These challenges create a gap between ESG Scores and ESG Controversies that often confuses investors. Companies with a low ESG Score can have good ESG Controversies, or vice versa, which can negatively affect firm value. ESG Score measures sustainability implementation based on environmental, social, and governance pillars (Eikon, 2022), while ESG Controversies assesses how companies handle negative news related to ESG issues (Cai

et al., 2012). This gap significantly impacts firm value, especially in family firms with unique management characteristics. Family firms tend to focus on short-term profits, which can undermine investor trust and public legitimacy towards them (Fatemi et al., 2018). In Southeast Asia, this issue is even more complex due to different levels of ESG adoption in regional countries, such as Singapore which has strict regulations compared to Indonesia with a 'comply or explain' approach (Lubis & Rokhim, 2021).

This study analyzes the impact of the gap between ESG Scores and ESG Controversies on firm value, incorporating family ownership as a moderating variable. It presents a distinct contribution by integrating both ESG scores and controversies within a single analytical construct. This is important as the previous literature tended to analyze the two separately without considering how the differences between the two-affect firm value (Fuente et al., 2022). This research also provided insight into how family ownership structure moderated this relationship, that may enhance or diminish the impact of ESG disclosure on firm value. The novelty of this research lies in the use of two measures of ESG discrepancy ESG True Value and ESG Combined Score to capture the nuanced relationship between ESG performance and controversies (Muhammad & Farooq, 2026; Sharma et al., 2026; Sihotang & Siregar, 2025).

This research was driven by the urgent necessity to gain deeper insight into the influence of ESG implementation on firm value, especially within family-owned businesses across Southeast Asia. In family firms, strategic decisions are often based on short-term interests, which may reduce the effectiveness of ESG practices (Espinosa-Méndez et al., 2024). This research made an important contribution to helping companies optimize ESG implementation to improve their reputation and increase their market value. In addition, this research offered practical guidance for policymakers to develop more transparent regulations and supported consistent ESG adoption in the region.

This research aimed to examine how the divergence between ESG scores and ESG-related controversies impacts firm value across five Southeast Asian countries and to assess the moderating role of family ownership in this association. The research aimed to significantly enhance the literature on ESG by concentrating on these variables and providing practical recommendations for firms to advance their sustainability policies. In addition, the research was expected to help investors in comprehending the dynamics involving ESG performance metrics and their associated controversies, as well as provide a basis for family firms to integrate ESG values into their long-term strategies.

METHOD

This study adopted a quantitative approach within a descriptive design to investigate how family ownership influences the association between divergences in ESG scoring and controversy metrics and their subsequent effects on firm value. The analysis was based on panel data gathered from listed companies operating in five countries across Southeast Asia, namely Singapore, Malaysia, Thailand, the Philippines, and Indonesia. The descriptive approach in this study provided a more in-depth description of the correlation among the research variables.

Sampling

This study's population comprised publicly traded firms in five Southeast Asian nations, which have been assessed for ESG Scores and ESG Controversies over a span of five

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consecutive years. From the initial population of 751 companies, a selection was made based on certain criteria resulting in a sample of 82 companies. Using a purposive sampling technique, these companies were selected based on their consistency in reporting ESG data and and satisfying the data completeness criteria for control variables, including profitability and company size. The total observations in this study were 410 obtained from a sample of 82 companies for five years.

Data Collection

This study utilized secondary data acquired from pre-existing official sources, including official websites, company financial reports, books, scientific journals, and other reading materials that were relevant to support the analysis (Hasan, 2002). More specifically, to obtain data on independent variables and dependent variables, researchers conducted searches on the Refinitiv website. From this site, the author could collect data related to ESG Score, ESG Controversies, Firm Value, Profitability, Leverage, and Market Capitalization that were relevant to this research. In addition, information on family ownership was collected by reviewing the share ownership composition from company documents. To ensure data accuracy, cross-verification with independent sources was conducted.

Measures

Data analysis was conducted in several stages. First, data obtained from various sources were processed to ensure consistency and completeness. In addition, descriptive analysis was conducted to provide an understanding of the variables to be tested, namely company value, ESG scores, and ESG controversy, including their characteristics. The data will then be analyzed to test the research hypothesis using statistical models. The approach allowed researchers to examine how the disparities between ESG scores and ESG controversies affected firm value, along with the moderating influence of family ownership.

Refinitiv evaluates ESG Scores and ESG Controversies using a 0–100 scale, where higher scores indicate better performance or fewer issues. Companies with no controversies receive a controversy score of 100, whereas those with significant issues receive lower scores. In this study, an ESG True Value was operationalized to capture the combined strength of a company's ESG performance and its controversy status:

$$\text{ESG True Value} = \text{ESG Score} + \text{ESG Controversies}$$

Additionally, this study considered Refinitiv's ESG Combined Score (ESGC), which adjusts ESG performance by incorporating controversy effects to better reflect reputational risks and unresolved ESG-related issues (Refinitiv, 2022). The ESG Combined Score is calculated as follows:

1. If ESG Controversies > ESG Score, then ESGC = ESG Score
2. If ESG Controversies < ESG Score, then ESGC Value= the average of the ESG Score and ESG Controversies.

