International Journal of Management Science and Information Technology
IJMSIT

E-ISSN: 2774-5694 P-ISSN: 2776-7388 OPEN ACCESS

Volume 6 (1), January-June 2026, 991-1004
DOI: https://doi.org/10.35870/ijmsit.v6i1.7475

Can Readable Sustainability Reports Mitigate Greenwashing's Market Consequences?

Dewi Ratnawati [1], Linda Ayu Wulandari [2*], Prima Tri Puspita [3], Nur Aisyah Ramadhani [4], Deden Tarmidi [5]

[1,2*,3,4,5] Master of Accounting Study Program, Faculty of Economic and Business, Universitas Mercu Buana, West Jakarta City, Special Capital Region of Jakarta, Indonesia

Email: dewiratnawati030@gmail.com [1], lindaayuwulandari3@gmail.com [2*], triprimapuspita@gmail.com [3], aisyahrm49@gmail.com [4], deden.tarmidi@mercubuana.ac.id [5]

Article history:
Received June 9, 2026
Revised June 21, 2026
Accepted June 23, 2026

Abstract

The growing importance of sustainability issues has increased investors' attention toward the credibility and quality of corporate sustainability disclosures. This study aims to examine the effects of greenwashing, foreign ownership, and profitability on market valuation and to investigate whether sustainability report readability moderates these relationships. The study contributes to the sustainability and capital market literature by exploring the role of readability in mitigating the market consequences of greenwashing within the energy sector. Using a quantitative approach, this research analyzes panel data from 43 energy companies listed on the Indonesia Stock Exchange during 2021–2024, resulting in 172 firm-year observations. Data was obtained from annual reports, sustainability reports, and audited financial statements. Panel data regression and Moderated Regression Analysis (MRA) were employed to test the proposed hypotheses. The findings reveal that greenwashing, foreign ownership, and profitability significantly affect market valuation. Sustainability report readability is found to weaken the relationship between greenwashing and market valuation, indicating that more readable sustainability disclosures help investors evaluate environmental claims more critically. However, readability does not moderate the relationships between foreign ownership and market valuation or between profitability and market valuation, although it directly contributes to market valuation as a predictor variable. These findings extend Signaling Theory by highlighting the importance of disclosure readability in reducing information asymmetry and improving the credibility of sustainability communication. The study suggests that firms should improve the clarity of sustainability disclosures to enhance transparency and support informed investment decisions.

Keywords:
Greenwashing; Foreign Ownership; Profitability; Market Valuation; Readability Sustainability Report.

1. INTRODUCTION

The increasing trend toward incorporating sustainability concerns into the capital markets has revolutionized the approach used by investors in assessing firm value and sustainability (Angeloni, 2026; Bifulco et al., 2025). The rising awareness of ESG issues around the globe, in conjunction with actions such as signing the Paris agreement and the formation of the ISSB, has raised stakeholders' expectations for transparency and sustainability among corporations (Bini & Fissi, 2026; Jämsä, 2025). This development has made investors measure firms not only based on their financial success but also on the quality of sustainability information reported to the public (Arbed, 2026; Xu & Yu, 2026). These trends are especially important for the energy industry, which often faces problems related to environmental issues, CO2 emissions, and sustainable development (Dagestani et al., 2025; Islahuddin et al., 2026). Being one of market-based indicators, market valuation demonstrates investor evaluation of companies' growth prospects

and is typically measured through Tobin's Q (Alathamneh et al., 2025; Angeloni, 2026). Yet, empirical data about the Indonesian energy market demonstrates that the indicator of market valuation declines over time, reaching 0,47 in 2024 compared to 0,50 in 2021. Figure 1 shows that the same applies to the indicator of sustainability reports' readability, which falls from 38,26 to 30,22. The trend implies a possible connection between sustainability communication quality and the decision-making process of investors (Arbed, 2026; Keskin et al., 2026).

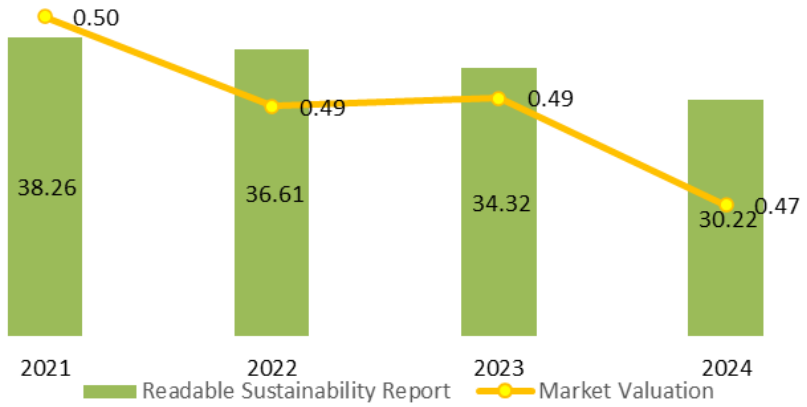

Figure 1. Readibility Sustainability Vs. Market Valuation on Energy Market
Source: Processing by researchers (www.idx.com), 2026.

Various factors that influence market valuation have been explored by earlier literature on this topic. Specifically, greenwashing, foreign ownership, and profitability have been cited as factors that affect market valuations. Greenwashing becomes an important factor since companies might create greenwashing through their disclosure of sustainability that is not supported by their environmental performance. This situation creates information asymmetry, lowers stakeholders' confidence, and eventually harms market valuation of their values. The literature confirms this claim since greenwashing tends to negatively influence market valuation, company valuation, financial performance, and market reaction (Ali et al., 2026; Bandeira et al., 2025; Eriyawan & Utama, 2026; Islahuddin et al., 2026; Mirza et al., 2025; Pinto-Gutiérrez et al., 2026). Nevertheless, previous studies have found mixed results in this regard (Bimo et al., 2026; Luhgiatno et al., 2026). On the other hand, the practice of foreign ownership is often considered as an efficient method of corporate governance that increases the quality of monitoring, transparency, and confidence, leading to increased value of the firm (Arsh et al., 2025; Caixe et al., 2024; Diyana & Hindasah, 2026; Panda et al., 2025). However, findings showing a non-linear and conditional effect on the association have been revealed in existing studies (Liou et al., 2023; Nguyen & Phi, 2026). Moreover, profitability, measured using Return on Assets (ROA), continues to be one of the strongest predictors of stock market performance, implying that the firm is capable of making profit and creating value through its asset management (Abdellatif & Elsayed, 2023; Agomor et al., 2022; Alathamneh et al., 2025; Handini & Susilo, 2025; Komath et al., 2026; Liao et al., 2026).

Even though sustainability reporting has been growing in popularity, effective communication does not solely rely on disclosure but is strongly influenced by how easy the content is to understand (Bini & Fissi, 2026; Thapa et al., 2026). Sustainability report readability represents the ease with which sustainability information released by companies is clear, understandable, and accessible (Erdoğan et al., 2026; Xu & Yu, 2026). Past research indicates that sustainability reports that are highly readable positively affect the quality of analysts' information, information asymmetry, and market confidence (Arbed, 2026; Erdoğan et al., 2026; Xu & Yu, 2026). Moreover, organizations that perform well in the sphere of ESG and CSR release more readable sustainability information (Bifulco et al., 2025; Jämsä, 2025; Thapa et al., 2026). Companies known for greenwashing, in turn, prefer to release more complex and less readable sustainability reports that mislead about their true environmental performance (Gorovaia & Makrominas, 2025). As such, readability is expected to serve as a crucial governance measure that would help mitigate greenwashing adverse effects on the market.

