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Esg Performance and its Effect on Company Valuation

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Highlights

- ESG rating quality significantly increases corporate valuation, with credible and verified ESG disclosures contributing to higher Price-to-Book (P/B) ratios.
- ESG inconsistency weakens the valuation effect, confirming that reliability and transparency of sustainability information are critical for investor confidence.
- The study demonstrates that ESG credibility—not ESG scores alone—is a key determinant of how capital markets interpret and price sustainability performance.

Abstract

Environmental, Social, and Governance (ESG) ratings have become influential indicators shaping how investors assess corporate value. This study examines the role of ESG rating quality and credibility in influencing **Price-to-Book (P/B) ratio valuation**, a widely used metric that reflects how strongly markets value firms relative to their underlying assets. Recent evidence suggests that credible ESG ratings enhance investor confidence by signalling transparency, responsible governance, and reduced non-financial risks. When ESG scores are reliable and supported by rigorous verification, firms tend to achieve higher P/B ratios because investors perceive stronger prospects for sustainable growth. In contrast, inconsistent or weakly validated ESG assessments limit this valuation effect, even when firms demonstrate strong sustainability performance. These findings highlight that the informational integrity of ESG ratings—rather than the ratings alone—is central to how capital markets interpret sustainability disclosures and incorporate them into valuation decisions.

Keywords: ESG ratings, corporate valuation, price-to-book ratio, sustainability transparency

1. INTRODUCTION

ESG assessments are now important measures for determining a profile's feasibility and likelihood of future income creation [1]. Investors are increasingly depending on ESG studies to supplement traditional finances since businesses with strong ESG practices show better agility, mitigation, and
input from stakeholders [2, 3]. According to recent research, environmentally friendly corporate candor reduces data inequalities and fosters consistent profitability by improving firm standing and reducing encountering ecology and social concerns [4-6]. As investors incorporate green criteria into investments, ESG ratings have become important determinants of a company's attraction to prospective financiers seeking to fit with global legal [7, 8].

Despite their increasing popularity, ESG ratings continue to face criticism due to uneven assessments, subjective scoring techniques, and insufficient verification of basic disclosures [9– 11]. Because rating consequence variability often reflects methodology divergence rather than real sustainability disparities, investors attempting to interpret ESG indications within valuation models confront uncertainty [12]. These discrepancies can distort investment decisions and undermine confidence in claimed sustainable performance, especially when companies selectively adopt disclosure frameworks that permit unverified information [13, 14]. Because of concerns regarding fraudulent advertising and subjective assessment, the usefulness of ESG indicators as reliable valuation tools continues to be questioned [15].

Corporate appraisal techniques have incorporated metrics that assess strategic success over time [16]. Investors are increasingly using monetary metrics such as valuation, business value, and the book value (P/B) ratio to assess firm quality and management integrity [17]. Reliable ESG ratings communicate operational efficacy, regulatory ability, and reputation stability—qualities strongly associated with long-term economic advantage—and consequently result in higher valuation outcomes, according to recent study [18]. However, when ESG ratings are poor or inconsistent, buyers are less likely to assign superior valuations, which raises valuation uncertainty and encourages skepticism about sustainability promises [19].

How ESG data is integrated into value is also influenced by the efficacy of the inspection and verification procedures that support sustainability disclosures. According to research, external assurance boosts the credibility of stated ESG performance by reducing the likelihood of selective or erroneous [20]. As regulatory bodies enforce more sustainability reporting requirements, the reliability of ESG assessments depends more and more on trustworthy outside validation. This is important for valuation since investors are becoming more adept at differentiating between businesses that are genuinely sustainable and the ones that utilize symbolic marketing techniques.

In this case, rating consistency becomes a crucial element influencing market responses and shareholder views.

Despite the rapid growth of ESG research, several uncertainties remain regarding how rating credibility affects the movement of ecological information into business valuation outcomes. Although earlier research has recognized the relationship involving sustainability performance and company value, few studies have examined the moderating influences of rating uniformity, confirmation quality, and data integrity. Understanding these mechanisms is necessary to develop more trustworthy appraisal methods that consider financial as well as non-financial accomplishments characteristics. In order to provide new insights into how environmental signals affect investor projections and capital market behavior, this study investigates the effect of ESG rating validity on valuation outcomes as indicated by the P/B ratio.

1.1 Novel Contributions

The novel contributions of this study are:

1. Introduces a valuation model showing how ESG rating credibility directly shapes Price-to- Book (P/B) outcomes.
2. Demonstrates that verification quality and consistency of ESG ratings exert stronger valuation influence than ESG scores alone.
3. Highlights the central role of informational integrity in reducing greenwashing risk and improving market interpretation of sustainability disclosures.

2. Literature Review

The existing body of research examining the relationship between ESG ratings and corporate valuation reveals a rapidly evolving landscape, with recent studies emphasizing both the financial relevance of sustainability indicators and the challenges posed by rating inconsistency and verification quality. Table 1 shows summary of research gaps.

Using a wavelet-enhanced quantile regression approach, Yadav and Asongu (2025) [21] investigate how ESG performance mitigates the effect of financial distress on firm value among Indian companies. Higher ESG scores considerably increase resilience during times of financial distress, according to their study, which is based on data from 512 listed companies between 2012 and 2023. They highlight the stabilizing effect of sustainability practices by identifying ESG score thresholds above which financial distress no longer has a negative impact on firm valuation. The results highlight ESG as a value-preserving mechanism and a strategic buffer, with useful implications for corporate policy and sustainable finance targeted at coordinating resilience with more general environmental objectives.