This adjustment allows for a more nuanced interpretation of ESG performance by penalizing firms with ongoing controversies while aligning with Refinitiv's integrated assessment framework.

Data Analysis Techniques

This study employed the Ordinary Least Squares analysis test to evaluate or test the association of one or more independent variables influencing the dependent variable. This study utilized panel data. Consequently, with the OLS model, this study employed the

Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM), with the model selection determined by the best model test.

RESULT AND DISCUSSION

Reporting Research Results

Data ESG True Value

$$\text{Log (PBVit)} = \beta 0 + \beta 1\text{ROAit} + \beta 2\text{DARit} + \beta 3\text{Log (MarketCap)it} + \beta 4\text{ESGit} + \beta 5\text{Familyit} + \beta 6\text{ESG*Familyit} + \text{eit} \quad (1)$$

OLS (OLS) Data ESG True Value

Table 1. Hypothesis Test Results the Effect of Differences between ESG Score and ESG Controversies on PBV moderated by Family Ownership

Dependent Variable: LOG_PBV				
Method: Least Squares				
Sample: 1 410				
Included observations: 410				
Variable	Coefficient	Std. Error	t-Statistic	Probability
C	-1.941919	0.301794	-6.434587	0.0000
ROA	2.111301	0.284206	7.428760	0.0000***
DAR	0.175656	0.080399	2.184813	0.0295**
MARKET_CAP	0.198439	0.028831	6.882934	0.0000***
ESG_T	-0.000267	0.000856	-0.312296	0.7550
FAMOWN	0.384071	0.164273	2.338001	0.0199**
ESG_T*FAMOWN	-0.002120	0.001150	-1.843271	0.0660*
R-squared	0.334693			
Adjusted R-squared	0.324787			
S.E. of regression	0.268967			
Sum squared resid	29.15426			
Log likelihood	-39.83576			
F-statistic	33.78919			
Prob(F-statistic)	0.000000			
*** Significant at 1% level				
** Significant at 5% level				
* Significant at 10% level				

The ESG_T variable exhibited no meaningful impact on PBV, presenting a negative coefficient of -0.000627. Thus, H1 was rejected. However, family ownership (FAMOWN) exhibited a statistically meaningful positive association at the 5% threshold, with an estimated coefficient of 0.384. This suggests that firms characterized by family ownership were more likely to report elevated PBV values. The observed coefficient for the ESG and family ownership interaction (ESG_T*FAMOWN) was negative (-0.0021) and statistically meaningful at the 10% significance level, implying that the detrimental association between ESG-related inconsistencies and price-to-book value tends to intensify in firms controlled by families. Thus, H2 was accepted.

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Random Effect Model (REM) Data ESG True Value

Table 2. Hypothesis Test Results the Effect of Differences between ESG Score and ESG Controversies on PBV moderated by Family Ownership

Dependent Variable: LOG_PBV				
Method: Panel EGLS (Cross-section random effects)				
Sample: 2018 2022				
Periods included: 5				
Cross-sections included: 82				
Total panel (balanced) observations: 410				
Swamy and Arora estimator of component variances				
Variable	Coefficient	Std. Error	t-Statistic	Probability
C	-5.918088	0.332625	-17.792090	0.0000
ROA	0.548946	0.123045	4.461348	0.0000***
DAR	0.235332	0.083850	2.806585	0.0052***
MARKET_CAP	0.619088	0.033500	18.480470	0.0000***
ESG_T	-0.000498	0.000333	-1.494618	0.1358
FAMOWN	0.060154	0.093863	0.640864	0.5220
ESG_T*FAMOWN	0.000638	0.000544	1.172711	0.2416
R-squared	0.486957			
Adjusted R-squared	0.479319			
S.E. of regression	0.093553			
F-statistic	63.75153			
Prob(F-statistic)	0.000000			
*** Significant at 1% level				
** Significant at 5% level				
* Significant at 10% level				

The ESG_T variable had a negative coefficient of -0.000498, but its effect was not statistically significant on LOG_PBV. Thus, H1 was rejected. In addition, the FAMOWN variable and the interaction between ESG_T and FAMOWN also showed no significant effect on price-to-book value, with probability values indicating insignificance at the 5% and 10% confidence levels. In this case, it indicated that H2 was rejected.

$$Log(PBVit) = \beta 0 + \beta 1ROAit + \beta 2DERit + \beta 3Log(MarketCap)it + \beta 4ESGit + \beta 5Familyit + \beta 6ESG*Familyit + eit \quad (2)$$

OLS (OLS) Data ESG True Value

Table 3. Hypothesis Test Results the Effect of Differences between ESG Score and ESG Controversies on PBV moderated by Family Ownership