The theoretical foundation of this research paper will be based on Signaling Theory, where it suggests that corporate disclosures act as signals and are used by investors to minimize information asymmetry and measure the quality of a firm (Spence, 1973). Through sustainability disclosures, there will be information related to a company's environmental performance, governance quality, and prospects, which impacts how investors perceive a business and its value (Arbed, 2026; Xu & Yu, 2026). Also, according to Stakeholder Theory, firms should consider stakeholder demands and disclose relevant information related to their sustainability practices (Bini & Fissi, 2026; Dagestani et al., 2025). Furthermore, Legitimacy Theory also

highlights that sustainability disclosures are a tool used by companies to attain social legitimacy through continuous support from stakeholders including investors (Gorovaia & Makrominas, 2025; Islahuddin et al., 2026).

Even though there is much discussion about sustainability reporting and corporate valuation, it still appears to be unclear how greenwashing relates to market valuation. Most prior studies have examined the effect of greenwashing on the value of the company directly without considering any moderating variables that may mitigate greenwashing's negative influence on the stock market. Also, even though the issue of sustainability report readability has already been researched in terms of information quality and transparency as well as analyst behavior, there is no clear information on how it may affect investor behavior regarding greenwashing. Moreover, the lack of empirical research from emerging countries such as Indonesia, especially its energy industry, that affects the environment significantly, calls for further investigation. To fill in the gaps mentioned, this study investigates the influence of greenwashing, foreign ownership, and profitability on market valuation, and explores the role of sustainability report readability in mitigating the above relationships.

The term greenwashing refers to a situation whereby an organization portrays an environmentally friendly reputation that does not align with its actual environmental actions. According to Signaling Theory, sustainability disclosures are meant to allow investors to evaluate whether there exists a credible environmental commitment in terms of the future sustainability performance of the firm. If the information being provided appears to be exaggerated, then investors may lose trust in the company's sustainability disclosures and the sustainability performance of the firm. It is possible for the market to perceive such organizations differently, which may translate into a different market valuation of the firm.

Several studies have found a relationship between greenwashing and market value, firm value, financial performance, and market reactions (Ali et al., 2026; Bandeira et al., 2025; Eriyawan & Utama, 2026; Islahuddin et al., 2026; Mirza et al., 2025; Pinto-Gutiérrez et al., 2026). However, some researchers indicate that greenwashing may not necessarily lead to negative consequences and may be associated with zero firm value in specific circumstances (Bimo et al., 2026; Luhgiatno et al., 2026). Accordingly, the following hypothesis is formulated:

H1: Greenwashing affects market valuation

The foreign ownership is one factor seen as very critical in having a bearing on the monitoring and evaluation process of a corporation in the capital market. The foreign owners have wide experience in investing and better access to information. From the agency's theory point of view, their inclusion could help mitigate the conflict of interest between the managers and the stakeholders due to better monitoring and disclosure. This means that foreign ownership would lead to increased levels of investor trust and, therefore, greater market demand for the corporation's stocks, hence higher market valuation.

Previous research has documented the relationship between foreign ownership and firm value, firm valuation, market value, and firm performance, implying the importance of foreign ownership in corporate governance and investment decisions (Arsh et al., 2025; Bousnina et al., 2024; Caixe et al., 2024; Diyana & Hindasah, 2026; Dyussembina et al., 2024; Nguyen & Phi, 2026; Panda et al., 2025). It has also been demonstrated that foreign ownership affects the decisions regarding financing, innovation, and sustainability initiatives (Kim, 2024; Tran, 2022; S. Yue et al., 2025). Nonetheless, a few scholars have shown that the impact of foreign ownership differs from one company to another and from one institutional context to another, and other researchers find the nonlinear relationship between foreign ownership and firm value (Liou et al., 2023; Nguyen & Phi, 2026; Thanatawee, 2021). From these perspectives, the following hypotheses can formulate:

H2: Foreign ownership affects market valuation

Profitability measures the firm's ability to make profit by its assets, and it is widely employed by investors for the evaluation of management performance in value creation. Under the Signaling Theory framework, profitability becomes a critical indicator that gives investors insights into the financial standing of the company and its future potential. Those firms capable of maintaining high levels of profitability can be said to have a high level of operational efficiency, growth potential, and financial stability, all of which tend to affect investment decisions made based on the perceived value of the firm.

Based on empirical findings, profitability is known to impact on a range of market-related variables. It has been shown by earlier studies that profitability impacts market value, firm value, market valuation, and Tobin's Q, implying that profitability is viewed as a significant measure by investors in their assessment of company performance and growth potential (Abdellatif & Elsayed, 2023; Agomor et al., 2022; Alathamneh et al., 2025; Angeloni, 2026; Ardiansyah et al., 2025; Handini & Susilo, 2025; Komath et al., 2026; Liao et al., 2026; Moro-Visconti, 2025; Nejjari & Aamoum, 2023). Profitability is also found to impact disclosure quality and clarity, implying that companies with better financial health disclose information in a manner that is clearer and of higher quality (Mahboub, 2026). However, the impact of profitability might vary from industry to industry and market to market, implying that profitability might not impact market valuation equally across firms. The above discussion leads to the following hypothesis:

H3: Profitability affects market valuation

The readability of sustainability reports refers to how easy it is for investors to comprehend the sustainability disclosure provided by an organization. According to Signaling Theory, a sustainability report acts as a medium through which the organization conveys its environmental commitment and outlook. But when an organization resorts to greenwashing, then the investor finds it challenging to determine whether the disclosure represents the organization's real environmental performance. In such a scenario, sustainability reports assume significance. Through clear disclosures, the investors will be able to assess their claims regarding the environment and make their decisions with ease.

Studies have demonstrated that greenwashing influences market value, corporate value, financial performance, and market responses (Ali et al., 2026; Bandeira et al., 2025; Eriyawan & Utama, 2026; Islahuddin et al., 2026; Mirza et al., 2025; Pinto-Gutiérrez et al., 2026). Furthermore, readability has been found to influence information quality, transparency, market responses, and investor confidence (Arbed, 2026; Erdoğan et al., 2026; Keskin et al., 2026; Khan et al., 2026; Xu & Yu, 2026). Furthermore, readability has been negatively associated with greenwashing behavior, thus reducing the comprehensibility of sustainability information by stakeholders (Gorovaia & Makrominas, 2025). Yet, research on the moderating impact of readability on the greenwashing–market valuation relationship is scarce. This is the hypothesis:
H4: Sustainability report readability moderates the greenwashing effect on market valuation

Readability of sustainability reports is indicative of how much sustainability information can be easily comprehended by stakeholders. Based on the theory of agency, foreign investors could increase their ability to monitor and become more transparent in the process, which would help reduce the conflict that arises between managers and stockholders. Yet, for the effectiveness of the foreign investors in gauging the performance of the firm from the standpoint of sustainability, the readability of sustainability reports is crucial.