Dependent Variable: LOG_PBV				
Method: Least Squares				
Sample: 1 410				
Included observations: 410				
Variable	Coefficient	Std. Error	t-Statistic	Probability
C	-1.936875	0.307412	-6.300595	0.0000
ROA	1.818514	0.269377	6.750804	0.0000***
DER	-0.001321	0.007154	-0.184671	0.8536
MARKET_CAP	0.211521	0.029377	7.200305	0.0000***
ESG_T	-0.000391	0.000859	-0.454719	0.6496
FAMOWN	0.370948	0.165145	2.246191	0.0256**
ESG_T*FAMOWN	-0.002110	0.001159	-1.820467	0.0694*
R-squared	0.326869			
Adjusted R-squared	0.316848			
S.E. of regression	0.270543			

Sum squared resid	29.49708
Log likelihood	-42.23231
F-statistic	32.61584
Prob(F-statistic)	0.000000
*** Significant at 1% level	
** Significant at 5% level	
* Significant at 10% level	

The ESG_T variable had a negative coefficient of -0.000391, but its effect was not statistically significant on LOG_PBV. Thus, H1 was rejected. Furthermore, the FAMOWN variable exhibited a statistically meaningful positive relationship at the 5% significance threshold, with a coefficient of 0.370948, which indicated that companies with family ownership tended to have higher LOG_PBV values. In contrast, the interaction between ESG_T and FAMOWN showed a significant negative effect at the 10% level with a coefficient of -0.002110, indicating that the interaction of these two variables tended to lower the LOG_PBV value. Thus, H2 was accepted.

Random Effect Model (REM) Data ESG True Value

Table 4. Hypothesis Test Results the Effect of Differences between ESG Score and ESG Controversies on PBV moderated by Family Ownership

Dependent Variable: LOG_PBV				
Method: Panel EGLS (Cross-section random effects)				
Sample: 2018 2022				
Periods included: 5				
Cross-sections included: 82				
Total panel (balanced) observations: 410				
Swamy and Arora estimator of component variances				
Variable	Coefficient	Std. Error	t-Statistic	Probability
C	-5.951746	0.325211	-18.301210	0.0000
ROA	0.523628	0.120071	4.360977	0.0000***
DER	0.026361	0.008975	2.937067	0.0035***
MARKET_CAP	0.629916	0.033138	19.008860	0.0000***
ESG_T	-0.000484	0.000325	-1.487469	0.1377
FAMOWN	0.067124	0.093499	0.717912	0.4732
ESG_T*FAMOWN	0.000672	0.000532	1.262459	0.2075
R-squared	0.494750			
Adjusted R-squared	0.487227			
S.E. of regression	0.092334			
F-statistic	65.77078			
Prob(F-statistic)	0.000000			
*** Significant at 1% level				
** Significant at 5% level				
* Significant at 10% level				

The ESG_T variable had a negative coefficient (-0.000484) indicating that it was not statistically significant with a probability of 0.1377, so it did not have a significant effect on LOG_PBV. Thus, H1 was rejected. The variable FAMOWN and the interaction between ESG_T and FAMOWN were also insignificant, with a probability of 0.4732 and 0.2075, respectively. Thus, H2 was rejected in this model.

$$Log(PBVit) = \beta0 + \beta1ROEit + \beta2DERit + \beta3Log(MarketCap)it + \beta4ESGit + \beta5Familyit + \beta6ESG*Familyit + eit \quad (3)$$

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OLS (OLS) Data ESG True Value

Table 5. Hypothesis Test Results the Effect of Differences between ESG Score and ESG Controversies on PBV moderated by Family Ownership

Dependent Variable: LOG_PBV				
Method: Least Squares				
Sample: 1 410				
Included observations: 410				
Variable	Coefficient	Std. Error	t-Statistic	Probability
C	-1.890434	0.308552	-6.126798	0.0000
ROE	0.887715	0.130001	6.828534	0.0000***
DER	-0.012101	0.006815	-1.775618	0.0766**
MARKET_CAP	0.206829	0.029523	7.005691	0.0000***
ESG_T	-0.000310	0.000858	-0.361947	0.7176
FAMOWN	0.449740	0.162123	2.774062	0.0058***
ESG_T*FAMOWN	-0.002687	0.001138	-2.360440	0.0187**
R-squared	0.328450			
Adjusted R-squared	0.318451			
S.E. of regression	0.270226			
Sum squared resid	29.42784			
Log likelihood	-41.7505			
F-statistic	32.85064			
Prob(F-statistic)	0.000000			
*** Significant at 1% level				
** Significant at 5% level				
* Significant at 10% level				

The ESG_T variable had a negative coefficient value of -0.000310 but the effect was not statistically significant. Thus, H1 was rejected. Furthermore, the FAMOWN variable demonstrated a statistically meaningful positive relationship, as reflected in the coefficient value of 0.449740. This result suggests that firms under family ownership were more likely to exhibit elevated LOG_PBV outcomes. The interaction between ESG_T and FAMOWN demonstrated a statistically meaningful negative relationship, reflected by an estimated coefficient of -0.002687 and a p-value of 0.0187. This outcome suggests that the coexistence of ESG performance and family ownership was associated with a decrease in LOG_PBV. Thus, H2 was accepted.