It has been established that foreign ownership influences the value of firms, valuation, market value, and performance of corporations (Arsh et al., 2025; Bousnina et al., 2024; Caixe et al., 2024; Diyana & Hindasah, 2026; Dyussembina et al., 2024; Panda et al., 2025; Thi & Phi, 2026). Equally, it has been noted that readability influences information quality, transparency, market reactions, and trust among investors (Arbed, 2026; Enciso-Alfaro et al., 2026; Erdoğan et al., 2026; Keskin et al., 2026; Khan et al., 2026; Xu & Yu, 2026). Nonetheless, little has been known about the moderating effect of the readability of sustainability reports on the impact of foreign ownership on market valuation. Therefore, the hypothesis:
H5: Sustainability report readability moderates the foreign ownership effect on market valuation

Sustainability report readability reflects how easily stakeholders can understand the sustainability information disclosed by a company. Based on Signaling Theory, profitability provides a signal about a firm's financial condition and prospects. However, investors do not rely solely on financial figures when evaluating a company. The way information is communicated also plays an important role in shaping investor perceptions. When sustainability reports are written clearly and are easy to understand, investors may gain a more comprehensive view of a firm's overall performance. As a result, readability may influence how profitability information is interpreted and incorporated into market valuation.

Previous studies have shown that profitability affects market value, firm value, market valuation, and Tobin's Q (Abdellatif & Elsayed, 2023; Agomor et al., 2022; Alathamneh et al., 2025; Angeloni, 2026; Ardiansyah et al., 2025; Handini & Susilo, 2025; Komath et al., 2026; Liao et al., 2026; Moro-Visconti, 2025; Nejjari & Aamoum, 2023). Likewise, readability has been associated with information quality, transparency, market reactions, and stakeholder trust (Arbed, 2026; Enciso-Alfaro et al., 2026; Erdoğan et al., 2026; Keskin et al., 2026; Khan et al., 2026; Xu & Yu, 2026). In addition, profitability has been linked to the readability of corporate reports (Mahboub, 2026). However, evidence regarding the role of readability in shaping the relationship between profitability and market valuation remains limited. Therefore, the following hypothesis is proposed:
H6: Sustainability report readability moderates profitability effect on market valuation

2. RESEARCH METHOD

This study employed a quantitative research approach to examine the influence of greenwashing, foreign ownership, and profitability on market valuation, as well as the moderating role of sustainability report readability. The study utilized secondary data obtained from annual reports, sustainability reports, and audited financial statements published on the companies' official websites and the IDX website. Companies were included in the sample if they consistently published annual reports and sustainability reports, provided complete information required to measure all research variables, and maintained accessible financial and sustainability disclosure data throughout the observation period. The research was conducted on 43 energy sector companies listed on the Indonesia Stock Exchange (IDX) during the period 2021–2024, yielding a

balanced panel dataset of 172 firm-year observations. The energy sector was selected due to its significant environmental impact and the increasing attention of stakeholders toward sustainability practices and corporate transparency. The collected data was analyzed using panel data regression techniques. To examine the moderating effect of sustainability report readability, Moderated Regression Analysis (MRA) was employed by incorporating interaction terms between the independent variables and the moderating variable. Statistical analyses were performed using a significance level of 5%, enabling the study to assess whether readable sustainability reports can mitigate the adverse market consequences associated with greenwashing practices.

Table 1. Operationalization Variable

Variable	Definition	Indicator
Independent Variable (Y)		
Market Valuation (Tobin's Q)	Market valuation of company which shown the prospect and performance (Douziech & Joulain, 2020; Koh et al., 2025).	Tobin's Q = (Market Value of Equity + Total Liabilities) / Total Assets Market Value of Equity = Closing Price/Total outstanding shares
Dependent Variable (X)		
Greenwashing (GW)	The gap between the environmental disclosures a company makes and its actual environmental performance (Anathole et al., 2025; Leggerini et al., 2026; D. Yue et al., 2026).	Greenwashing Score = Carbon Emission Disclosure – Tax Carbon x 100%
Foreign Ownership (FO)	The percentage of a company's share ownership owned by foreign investors (Ashraf & Nazir, 2023b; Bousnina et al., 2024; Dyussembina et al., 2024).	Foreign Ownership = Total shares owned by foreign investors / Total outstanding shares × 100%
Profitability (ROA)	The ability of a company to generate profit from the total assets it owns (Sormin et al., 2026; Wulandari, 2026).	ROA = Net Income / Total Assets × 100%
Moderator Variable (Z)		
Sustainability Report Readability (FRE)	The level of ease of the sustainability report is to be read and understood by the report users (Arbed, 2026; Erdoğan et al., 2026; Gorovaia & Makrominas, 2025; Li, 2023).	Flesch Reading Ease (FRE) = 206.835 − 1.015 (Words/Sentences) − 84.6 (Syllables/Words)

Source: Data processed by researchers, 2026.

Greenwashing is generally defined as a discrepancy between a firm's environmental claims and its actual environmental performance (Anathole et al., 2025; Leggerini et al., 2026; D. Yue et al., 2026). Accordingly, this study measures greenwashing using the gap between carbon emission disclosure and carbon tax. Carbon emission disclosure reflects the extent to which companies communicate their environmental commitments, carbon reduction initiatives, and climate-related actions, whereas carbon tax represents the environmental burden arising from carbon-emitting activities and the firm's exposure to carbon-related regulations. A larger discrepancy between carbon-related disclosures and carbon tax obligations suggests that environmental communication may not be fully supported by actual environmental performance, indicating a higher level of greenwashing. The readability of sustainability reports is determined using Flesch Reading Ease (FRE) index, which was developed by Flesch (1948) to establish the degree of ease in understanding the sustainability reports by the report user. Sustainability report narratives were extracted from sustainability reports in PDF format and converted into machine-readable text. The readability score was calculated using the Flesch Reading Ease (FRE) formula. The analysis was conducted at the report level, where the total number of words, sentences, and syllables were identified before computing the readability score (Flesch, 1948; Li, 2023; Bifulco et al., 2025; Li et al., 2023). The calculation of FRE score is carried out as 206.835−1.015 (Words/Sentences) – 84,6 (Syllables/Words). In this case, the values 206.835 refer to base readability scores, 1.015 refers to the sentence length, while 84.6 refers to the word complexity. The higher the FRE score, the better the readability of the sustainability disclosures, while the lower the FRE score, the more difficult the disclosures become. As indicated FRE scores from 90-100 means very easy, 80-89 means easy, 70-79 means fairly easy, 60-69 means standard, 50-59 means fairly difficult, 30-49 means difficult and 0-29 means very difficult. Market valuation is measured using Tobin's Q because it captures investors' overall assessment of a firm by comparing its market value with the value of its assets. Tobin's Q is widely used in market-based studies as it reflects both current performance and future growth expectations (Douziech & Joulain, 2025; Koh et al., 2025). Profitability is proxied by Return on

Assets (ROA), which measures the efficiency of management in generating earnings from the assets under its control and is considered one of the most commonly used indicators of financial performance (Sormin et al., 2026; Wulandari, 2026). oreign ownership is measured as the proportion of shares held by foreign investors because it directly reflects the extent of foreign participation and monitoring within a firm (Ashraf & Nazir, 2023; Bousnina et al., 2024).

3. RESULTS AND DISCUSSION

3.1. Results

Before testing the hypotheses, descriptive statistics were employed to provide an overview of the research variables. Table 2 presents the mean, median, maximum, minimum, standard deviation, and number of observations for market valuation, greenwashing, foreign ownership, profitability, and sustainability report readability across the sampled energy sector firms.

Table 2. Statistic Descriptive

	Mean	Med	Max	Min	SD	Obs.
TOBINSQ	0,489	0,485	2,418	0,044	0,346	172
GW	36,749	37,123	78,827	-16,582	26,456	172
FO	22,554	15,913	97,703	0,002	22,619	172
ROA	19,839	7,044	347,450	-63,037	42,755	172
FRE	34,852	37,524	84,249	-51,418	16,771	172

Source: Data proceed by EViews 13, 2026.

The summary statistics for the variables used in this study can be seen in Table 2, which is based on a sample size of 172 observations of firms and years. The market value is assessed using Tobin's Q, with the average of 0,489, the highest being 2,418, and the lowest being 0.044. Given that the mean value of Tobin's Q is below the threshold of one, it means that on average the energy sector firms were undervalued compared to the cost to replace the stock in terms of the market value (Koh et al., 2025).

The average greenwashing score amounts to 36,749, varying from -16,582 to 78,827. Such a result testifies to significant disparities in the discrepancy between environmental information disclosure and carbon reporting requirements. Since greenwashing means discrepancies between what companies say about their environmental activities and what they do in this regard, a positive average value of the score implies the existence of differences in sustainability communication among the sample firms (Anathole et al., 2025; Leggerini et al., 2026; Yue et al., 2025). The average percentage of foreign ownership equals 22,554%, which testifies to the significant presence of foreign shareholders in sample firms. At the same time, the high value of the standard deviation shows considerable disparities in ownership among firms.

With regards to profitability, which is computed using ROA, its average value amounts to 19,839%, surpassing the threshold of 10% considered sufficient in evaluating financial performance favorably. Hence, it can be said that on average, profitability among the sampled firms is relatively good since they were able to achieve positive gains from their resources within the observation period (Agomor et al., 2022; Brigham & Houston, 2022). The high standard deviation value denotes significant variation in profitability levels among organizations. Conversely, when considering the FRE value of sustainability reports, its average is 34,852. According to the FRE classification, the range of 30 to 49 is considered as difficult, implying that most sustainability reports prepared in the energy industry have language that is complicated (Arbed, 2026; Erdoğan et al., 2026; Flesch, 1948; Li, 2023).

Panel data analysis was conducted using Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM). Model selection was performed sequentially through Chow, Hausman, and Lagrange Multiplier tests. The selected model was subsequently employed to estimate the direct and moderating effects (Baltagi, 2021). The moderating effects were examined by incorporating interaction terms between the independent variables and sustainability report readability, following the regression-based moderation approach (Hayes, 2022).

Table 3. Selection Panel Test

Model	Testing	Prob.	Sig.	Conclusion	Result
Model 1	Chow	0,000	0,050	(0,000<0,050)	FEM
	Hausman	0,278	0,050	(0,278>0,050)	REM
	LM	0,219	0,050	(0,219>0,050)	CEM
Model 2	Chow	0,000	0,050	(0,000<0,050)	FEM
	Hausman	0,553	0,050	(0,553>0,050)	REM
	LM	0,170	0,050	(0,170>0,050)	CEM

Source: Data proceed by EViews 13, 2026.

Results from panel data model selection tests are displayed in Table 3. Probability values from the Chow test for Model 1 and Model 2 are all 0,000, which are below the 5% level of significance, hence implying that Fixed Effect Model is better than Common Effect Model. Afterward, Hausman test was conducted to see whether the Fixed Effect Model or the Random Effect Model should be used. Probability values of 0,278 and 0,553 were obtained for Model 1 and Model 2 respectively and these were above the 5% level of significance. This means that null hypothesis cannot be rejected and the Random Effect Model is thus preferred over Fixed Effect Model. Accordingly, Random Effect Model was finally used as the estimation model for both Model 1 and Model 2. As an additional step, the Lagrange Multiplier test was conducted to confirm the most appropriate panel data estimation model after the Chow and Hausman tests (Gujarati et al., 2022). After identifying the proper panel data regression model, classical test assumptions were conducted to determine how good the regression model was. These involved testing for multicollinearity, heteroscedasticity, and normality, which can be found in Table 4.

Table 4. Classic Assumption Test

Multicollinearity	Model 1	Model 2
Variable	VIF	VIF
C	NA	NA
GW	1,087	5,472
FO	1,036	7,229
ROA	1,019	5,715
FRE	-	4,528
GWFRE	-	6,601
FOFRE	-	8,299
ROAFRE	-	6,015
Heteroscedasticity	0,777	0,933
Normality	0,665	0,891

Source: Data proceed by EViews 13, 2026

The results of the classical assumption tests in relation to the research models are provided in Table 4 below. In the test for multicollinearity, the Variance Inflation Factor (VIF) test was performed. From the table above, one can see that none of the independent and moderating variables shows a VIF value more than 10 (the threshold that indicates a multicollinearity problem) thus implying that there is no multicollinearity problem in the independent variables (Gujarati et al., 2022). For model 1, the VIF ranges from 1,019–1,087 meaning very low multicollinearity. For Model 2, the VIF values range between 4,528–8,299 meaning that there is still no multicollinearity problem despite the inclusion of interaction variables.

In the test for heteroscedasticity, we obtained probability values 0,777 for Model 1 and 0,933 for Model 2. As the probability values are both above 0,05, it means that the residual variances are homoscedastic and hence the models do not exhibit heteroscedasticity problems. On the other hand, in the normality test, we obtained probability values 0,665 for Model 1 and 0,891 for Model 2. Since both probability values are above 0,05, it means that the residuals are normally distributed and therefore satisfy the normality assumption (Gujarati et al., 2022).

With the confirmation that the assumptions for the regression analysis model were met, testing of hypotheses followed, where panel data regression analysis was performed to identify the direct impact of the independent variables as well as the moderating effect of sustainability report readability.

Table 5. Hypothesis Test

Variable	Model 1		Model 2		Results
	Coef.	Prob.	Coef.	Prob.	
C	0,437	0,000	0,259	0,000	
GW	0,002	0,000	0,004	0,000	H1 Accepted
FO	-0,001	0,035	-0,000	0,868	H2 Accepted
ROA	-0,002	0,000	-0,003	0,000	H3 Accepted
FRE			0,005	0,004	
GWFRE			-0,000	0,029	H4 Accepted
FOFRE			-0,000	0,496	H5 Rejected
ROAFRE			0,000	0,406	H6 Rejected
R-Square	0,783		0,799		
F-Statistic	0,000		0,000		

Source: Data proceed by EViews 13, 2026

Tobin's Q = 0,437 + 0,002GW – 0,001FO – 0,002ROA+ ε
Tobin's Q = 0,259 + 0,004GW – 0,000FO – 0,003ROA + 0,005FRE – 0,000GW*FRE – 0,000FO*FRE + 0,000 ROA*FRE + ε

Table 5 shows the outcome of panel data regression analysis of both models: the direct-effect model (Model 1) and the moderation model (Model 2). In Model 1, greenwashing shows a significant influence on market valuation as it is evident from its coefficients of 0,002 and a probability value of 0,000. Consequently, H1 is accepted. Foreign ownership affects market valuation as it shows a coefficient of -0,001 and a probability value of 0,035. Thus, H2 is accepted. Moreover, profitability affects market valuation as it shows a coefficient of -0,002 and a probability value of 0,000, which supports H3.