Random Effect Model (REM) Data ESG True Value

Table 6. Hypothesis Test Results the Effect of Differences between ESG Score and ESG Controversies on PBV moderated by Family Ownership

Dependent Variable: LOG_PBV				
Method: Panel EGLS (Cross-section random effects)				
Sample: 2018 2022				
Periods included: 5				
Cross-sections included: 82				
Total panel (balanced) observations: 410				
Swamy and Arora estimator of component variances				
Variable	Coefficient	Std. Error	t-Statistic	Probability
C	-6.020046	0.318188	-18.919750	0.0000
ROE	0.148560	0.053019	2.802042	0.0053***
DER	0.024112	0.008904	2.708055	0.0071***
MARKET_CAP	0.638372	0.032442	19.677320	0.0000***

ESG_T	-0.000498	0.000326	-1.527235	0.1275
FAMOWN	0.087658	0.091986	0.952947	0.3412
ESG_T*FAMOWN	0.000557	0.000532	1.046820	0.2958
R-squared	0.474212			
Adjusted R-squared	0.466383			
S.E. of regression	0.094708			
F-statistic	60.57800			
Prob(F-statistic)	0.000000			
*** Significant at 1% level				
** Significant at 5% level				
* Significant at 10% level				

The ESG_T variable did not exhibit statistical significance, as reflected in the coefficient estimate of -0.000498 and a p-value of 0.1275, so ESG_T did not effect on LOG_PBV in this model. Thus, H1 was rejected. The variable FAMOWN (Family Ownership) and the interaction between ESG_T and FAMOWN were also insignificant, with a probability of 0.3412 and 0.2958, respectively. In this case, H2 was rejected.

$$Log(PBVit) = \beta0 + \beta1ROEit + \beta2DARit + \beta3Log(MarketCap)it + \beta4ESGit + \beta5Familyit + \beta6ESG*Familyit + eit \quad (4)$$

OLS (OLS) Data ESG True Value

Table 7. Hypothesis Test Results the Effect of Differences between ESG Score and ESG Controversies on PBV moderated by Family Ownership

Dependent Variable: LOG_PBV				
Method: Least Squares				
Sample: 1 410				
Included observations: 410				
Variable	Coefficient	Std. Error	t-Statistic	Probability
C	-1.819181	0.308683	-5.893366	0.0000
ROE	0.902822	0.13087	6.898646	0.0000***
DAR	-0.029984	0.073083	-0.410277	0.6818
MARKET_CAP	0.198196	0.029254	6.775040	0.0000***
ESG_T	-0.000321	0.000863	-0.371775	0.7103
FAMOWN	0.455369	0.164033	2.776083	0.0058***
ESG_T*FAMOWN	-0.002643	0.001148	-2.301704	0.0219**
R-squared	0.323478			
Adjusted R-squared	0.313406			
S.E. of regression	0.271224			
Sum squared resid	29.64568			
Log likelihood	-43.26244			
F-statistic	32.11569			
Prob(F-statistic)	0.000000			
*** Significant at 1% level				
** Significant at 5% level				
* Significant at 10% level				

The ESG_T variable had a negative coefficient of -0.00321, but its effect was not statistically significant. Thus, H1 was rejected. The FAMOWN variable exhibited a statistically meaningful positive relationship, as indicated by a coefficient estimate of 0.455369 and a p-value of 0.0058, which means that companies with family ownership tended to have higher LOG_PBV values. The association between ESG_T and FAMOWN exerted a substantial

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negative effect on LOG_PBV, evidenced by a coefficient of -0.002643 and a probability of 0.0219. In this case, H2 was accepted

Random Effect Model (REM) Data ESG True Value

Table 8. Hypothesis Test Results the Effect of difference between ESG Score and ESG Controversies on PBV moderated by Family Ownership

Dependent Variable: LOG_PBV				
Method: Panel EGLS (Cross-section random effects)				
Sample: 2018 2022				
Periods included: 5				
Cross-sections included: 82				
Total panel (balanced) observations: 410				
Swamy and Arora estimator of component variances				
Variable	Coefficient	Std. Error	t-Statistic	Probability
C	-6.053465	0.330159	-18.334990	0.0000
ROE	0.137825	0.053884	2.557836	0.0109**
DAR	0.196596	0.083310	2.359810	0.0188**
MARKET_CAP	0.636462	0.033130	19.210840	0.0000***
ESG_T	-0.000512	0.000335	-1.527019	0.1275
FAMOWN	0.080954	0.093484	0.865964	0.3870
ESG_T*FAMOWN	0.000524	0.000546	0.958755	0.3383
R-squared	0.468701			
Adjusted R-squared	0.460791			
S.E. of regression	0.095479			
F-statistic	59.25299			
Prob(F-statistic)	0.000000			
*** Significant at 1% level				
** Significant at 5% level				
* Significant at 10% level				

The ESG_T variable had a negative coefficient of -0.000420 and a probability of 0.7370, indicating that ESG_T had no significant effect on LOG_PBV. Thus, H1 was rejected. The FAMOWN variable was also insignificant with a coefficient of 0.086595 and a probability of 0.4064. The interaction between ESG_T and FAMOWN with a coefficient of 0.000118 and a probability of 0.9275 did not show a significant effect on LOG_PBV. Thus, H2 was rejected.

Data ESG Combined

$$\text{Log(PBVit)} = \beta 0 + \beta 1\text{ROAit} + \beta 2\text{DARit} + \beta 3\text{Log(MarketCap)it} + \beta 4\text{ESGit} + \beta 5\text{Familyit} + \beta 6\text{ESG*Familyit} + \text{eit} \quad \ldots\ldots(1)$$

OLS (OLS) Data ESG Combined

Table 9. Hypothesis Test Results the Effect of Differences between ESG Score and ESG Controversies on PBV moderated by Family Ownership

Dependent Variable: LOG_PBV				
Method: Least Squares				
Sample: 1 410				
Included observations: 410				
Variable	Coefficient	Std. Error	t-Statistic	Probability
C	-1.939492	0.264565	-7.33086	0.0000
ROA	2.321504	0.262865	8.831555	0.0000***
DAR	0.209638	0.078095	2.684406	0.0076***
MARKET_CAP	0.213825	0.028258	7.567002	0.0000***

ESG_C	-0.004386	0.001190	-3.684844	0.0003***
FAMOWN	0.134469	0.085908	1.565267	0.1183
ESG_C*FAMOWN	-0.001401	0.001770	-0.791598	0.4291
R-squared	0.368413			
Adjusted R-squared	0.35901			
S.E. of regression	0.262062			
Sum squared resid	27.67659			
Log-likelihood	-29.17291			
F-statistic	39.17927			
Prob(F-statistic)	0.000000			
*** Significant at 1% level				
** Significant at 5% level				
* Significant at 10% level				

The ESG Combined (ESG_C) variable exhibited a significant negative correlation with PBV, where each increase in ESG score reduced PBV by 0.004386. Thus, H1 was accepted. The results imply that higher ESG performance levels among firms correspond with a decline in PBV value in the context of this study. Meanwhile, Family Ownership (FAMOWN) and the interaction between ESG_C and FAMOWN showed no significant effect on LOG_PBV, indicating that family ownership and its influence on ESG practices did not contribute significantly to determining PBV valuation. Thus, H2 was rejected.

Random Effect Model (REM) Data ESG Combined

Table 10. Hypothesis Test Results The Effect of Differences between ESG Score and ESG Controversies on PBV moderated by Family Ownership

Dependent Variable: LOG_PBV				
Method: Panel EGLS (Cross-section random effects)				
Sample: 2018 2022				
Periods included: 5				
Cross-sections included: 82				
Total panel (balanced) observations: 410				
Swamy and Arora estimator of component variances				
Variable	Coefficient	Std. Error	t-Statistic	Probability
C	-5.768965	0.317276	-18.182780	0.0000
ROA	0.547936	0.117401	4.667204	0.0000***
DAR	0.225901	0.080757	2.797291	0.0054***
MARKET_CAP	0.608075	0.032236	18.863240	0.0000***
ESG_C	-0.002235	0.000604	-3.701151	0.0002***
FAMOWN	0.212988	0.067476	3.156495	0.0017***
ESG_C*FAMOWN	-0.001745	0.000883	-1.976626	0.0488**
R-squared	0.536029			
Adjusted R-squared	0.529122			
S.E. of regression	0.08878			
F-statistic	77.59825			
Prob(F-statistic)	0.000000			
*** Significant at 1% level				
** Significant at 5% level				
* Significant at 10% level				

The ESG_C variable had a negative coefficient value of -0.002235 and its effect was statistically significant. Thus, H1 was accepted. The analysis revealed that family ownership (FAMOWN) is positively correlated with PBV, supported by a coefficient value of 0.212988.

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This finding implies a potential enhancement in PBV driven by family control. Futhermore, the ESG_C and FAMOWN interaction resulted in a negative coefficient estimated at -0.001745, statistically validated at the 5% level. Thus, H2 was accepted. This suggests that companies with significant family ownership are likely to reinforce the adverse connection between ESG practices and PBV.

$$Log(PBVit) = \beta0 + \beta1ROAit + \beta2DERit + \beta3Log(MarketCap)it + \beta4ESGit + \beta5Familyit + \beta6ESG*Familyit + eit \quad (2)$$

OLS (OLS) Data ESG Combined

Table 11. Hypothesis Test Results the Effect of Differences between ESG Score and ESG Controversies on PBV moderated by Family Ownership

Dependent Variable: LOG_PBV				
Method: Least Squares				
Sample: 1 410				
Included observations: 410				
Variable	Coefficient	Std. Error	t-Statistic	Probability
C	-1.930383	0.271166	-7.118827	0.0000
ROA	2.017764	0.248255	8.127788	0.0000***
DER	0.001308	0.006974	0.187492	0.8514
MARKET_CAP	0.226015	0.028834	7.838549	0.0000***
ESG_C	-0.004379	0.001203	-3.641063	0.0003***
FAMOWN	0.116889	0.086423	1.352519	0.1770
ESG_C*FAMOWN	-0.001241	0.001789	-0.693753	0.4882
R-squared	0.357176			
Adjusted R-squared	0.347606			
S.E. of regression	0.264383			
Sum squared resid	28.16902			
Log-likelihood	-32.78824			
F-statistic	37.32022			
Prob(F-statistic)	0.000000			
***** Significant at 1% level**				
**** Significant at 5% level**				
*** Significant at 10% level**				