The moderating effect was tested by introducing interaction terms between sustainability report readability and each independent variable. A significant interaction coefficient indicates that readability alters the strength or direction of the relationship between the predictor and market valuation (Hayes, 2022). From the moderation findings in Model 2, sustainability report readability moderates the impact of greenwashing on market valuation. This conclusion can be made because the interaction coefficient for greenwashing and readability (GW*FRE) equals -0,000 and its probability equals 0,029, thus making the moderating effect statistically significant and confirming H4. The negative sign of this coefficient means that sustainability report readability mitigates the impact of greenwashing on market valuation. However, it must be noted that the interaction coefficients for foreign ownership and sustainability report readability (FO*FRE) and profitability and sustainability report readability (ROA*FRE) equal 0,496 and 0,406, respectively, which means they are statistically insignificant. Consequently, hypotheses 5 and 6 must be rejected.

Also, the coefficient of determination (R^2) rises from 0,783 in Model 1 to 0,799 in Model 2, suggesting that the incorporation of the moderating variable and the interaction terms enhances the goodness-of-fit of the model. In other words, Model 1 accounts for 78,3% of the total variation in market valuation, whereas Model 2 accounts for 79,9%. The rest of the variation is due to other variables not included in the models. The probability value (F-statistics) of 0,000 for the two models suggests their joint significance.

3.2. Discussion

3.2.1. Greenwashing and Market Valuation

From the results, it is evident that there is indeed an effect of greenwashing on market valuation, which leads to the acceptance of hypothesis one. From the positive coefficient of the variable in the regression model, it is apparent that firms with high scores in greenwashing receive high market valuations. The results imply that in the energy industry, investors place heavy importance on environmental disclosures in evaluating firms. With sustainability considerations becoming central in the process of making investments, corporations with many disclosures on their sustainability may be viewed as well-positioned to face future challenges. This observation can be explained using Signaling Theory, which argues that company disclosures help bridge the gap between what management knows about the company and the information known by investors. Investors depend on the available sustainability information in evaluating whether a firm will be viable in the long run. However, it might be hard for investors to determine the credibility of environmental statements, especially in the energy industry where sustainability disclosures can be technical and complicated.

This finding is in accordance with the findings from prior research on the impact of greenwashing on market value (Ali et al., 2026; Bandeira et al., 2025; Eriyawan & Utama, 2026; Islahuddin et al., 2026; Mirza et al., 2025; Pinto-Gutiérrez et al., 2026).

This study contributes to the greenwashing literature by showing that greenwashing may still generate favorable market responses in emerging markets such as Indonesia. Unlike studies conducted in developed markets that generally report negative market consequences of greenwashing, the findings suggest that investors may continue to rely heavily on sustainability disclosures despite potential inconsistencies between environmental claims and actual performance. This highlights the importance of disclosure quality and investor awareness in emerging economies (Ashraf & Nazir, 2023a; Bandeira et al., 2025; Luhgiatno et al., 2026).

3.2.2. Foreign Ownership and Market Valuation

Based on the above findings, we can observe that foreign ownership impacts market valuation. A negative coefficient shows that with an increase in foreign ownership; there will be reduced market valuation. This finding indicates that not all situations involving foreign investors will create a more favorable market valuation. About the energy industry, foreign investors tend to have strict standards concerning corporate performance, risk of environmental impact, governance structure, and sustainability issues. Thus, if a company has high levels of foreign ownership, the investors' perception could influence the market valuation. According to the agency theory, foreign investors are expected to minimize agency costs through improved monitoring activities and transparency of information flow. Nevertheless, foreign investors have higher capabilities to assess and analyze risks as they have better information compared to domestic investors. Therefore, foreign investments may indicate problems concerning corporate operational efficiency, environmental hazards, or future profitability issues.

These findings align with previous research which has found the influence of foreign ownership on market value (Arsh et al., 2025; Bousnina et al., 2024; Caixe et al., 2024; Diyana & Hindasah, 2026; Dyussembina et al., 2024; Nguyen & Phi, 2026; Panda et al., 2025). Nonetheless, since the results show a

negative relationship between firm value and foreign ownership in this study, it can be inferred that the effect of foreign ownership on firm values might be contingent upon industry type and risk perception.

3.2.3. Profitability and Market Valuation

The results show that profitability has a substantial impact on market valuation. The negative coefficient implies that the firms that record high profitability have a low market valuation. While this seems to go against the expectations of the traditional approach to firm profitability, this could be due to some special nature of the energy industry for which these tests were carried out. This is because investors do not only focus on profitability when determining firm value but also look forward for future growth potential and sustainability of the organization. Thus, profitability may not lead to high market valuation since investors expect that profitability may not be sustained in the coming years. The results can be explained using signaling theory. Firm profitability plays a major role as an indicator of the performance of firms in terms of finance and operations. However, industries that experience environmental pressures may require the consideration of future sustainability rather than profitability by investors. High-profitability firms in the energy industry could pose the threat of being carbon-heavy, posing environmental threats and compliance costs to them due to the environmental regulatory policies related to climatic changes.

This finding corroborates other findings indicating that profitability influences market value (Abdellatif & Elsayed, 2023; Agomor et al., 2022; Alathamneh et al., 2025; Angeloni, 2026; Ardiansyah et al., 2025; Handini & Susilo, 2025; Komath et al., 2026; Liao et al., 2026; Moro-Visconti, 2025; Nejjari & Aamoum, 2023). On the other hand, the negative coefficient indicates that the impact of profitability on market valuation could be influenced by industry characteristics and the associated risks, particularly regarding sustainability in the case of the energy sector.

3.2.4. Greenwashing, Market Valuation and Readability Sustainability

From the results obtained, it is clear that the readability of sustainability reports has a significant impact on the effect of greenwashing on market valuation. The negative coefficient of GWFRE indicates that sustainability report readability diminishes the impact of greenwashing on market valuation. That is, the positive impact of greenwashing on market valuation becomes insignificant when sustainability reports are easy to comprehend. This result means that if sustainability reports are clear, stakeholders can better judge the claims made about the environment. Such findings may be supported by Signaling Theory. Sustainability reports may act as signaling mechanisms about the firm's environmental commitment; however, their efficacy may hinge upon their clarity and credibility. With sustainability information conveyed clearly and effectively to readers, investors would become able to differentiate between genuine achievements and mere green washing tactics on the part of the firm. Readability may therefore mitigate information asymmetry and help investors assess the degree to which sustainability claims match environmental results. In such a scenario, green washing may be found less rewarding as a marketing strategy in cases where sustainability reports are highly readable.

This result is in line with prior literature indicating that readability affects information quality, clarity, market responses, and investor confidence (Arbed, 2026; Erdoğan et al., 2026; Keskin et al., 2026; Khan et al., 2026; Xu & Yu, 2026). Furthermore, the result is also in agreement with the view put forward by Gorovaia & Makrominas, (2025) that greenwashing behavior is related to poor readability levels. As such, one could say that sustainability report readability is a useful governance tool that allows stakeholders to judge the reliability of sustainability communications and curbs any potential gains from greenwashing.

The finding extends the growing literature on sustainability disclosure readability by demonstrating that readability functions not only as a disclosure-quality attribute but also as a governance mechanism capable of reducing the effectiveness of greenwashing strategies. This contribution is particularly relevant because prior studies mainly focused on the direct effects of readability on information asymmetry and investor confidence, while evidence regarding its moderating role remains limited (Bifulco et al., 2025; Thapa et al., 2026; Xu & Yu, 2026).