The **ESG Combined (ESG_C)** variable exhibited a **significant negative** effect at the 10% confidence level. Thus, H1 was accepted. An elevation in ESG score correlated with a reduction in PBV, possibly because the market did not always value a company's ESG practices in this context. The FAMOWN variable failed to demonstrate statistical significance in relation to PBV, as indicated by a p-value of 0.1770, as well as the interaction between **ESG_C and FAMOWN** which **did not** contribute **significantly** in this model with a probability value of 0.4882. Thus, H2 was rejected.

Random Effect Model (REM) Data ESG Combined

Table 12. Hypothesis Test Results the Effect of Differences between ESG Score and ESG Controversies on PBV moderated by Family Ownership

Dependent Variable: LOG_PBV
Method: Panel EGLS (Cross-section random effects)
Sample: 2018 2022
Periods included: 5
Cross-sections included: 82
Total panel (balanced) observations: 410

Swamy and Arora estimator of component variances				
Variable	Coefficient	Std. Error	t-Statistic	Probability
C	-5.827263	0.311449	-18.710190	0.0000
ROA	0.519240	0.114565	4.532277	0.0000***
DER	0.025620	0.008664	2.957121	0.0033***
MARKET_CAP	0.620737	0.031967	19.418160	0.0000***
ESG_C	-0.002121	0.000590	-3.594946	0.0004***
FAMOWN	0.229569	0.068736	3.339883	0.0009***
ESG_C*FAMOWN	-0.001848	0.000861	-2.146360	0.0324**
R-squared	0.544422			
Adjusted R-squared	0.537639			
S.E. of regression	0.087424			
F-statistic	80.26508			
Prob(F-statistic)	0.000000			
*** **Significant at 1% level**				
** **Significant at 5% level**				
* **Significant at 10% level**				

The **ESG Combined variable (ESG_C)** exhibited a statistically **significant** negative relationship, indicating that firms demonstrating better ESG implementation were more likely to record lower **LOG_PBV** values. Thus, H1 was accepted. Furthermore, the **FAMOWN** variable showed a significant positive influence on LOG_PBV, where companies with family ownership tended to have higher valuations. However, the interaction between **ESG_C and FAMOWN** showed a **significant** negative effect, indicating that firms with high family ownership tended to amplify the negative impact of ESG practices on PBV valuation. Thus, H2 was accepted.

$$Log(PBV_{it}) = \beta_0 + \beta_1 ROE_{it} + \beta_2 DER_{it} + \beta_3 Log(MarketCap)_{it} + \beta_4 ESG_{it} + \beta_5 Family_{it} + \beta_6 ESG*Family_{it} + e_{it} \quad (3)$$

OLS (OLS) Data ESG Combined

Table 13. Hypothesis Test Results the Effect of Differences between ESG Score and ESG Controversies on PBV moderated by Family Ownership

Dependent Variable: LOG_PBV				
Method: Least Squares				
Sample: 1 410				
Included observations: 410				
Variable	Coefficient	Std. Error	t-Statistic	Probability
C	-1.867671	0.274508	-6.803698	0.0000
ROE	0.979148	0.123899	7.902773	0.0000***
DER	-0.010762	0.006708	-1.604393	0.1094
MARKET_CAP	0.22123	0.029176	7.582481	0.0000***
ESG_C	-0.004415	0.001207	-3.657814	0.0003***
FAMOWN	0.124675	0.086700	1.438006	0.1512
ESG_C*FAMOWN	-0.001421	0.001795	-0.791783	0.4290
R-squared	0.352194			
Adjusted R-squared	0.342550			
S.E. of regression	0.265405			
Sum squared resid	28.38732			
Log-likelihood	-34.37080			
F-statistic	36.51670			
Prob(F-statistic)	0.000000			
*** **Significant at 1% level**				
** **Significant at 5% level**				

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*	**Significant at 10% level**

The **ESG_C variable** exhibited a **substantial negative** impact on PBV, with a probability value of 0.0003. Thus, H1 was accepted. This indicated that ESG practices in companies tended not to be valued by the market and were correlated with a reduction in PBV value. Nevertheless, within the current analytical framework, the interaction between **ESG_C** and **FAMOWN** failed to reach statistical significance in relation to PBV, as reflected by a p-value of 0.1512. Thus, H2 was rejected.