3.2.5. Foreign Ownership, Market Valuation and Readability Sustainability

The results have shown that sustainability report readability does not act as a moderator for the foreign ownership and market valuation relation, hence the rejection of H5. While sustainability report readability does significantly affect market valuation in a direct manner, the fact that there is no significant interaction effect between foreign ownership and readability means that the market's reaction to foreign ownership does not depend on the level of sustainability report readability. This result means that investors may evaluate the effects of foreign ownership using other variables such as ownership concentration, governance quality, investment strategy, and company performance over time. As per Agency Theory, foreign owners are seen as sophisticated investors who are highly informed and have better monitoring capability compared to regular investors. Ordinary investors use public information such as sustainability reports when making their decision. However, foreign investors may consider several other sources of information when making their decision about the business value. As a result, the readability of sustainability reports does not make much difference in the perception of the value of the firm by foreign investors.

However, even though readability is proven to increase transparency and contribute to better comprehension of firms' disclosures (Arbed, 2026; Enciso-Alfaro et al., 2026; Erdoğan et al., 2026; Keskin et al., 2026; Khan et al., 2026; Xu & Yu, 2026) the findings suggest that these aspects neither augment nor mitigate the impact of foreign ownership on the market valuation. Thus, the readability of sustainability reports becomes a predictor variable in the discussed relationship and does not act as a moderating one, which means that readable sustainability reports are perceived by the market positively, but do not affect investor interpretation of foreign ownership. The negative relationship between foreign ownership and market valuation also contributes to the ownership structure literature by suggesting that foreign investors may incorporate environmental and regulatory risks into their valuation assessments. This finding contrasts with the traditional assumption that foreign ownership universally enhances firm value through superior monitoring (Amel-Zadeh & Serafeim, 2018; Krueger et al., 2020; Lazzini et al., 2021).

3.2.6. Profitability, Market Valuation and Readability Sustainability

The results demonstrate that sustainability report readability fails to moderate the association between profitability and market valuation. Thus, hypothesis six was rejected. Although the results indicate that the effect of sustainability report readability on market valuation is statistically significant, the lack of interaction effect between profitability and readability implies that the market's reaction to profitability is independent from the level of sustainability report readability. The evidence obtained suggests that investors use the financial data presented in the financial statements to assess the profitability of a company rather than the information included in the sustainability report. Therefore, the relationship between profitability and market valuation will remain stable despite the readability level of sustainability reports. In accordance with Signaling Theory, profitability serves as a significant signal concerning the state of the firm and its prospects. The reason for this lies in the fact that profitability information is usually provided in the firm's financial statement, which makes it possible for investors to analyze it independently from the sustainability report.

However, although readability has been shown to improve information quality, transparency, and stakeholders' understanding of corporate disclosures (Arbed, 2026; Enciso-Alfaro et al., 2026; Erdoğan et al., 2026; Keskin et al., 2026; Khan et al., 2026; Xu & Yu, 2026), these benefits do not strengthen or weaken the impact of profitability on market valuation. Therefore, sustainability report readability functions as a predictor variable rather than a moderating variable in this relationship, indicating that readable sustainability reports are appreciated by the market but do not alter investors' interpretation of profitability. The negative association between profitability and market valuation indicates that investors in the energy sector may place greater emphasis on sustainability-related risks and long-term environmental performance than on short-term accounting profitability. This result enriches the literature by highlighting the growing importance of non-financial information in firm valuation decisions (Amel-Zadeh & Serafeim, 2018; Krueger et al., 2020; Lazzini et al., 2021).

4. CONCLUSION

This research analyzes the influence of greenwashing, foreign ownership, and firm profitability on market valuation, as well as explores if there is a moderating role played by sustainability report readability on the associations between these variables among Indonesian energy firms listed in the Indonesia Stock Exchange from 2021 to 2024. It was found that greenwashing, foreign ownership, and firm profitability are significant predictors of market valuation. Moreover, sustainability report readability plays a moderating role in the connection between greenwashing and market valuation, showing its impact on the market advantages linked to greenwashing. Yet, no moderating effect could be detected between foreign ownership and market valuation or between firm profitability and market valuation.

This study contributes to the literature in three ways. First, it introduces sustainability report readability as a moderating mechanism in the relationship between greenwashing and market valuation. Second, it provides evidence from the Indonesian energy sector, which remains underexplored in sustainability accounting research. Third, it offers an alternative approach to measuring greenwashing through the discrepancy between carbon emission disclosure and carbon tax exposure. The findings extend Signaling Theory by demonstrating that the effectiveness of sustainability disclosures depends not only on the information disclosed but also on its readability. This study also contributes to the growing literature on greenwashing by providing evidence from the Indonesian energy sector and by measuring greenwashing through the gap between carbon emission disclosure and carbon tax. Practically, companies should improve the clarity and transparency of sustainability reports to strengthen disclosure credibility, while investors should evaluate environmental claims more critically rather than relying solely on sustainability narratives. Regulators may encourage more readable sustainability disclosures to improve market transparency and investor protection.

This study is limited to Indonesian energy companies and uses Tobin's Q as the sole proxy for market valuation, which may limit the generalizability of the findings. Future studies may employ alternative valuation measures, different industry settings, and additional governance or sustainability variables. Overall,

this study highlights the importance of sustainability report readability as a mechanism that enhances the credibility of sustainability communication and supports more informed investment decisions.

REFERENCES

Abdellatif, R., & Elsayed, A. (2023). The effect of investment in the brand value chain on profitability and market value of the firm: lesson of success taken from Amazon. Future Business Journal, 9(1), 1–17. https://doi.org/10.1186/s43093-023-00196-2

Agomor, P. E., Onumah, J. M., & Duho, K. C. T. (2022). Intellectual Capital, Profitability and Market Value of Financial and Non-Financial Services Firms Listed in Ghana. International Journal of Learning and Intellectual Capital, 19(4), 312–335. https://doi.org/10.1504/IJLIC.2022.123841

Alathamneh, M., Obeidat, M. I., Almomani, M. A., Almomani, T. M., & Darkal, N. (Mohammed A. (2025). The Mediating Role of Profitability in the Impact Relationship of Assets Tangibility on Firm Market Value. Journal of Risk and Financial Management, 18(2), 1–17. https://doi.org/10.3390/jrfm18020104

Ali, S., Zahid, R. M. A., Battisti, E., & Vincurova, Z. (2026). Environmental Innovation and Corporate Financial Performance the Moderating Role of Greenwashing. International Journal of Emerging Markets, 21(2), 535–557. https://doi.org/10.1108/IJOEM-09-2024-1611

Amel-Zadeh, A., & Serafeim, G. (2018). Why and How Investors Use ESG Information: Evidence from a Global Survey. Financial Analysts Journal, 74(3), 87–103. https://doi.org/10.2469/faj.v74.n3.2

Anathole, U., Limei, C., & Hamza, F. (2025). Navigating Corporate Greenwashing in the Carbon Era Synergizing Internal Carbon Pricing, ESG Governance, and Regulatory Stringency to Advance Environmental Integrity. Corporate Social Responsibility and Environmental Management, 33(2), 1794–1814. https://doi.org/10.1002/csr.70256

Angeloni, S. (2026). Profitability and ESG Performance in Tourism. Management Decision, June, 1–20. https://doi.org/10.1108/MD-12-2025-3993

Arbed, E. Al. (2026). Disclosure Readability and Stock-Market Reactions in the United States: Evidence from Financial and Non-Financial Corporate Reports. World Journal of Artificial Intelligence and Robotics Research, 3(2), 01–13. https://www.researchgate.net/publication/402405208_Disclosure_Readability_and_Stock-Market_Reactions_in_the_United_States_Ev-_idence_from_Financial_and_Non-Financial_Corporate_Reports

Ardiansyah, F. A., Jurana, Muliati, & Masruddin. (2025). Analyzing IPO Underpricing Drivers: Evidence from Profitability, Market Value, and Leverage in Indonesia' s Market. Economics, Business, Accounting & Society Review, 4(1), 14–25. https://doi.org/10.55980/ebasr. v4i1.159

Arsh, M., Ansari, M. S., Ahmad, G., Enam, M., Tabash, M. I., & Al-Absy, M. S. M. (2025). Unveiling The Corporate Governance Dynamics: Exploring the Nexus of Board Composition, Audit Committee Attributes, Foreign Ownership, and Firm Performance in An Emerging Market. Cogent Business & Management, 12(1), 2468876. https://doi.org/10.1080/23311975.2025.2468876

Ashraf, Y., & Nazir, M. S. (2023a). Corporate Sustainability and Environmental Reporting: Triggers and Consequences. Environmental Science and Pollution Research, 30(26), 68743--68769. https://doi.org/10.1007/s11356-023-27160-5

Ashraf, Y., & Nazir, M. S. (2023b). Corporate Sustainability and Environmental Reporting Triggers and Consequences. Environmental Science and Pollution Research, 30(26), 68743–68769. https://doi.org/10.1007/s11356-023-27160-5

Bandeira, A., Ramanho, A. L. de O. S., & Carraro, W. B. W. H. (2025). Road to Glory or Highway to Hell Uncovering the Consequences of Corporate Greenwashing in Latin America. Management Research Review, 48(8), 1257–1271. https://doi.org/10.1108/MRR-07-2024-0545

Bifulco, G. M., Caserio, C., Donato, F. di, & Trucco, S. (2025). Does Sustainable Performance Matter for Nonfinancial Disclosure Readability? A Fog Index Analysis on Italian-Listed Companies. Business Strategy and The Environment, 34, 5601–5623. https://doi.org/10.1002/bse.4261

Bimo, A., Permana, S., & Pratiwi, I. (2026). Does Greenwashing Create Value of The Firm? The Moderating Role of Political Connection. Proceeding of International Conference on Accounting and Finance, 4, 498–508. https://journal.uii.ac.id/inCAF/article/view/48543/19882

Bini, L., & Fissi, S. (2026). The Readability of Corporate Sustainability Narratives in A Crisis: An Analysis of Linguistic Features Using Coh-Metrix. Social Responsibility Journal, 21(5), 1049–1065. https://doi.org/10.1108/SRJ-10-2023-0547

Bousnina, A., Gana, M. R., & Dakhlaoui, M. (2024). Foreign Ownership and Liquidity Evidence from A Frontier Market. EuroMed Journal of Business, 19(3), 486–502. https://doi.org/10.1108/EMJB-09-2021-0140

Brigham, E. F., & Houston, J. F. (2022). Financial Management: Theory and Practice (16th ed.). Cengage Learning.

Caixe, D. F., Pavan, P. C. P., Maganini, N. D., & Sheng, H. H. (2024). Foreign Institutional Ownership and Firm Value: Evidence of "Locust Foreign Capital" in Brazil. Emerging Markets Finance and Trade, 60. https://doi.org/10.1080/1540496X.2023.2218967

Dagestani, A. A., Alnafrah, I., Luboš Smutka, Bilan, Y., & Chen, P. (2025). Greenwashing and Stakeholder Theory in China: An Empirical Evidence of Corporate Social Responsibility and Firms Performance. Environment, Development and Sustainability, 27, 21683–21708. https://doi.org/10.1007/s10668-024-04849-2

Diyana, W. P., & Hindasah, L. (2026). The Effect of Profitability, Financing and Investment Decisions, Dividend Policy, Foreign Ownership, and Firm Size on Firm Value. Jurnal Bisnis Dan Manajemen, 4(2), 1081–1104. https://doi.org/10.23960/jbm.v17i1.189

Douziech, N., & Joulain, V. (2020). The Impact of Environmental Perfomance on Firm Valuation an Empirical Study Based on Environmental Scores in Sweden [UMEA University]. In Business Strategy and Development (Vol. 3, Issue 1). https://doi.org/10.1002/bsd2.81

Dyussembina, S., Park, K., & Choi, Y. M. (2024). Income Smoothing and Firm Value the Moderating Role of Foreign Ownership. Asia-Pacific Journal of Accounting & Economics, 31(2), 153–175. https://doi.org/10.1080/16081625.2023.2176329

Enciso-Alfaro, S.-Y., García-Sánchez, I.-M., Vitolla, F., & Raimo, N. (2026). CEO Power and Circular Economy Disclosure: The Moderating Role of Institutional Forces. Business Ethics, the Environment & Responsibility, 1–27. https://doi.org/10.1111/beer.70072

Erdoğan, E. O., Özdemir, O., & Erdoğan, M. (2026). Signal or Noise? Readability and Signaling in the First Year of IFRS S2 Sustainability Reporting in an Emerging Market: Evidence from Türkiye. Sustainability, 18, 2895. https://doi.org/10.3390/su18062895

Eriyawan, A. F., & Utama, C. A. (2026). The Effect of Greenwashing on Firm Performance with Multiple Directorships as Moderating Variable. APTISI Transactions on Technopreneurship (ATT), 8(1), 74–84. https://doi.org/10.34306/att.v8i1.606

Flesch, R. (1948). A New Readability Yardstick. Journal of Applied Psychology, 32(3), 221–233. https://doi.org/10.1037/h0057532

Gorovaia, N., & Makrominas, M. (2025). Identifying Greenwashing in Corporate-Social Responsibility Reports Using Natural-Language Processing. European Financial ManagementEuropean Financial Management, 31, 427–462. https://doi.org/10.1111/eufm.12509

Gujarati, D. N., Porter, D. C., & Gunasekar, S. (2022). Basic econometrics (6th ed.) (6th ed.). McGraw-Hill Education.

Handini, E. D., & Susilo, D. E. (2025). Analyzing Profitability, Firm Size, and Capital Structure' s Impact on Firm Value. Journal of Accounting Science, 9(1), 114–134. https://doi.org/10.21070/jas.v9i1.1953

Hayes, A. F. (2022). Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach (3rd ed.). Guilford Press.

Islahuddin, I., Diantimala, Y., Ayudiastika, Z., & Aprullah, M. P. (2026). Corporate Governance Role in Greenwashing and Firm Value Nexus. International Journal of Financial Studies, 14(60), 1–26. https://doi.org/10.3390/ijfs14030060

Jämsä, J. (2025). Sustainability Report Readability: Indicator of Good ESG Performance or Strategic Obfuscation? Aalto-University.