Random Effect Model (REM) Data ESG Combined

Table 14. Hypothesis Test Results the Effect of Differences between ESG Score and ESG Controversies on PBV moderated by Family Ownership

Dependent Variable: LOG_PBV				
Method: Panel EGLS (Cross-section random effects)				
Sample: 2018 2022				
Periods included: 5				
Cross-sections included: 82				
Total panel (balanced) observations: 410				
Swamy and Arora estimator of component variances				
Variable	Coefficient	Std. Error	t-Statistic	Probability
C	-5.892563	0.305635	-19.279760	0.0000
ROE	0.159667	0.050844	3.140335	0.0018***
DER	0.024205	0.008619	2.808334	0.0052***
MARKET_CAP	0.628742	0.031384	20.034000	0.0000***
ESG_C	-0.002198	0.000593	-3.708602	0.0002***
FAMOWN	0.234299	0.067111	3.491192	0.0005***
ESG_C*FAMOWN	-0.001836	0.000864	-2.126265	0.0341**
R-squared	0.527140			
Adjusted R-squared	0.520100			
S.E. of regression	0.089479			
F-statistic	74.87678			
Prob(F-statistic)	0.000000			
*** **Significant at 1% level**				
** **Significant at 5% level**				
* **Significant at 10% level**				

The **ESG_C** variable showed a **substantial negative** impact with a probability value of 0.0002, indicating that firms with stronger ESG performance were generally associated with lower PBV level. Thus, H1 was accepted. Furthermore, the analysis identified a positive and statistically validated relationship between FAMOWN and PBV, as indicated by a p-value of 0.0005, implying that family-owned firms tend to achieve higher PBV. However, the interaction between **ESG_C and FAMOWN** showed a **significant** negative effect. Thus, H2

was accepted. This indicates that family ownership exacerbated the adverse effects of ESG practices on PBV.

$$Log(PBV_{it}) = \beta_0 + \beta_1 ROE_{it} + \beta_2 DAR_{it} + \beta_3 Log(MarketCap)_{it} + \beta_4 ESG_{it} + \beta_5 Family_{it} + \beta_6 ESG*Family_{it} + e_{it} \quad (4)$$

OLS (OLS) Data ESG Combined

Tabel 15. Hypothesis Test Results the Effect of Differences between ESG Score and ESG Controversies on PBV moderated by Family Ownership

Dependent Variable: LOG_PBV				
Method: Least Squares				
Sample: 1 410				
Included observations: 410				
Variable	Coefficient	Std. Error	t-Statistic	Probability
C	-1.803526	0.273086	-6.604235	0.0000
ROE	0.992407	0.124945	7.942722	0.0000***
DAR	-0.022004	0.07153	-0.307613	0.7585
MARKET_CAP	0.213642	0.028927	7.385446	0.0000***
ESG_C	-0.004530	0.001209	-3.747972	0.0002***
FAMOWN	0.127131	0.087330	1.455763	0.1462
ESG_C*FAMOWN	-0.001243	0.001799	-0.690906	0.4900
R-squared	0.348210			
Adjusted R-squared	0.338506			
S.E. of regression	0.266220			
Sum squared resid	28.56193			
Log-likelihood	-35.62790			
F-statistic	35.88284			
Prob(F-statistic)	0.000000			
*** Significant at 1% level				
** Significant at 5% level				
* Significant at 10% level				

The **ESG_C** variable showed a **substantial negative** impact with a probability value of 0.0002, indicating that firms with stronger ESG performance were generally associated with lower PBV level. Thus, H1 was accepted. However, the combined influence of ESG_C and FAMOWN did not demonstrate statistical relevance in predicting PBV, as reflected by a p-value of 0.4900. Thus, H2 was rejected.

Random Effect Model (REM) Data ESG Combined

Table 16. Hypothesis Test Results the Effect of Differences between ESG Score and ESG Controversies on PBV moderated by Family Ownership

Dependent Variable: LOG_PBV
Method: Panel EGLS (Cross-section random effects)
Sample: 2018 2022

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Periods included: 5				
Cross-sections included: 82				
Total panel (balanced) observations: 410				
Swamy and Arora estimator of component variances				
Variable	Coefficient	Std. Error	t-Statistic	Probability
C	-5.918391	0.316840	-18.679450	0.0000
ROE	0.149428	0.051723	2.889006	0.0041***
DAR	0.192472	0.080603	2.387907	0.0174**
MARKET_CAP	0.626435	0.032066	19.536110	0.0000***
ESG_C	-0.002263	0.000609	-3.713512	0.0002***
FAMOWN	0.219632	0.067458	3.255858	0.0012***
ESG_C*FAMOWN	-0.001775	0.000889	-1.997099	0.0465**
R-squared	0.521552			
Adjusted R-squared	0.514429			
S.E. of regression	0.090274			
F-statistic	73.21791			
Prob(F-statistic)	0.000000			
***** Significant at 1% level**				
**** Significant at 5% level**				
*** Significant at 10% level**				

The ESG_C variable showed a substantial negative impact with a probability value of 0.0002, which indicated that better ESG practices in the firm are associated with a decrease in PBV. Thus, H1 was accepted. Furthermore, FAMOWN exerted a positive and significant influence on PBV, indicating that companies with family ownership generally exhibited elevated PBV valuations. However, the interaction between ESG_C and FAMOWN showed a significant negative effect, meaning that family ownership amplifies the negative impact of ESG practices on PBV. Thus, H2 was accepted.