Keskin, H., Yalcin, H., & Esen, E. (2026). Bridging The Readability Gap Corporate Disclosure Trends. Management Decision, 1–27. https://doi.org/10.1108/MD-03-2025-0581

Khan, J., Baig, M. H., Gulzar, O., Xu, J., & Fengyun, W. (2026). Leading Sustainably or Deceptively? CEO Social Capital, Corporate Green Washing and Environmental. Accounting Research Journal. https://doi.org/10.1108/ARJ-08-2025-0318

Kim, E. (2024). The Relationship between the Greenhouse Gas and Energy Target Management System and Foreign Ownership: Investor Sensitivity to the Implementation of the System. Sustainability, 16, 2368. https://doi.org/10.3390/ su16062368

Koh, H., Waty, E., & Said, J. (2025). Effects of Financial Performance on ESG Performance: Evidence from Indonesian Sharia Companies. Research Journal on Islamic Finance, 11(02), 384–400. https://jurnal.radenfatah.ac.id/index.php/I-Finance/article/download/31342/9258/102356

Komath, M. A. C., Sayilir, Ö., & Doğan, M. (2026). The Relationships Between Corporate Sustainability and Market Value Mediating Role of Revenue and Moderating Role of Profitability. International Journal of Disclosure and Governance, 23, 240–266. https://doi.org/ 10.1057/s41310-025-00288-1

Krueger, P., Sautner, Z., & Starks, L. T. (2020). The Importance of Climate Risks for Institutional Investors. Eview of Financial Studies, 33(3), 1067–1111. https://doi.org/10.1093/rfs/hhz137

Lazzini, S., Zeila, O., Parenti, A., & Verona, R. (2021). Disentangling economic crisis effects from environmental regulation effects: Implications for sustainable development. Business Strategy and The Environment, 30, 2332–2353. https://doi.org/10.1002/bse.2749

Leggerini, C., Percuoco, M., Ricciardi, I., & Prisco, A. (2026). Circular Economy Disclosure and ESG Performance: Signal, Substance, or Symbol? Business Strategy and the Environment RESEARCH, 35, 3672–3690. https://doi.org/10.1002/bse.70334

Li, Z., Jia, J., & Chapple, L. J. (2023). Textual Characteristics of Corporate Sustainability Disclosure and Corporate Sustainability Performance Evidence from Australia. Meditari Accountancy Research, 31(3), 786–816. https://doi.org/10.1108/MEDAR-03-2021-1250

Liao, Y., Lin, L., Dang, G., Thai, T. D., Chang, W., Vo, T. T., Wu, W., & Sharma, K. (2026). A Hybrid Approach to Evaluate Business Efficiency, Profitability, and Market Valuation: An Empirical Validation. F1000Research, 15(567), 1–28. https://doi.org/10.12688/f1000research.178626.1

Liou, R.-S., Ting, P.-H., & Chen, Y.-Y. (2023). The Cost of Foreign Ownership: Voluntary Sustainability Reporting and Financial Performance in an Emerging Economy. Cross Cultural & Strategic Management, 30(3), 581–612. https://doi.org/10.1108/CCSM-09-2021-0165

Luhgiatno, L., Solovida, G. T., Jabbour, A. B. L. de S., Jabbour, C. J. C., Latan, H., & Adhi, D. K. (2026). Greenwashing and Firm Performance in An Emerging Market Short-Term Gains vs Long-Term Risks. Journal of Cleaner Production, 557(148235). https://doi.org/10.1016/j.jclepro.2026.148235.

Mahboub, R. M. (2026). The Impact of Firm-Specific Characteristics on the Readability of Bank Annual Reports: Evidence from MENA Countries. Advances in Decision Sciences, 30(2), 157–196. https://doi.org/10.47654/v30y2026i2p157-196

Mirza, R., Bhuiyan, T., & Hoque, A. (2025). False Stability? How Greenwashing Shapes Firm Risk in The Short and Long Run. Journal of Risk and Financial Management, 18(12), 691. https://doi.org/10.3390/jrfm18120691

Moro-Visconti, R. (2025). Profitability, Intangible Value Creation, and Scalability Patterns. Startup Valuation, 81–130. https://doi.org/10.1007/978-3-031-77469-0_3

Nejjari, Z., & Aamoum, H. (2023). The Impact of Intellectual Capital on Profitability, Market Value, Productivity, and Return on Equity Empirical Evidence from Moroccan ICT Firms. Journal of the Knowledge Economy, 14, 1734–1748. https://doi.org/10.1007/s13132-022-00956-5

Nguyen, T. T., & Phi, A. T. K. (2026). Do Ownership Types Matter for Firm Value? Empirical Evidence from An Emerging Market Context. Multinational Finance Journal, 30(1/2), 25–56. https://doi.org/10.5281/zenodo.19574208

Panda, B., Tripathy, S., Tiwari, A. K., & Yarovaya, L. (2025). How Do Foreign and Domestic Institutional Investors Drive the Market Value the Influence of Family Ownership. International Journal of Managerial Finance, 21(3), 758–791. https://doi.org/10.1108/IJMF-01-2024-0060

Pinto-Gutiérrez, C., Neudörfer, P., & Isaías, S. (2026). ESG Controversies, Greenwashing, and Value-Destroying Acquisitions. Journal of Sustainable Finance & Investment, 16(2). https://doi.org/10.1080/20430795.2025.2581647

Sormin, F., Paulus, H., Wulandari, L. A., & Tarmidi, D. (2026). Environmental Performance, ESG, and Profitability: Evidence on Corporate Effective Tax Rates from Profit and Loss Firms. Invoice: Jurnal Ilmu Akuntansi Journal, 8(1), 200–220. https://doi.org/10.26618/0ayxct72

Spence, M. (1973). Job Market Signaling. Quarterly Journal of Economics, 87(3), 355–374. https://doi.org/10.2307/1882010

Thanatawee, Y. (2021). The Impact of Foreign Ownership on Stock Price Volatility: Evidence from Thailand. Journal of Asian Finance Economics and Business, 8(1), 7–14. https://doi.org/10.13106/jafeb.2021.vol8.no1.007

Thapa, P. B., Chaudhary, B., Acharya, S., Acharya, P., & Sharma, R. (2026). Reporting Good After Doing Good? Investigating The Relationship Between CSR Performance and Disclosure Readability. Journal of Accounting in Emerging Economies, 16(2), 424–447. https://doi.org/10.1108/JAEE-08-2025-0463

Thi, A., & Phi, K. (2026). Governance Structure, Foreign Ownership, Audit Quality, and Firm Valuation: Evidence from Vietnam's Emerging Market. Asian Development Policy Review, 14(1), 99–113. https://doi.org/10.55493/5008.v14i1.5849

Tran, Q. T. (2022). Foreign Ownership and Cost of Debt Financing Evidence from an Emerging Market. International Journal of Emerging Markets, 17(9), 2278–2289. https://doi.org/10.1108/IJOEM-09-2019-0750

Wulandari, L. A. (2026). ESG Architecture Designing Triple Nexus Synergies: Multidimensional Corporate Performance Under Sustainability Risk. Jurnal Akuntansi, Keuangan, Pajak Dan Informasi (JAKPI), 6(1), 71–89. https://doi.org/10.32509/jakpi.v6i1.6927

Xu, L. E., & Yu, K. (2026). CSR Report Readability: Does It Matter to Analyst Recommendations and Information Environment? Review of Pacific Basin Financial Markets and Policies, 29(02). https://doi.org/10.1142/S0219091526500141

Yue, D., Han, J., & Bai, X. (2026). Does Performance Feedback Drive Greenwashing and Brownwashing? Evidence from China's Capital Market. Sustainability, 18(4358), 1–30. https://doi.org/10.3390/su18094358

Yue, S., Norkhairul, B. H., Khatib, S. F. A., & Lee, Y. (2025). Financing Creativity How State Owned and Foreign Ownership Shape Innovation Engagement in China. Kybernetes, 54(15). https://doi.org/10.1108/K-03-2024-0797