In this research, from a total of 410 observations, 312 companies or about 76% showed poor ESG Score information but had good ESG Controversies. In various literature, ESG information affects firm value. In this context, three main theories are used to provide an in-depth analytical framework: Stakeholder Theory, Legitimacy Theory, and Signaling Theory. As a framework for analysis, these three theories are essentially interrelated to explain the context of this study, namely how stakeholders in companies disclose ESG information to the public as a form of signaling to strengthen the legitimacy of the company. The OLS test with true value data, as well as the REM test with ESG Combined data, showed that differences in ESG Score and ESG Controversies negatively affected firm value, and the effect is stronger in family firms. This finding was in line with (Liao Erina & Jesmin Haque Farjana, 2023) who found that companies whose ownership is dominated by families will strengthen the negative effect of ESG disclosure on firm value. This phenomenon can be attributed to the tendency of family-owned firms to emphasize immediate financial gains rather than pursuing strategic, long-range goals that require internalizing values, implementing ESG initiatives, and maintaining consistent disclosure practices.

In seeing the moderation of family ownership on the effect of ESG on firm value, (Thahira & Mita, 2021) found that the effect is weaker in family companies because it is influenced by 2 (two) factors that help explain this finding. First, family enterprises exhibit potential knowledge asymmetry between majority and minority shareholders. This condition may influence the company's public disclosure of ESG information. Family ownership may strengthen or weaken the effect of this signal, depending on how the family manages and prioritizes ESG aspects of the firm's activities (Scott-Phillips et al., 2009). Reinforcing these findings, (Liao Erina & Jesmin Haque Farjana, 2023) found that family firms tend to focus more on short-term family benefits compared to long-term interests which can be seen through their ESG practices.

Therefore, the differences between ESG Score and ESG Controversies has a more pronounced negative impact on firm value of family firms. Second, investors exhibit skepticism towards ESG disclosures from family firms in contrast to non-family firms. This is because family firms tend to only adopt ESG practices that can enhance their reputation in the market which in turn can increase their profits (Espinosa-Méndez et al., 2024). In other words, ESG implementation is not based on an awareness of balancing business activities with sustainability practices but rather is only aimed at the short-term interests of family firms. This skepticism may lead investors to undervalue ESG disclosures of the family firms, thereby reducing the expected positive impact of such disclosures.

The weak or strong negative effect of the difference between ESG Score and ESG Controversies on firm value is also influenced by how family companies that are majority shareholders formulate policies related to ESG implementation. Truong (2024) emphasized that it is important for these majority shareholders to support the work of managers in developing ESG-related corporate policies. If majority shareholders promote the incorporation of ESG values into corporate practices, the adverse impact of the differences between ESG Score and ESG Controversies on firm value might be less pronounced in family firms. Conversely, the negative effect may be stronger if the majority shareholder (family) tends to take control of the company and ignore the minority shareholders to adopt good ESG practices (Jiang & Peng, 2011; Priyatna, 2012).

(Scott-Phillips et al., 2009) emphasized the importance of managers signaling to the public about company performance. A good ESG report can be a positive signal that enhances the company's reputation, affects share value, and attracts investors. Family ownership can strengthen or weaken this signaling effect, depending on how the family manages and prioritizes ESG aspects of the company's activities. If the family supports and promotes good ESG practices, the positive signaling effect may be amplified. However, if they neglect ESG practices, the positive signaling effect may be weakened to the detriment of firm value.

The negative effect of differences in ESG Score and ESG Controversies on firm value in family firms might affect the legitimacy of the firm in the eyes of the public. (Bitektine & Montreal, 2011) emphasized that pressure from external stakeholders, such as investors and consumers, can affect a company's efforts to maintain its legitimacy. Thus, family firms need to take appropriate actions to improve their image and increase stakeholder trust to maintain their legitimacy in the long run. Family members as stakeholders in the company had a significant role in this image improvement effort, including shareholders, directors, commissioners, and managers. In family firms, ownership is often concentrated in the hands

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of majority shareholders whose success and sustainability will affect the family's wealth and legacy (Chrisman et al., 2003). As company owners, family members who were stakeholders had the power and influence to drive change and improve the company's image. Efforts can be made to adopt better sustainability practices, encourage transparency in reporting, and encourage management to make improvements until public trust increases and ultimately enhance the firm's overall valuation.

CONCLUSION

This study analyzed how family ownership weakened or strengthened the influence of differences between ESG scores and ESG controversies in relation to firm value in Southeast Asia during the 2018–2022 period. Using two measures of discrepancy between ESG Score and ESG Controversies namely ESG true value and ESG Combined the findings indicate that such disparities adversely affect firm value, with the negative impact being more pronounced in family-owned enterprises. The efficacy of family ownership in mitigating the adverse effects of ESG discrepancies is shaped by several factors. First, the firm's orientation toward long-term or short-term objectives influences how ESG practices are integrated into strategic decisions. Second, internal information dissemination between majority and minority shareholders affects the quality of ESG-related decision-making. Third, improvements in ESG practices can serve to elevate the reputation of family enterprises in the public perception. Fourth, ESG disclosures enable family firms to provide positive market signals that enhance firm value.

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