Zheng and Feng (2025) [22] use a double fixed-effects model across 14,873 A-share companies to examine the impact of ESG performance on corporate value in Chinese listed firms. According to their findings, dual green innovation—both exploratory and exploitative—acts as a major mediator between strong ESG performance and firm value. They also note that the value-enhancing impact of ESG varies by life-cycle stage and is more pronounced for declining firms. The study provides insights for managers and policymakers looking to enhance ESG-value integration by showing that ESG not only fosters innovation-driven development but also significantly contributes to sustainable economic transformation.

In order to determine how ESG factors are integrated into valuation models, Bancel et al. (2025) [23] examine survey responses from more than 300 European financial professionals. According to their research, internal corporate employees are less likely to incorporate ESG considerations than external stakeholders like advisors and consultants. ESG adoption in valuation practices is not significantly impacted by ongoing worries about the quality of ESG data. According to the study, the most popular way to incorporate ESG factors into valuation is by changing the discount rate, which reflects the changing significance of sustainability risk in financial modeling.

Zhao et al. (2025) [24] examine the causal relationship between ESG performance and firm value in Chinese industrial companies using a two-way fixed effects model covering the years 2012– 2023. They find that R&D spending acts as a negative moderator in the strong positive correlation between firm value and ESG performance. Green technological innovation's rise to prominence as a mediating factor suggests that ESG practices encourage innovation pathways that ultimately improve valuation. Small, low-growth, non-state-owned companies benefit the most from ESG initiatives, according to their heterogeneity analysis. The study provides a comprehensive understanding of how ESG improves enterprise value and industrial settings' capacity for innovation.

Table 1: Summary of Research Gaps in Existing Literature

Ref. No.	Author(s)	Methodology	Key Findings	Research Gap
[21]	Yadav & Asongu (2025)	Wavelet-enhanced quantile regression on 512 Indian listed firms (2012–2023)	ESG performance reduces the negative impact of financial distress; identifies ESG thresholds that enhance	Does not examine ESG rating quality, verification, or market- based valuation metrics like P/B ratio.

			resilience.	
[22]	Zheng & Feng (2025)	Double fixed-effects model on 14,873 A-share firms	ESG performance increases firm value via exploratory and exploitative green innovation.	Focuses on ESG performance, not rating credibility or consistency effects on corporate valuation.
[23]	Bancel et al. (2025)	Survey of 300+ European finance professionals	ESG is increasingly integrated into valuation; discount rate adjustments are most used.	Lacks empirical testing of how ESG verification and data quality affect valuation outcomes.

Ref. No.	Author(s)	Methodology	Key Findings	Research Gap
[24]	Zhao et al. (2025)	Two-way fixed effects model (2012–2023)	ESG improves firm value; green innovation mediates the effect; R&D negatively moderates.	No evaluation of inconsistent ESG ratings as a moderator of the ESG–valuation relationship.
[25]	Ananzeh et al. (2025)	Panel regression across multiple countries (2010–2020)	ESG performance positively affects dividend yield and payout ratios; impact varies with firm life cycle.	No link made between ESG credibility and investor valuation premiums.
[26]	Chau et al. (2025)	Gaussian Copula estimation across 12 countries	Identifies a nonlinear (cubic) relationship between ESG scores and firm value, moderated by institutional quality.	No focus on rating credibility vs. rating score, nor use of P/B ratio as valuation metric.
[27]	Yang et al. (2025)	Panel data on Chinese listed firms	ESG increases access to credit by improving transparency and reducing risk.	Does not integrate market valuation effects or the impact of ESG rating inconsistencies.
[28]	Alomair & Metwally (2025)	OLS and fixed-effects regression (Egypt)	ESG disclosure offsets negative valuation impacts of tax avoidance; enhances transparency and trust.	Does not analyze cross-provider ESG rating inconsistencies or verification quality.
[29]	Peng et al. (2025)	Panel data analysis (2012–2022)	Environmental taxes improve ESG performance; impact weaker in polluting firms.	No evaluation of how policy-driven ESG improvements translate into market valuation.

[30]	Shimamura et al. (2025)	GPT-4–based readability scoring of U.S. sustainability reports	Higher readability leads to higher ESG scores and lower rating divergence.	Does not link readability → rating credibility → firm valuation, leaving valuation channel unexplored.

2.1 Research gaps

Although recent studies increasingly highlight the relevance of ESG ratings in shaping corporate valuation, significant gaps remain in understanding how the credibility, verification quality, and consistency of these ratings influence market-based valuation outcomes. Much of the existing research focuses on the direct relationship between ESG performance and firm value, yet limited attention has been given to how informational integrity—such as rating reliability, cross-provider consistency, and audit-supported verification—affects investor interpretation and valuation precision. The majority of prior work assumes that ESG scores are inherently comparable and trustworthy, overlooking the distortions caused by methodological divergence, selective disclosure, and greenwashing. Furthermore, evidence is scarce on how these credibility-related factors interact with valuation measures like the Price-to-Book ratio, which capture market expectations rather than operational performance alone. This creates a critical need to investigate whether rating credibility strengthens or weakens the transmission of ESG information into corporate valuation, particularly in markets where sustainability reporting standards are rapidly evolving.

2.2 Problem Statement

Despite the growing reliance on Environmental, Social, and Governance (ESG) ratings in investment decisions, significant concerns persist regarding their reliability, consistency, and credibility across rating providers. Variations in rating methodologies, limited verification mechanisms, and susceptibility to greenwashing create uncertainty in how markets interpret ESG signals, often leading to inconsistent valuation outcomes. This inconsistency poses a challenge for investors seeking accurate sustainability indicators and for firms attempting to demonstrate genuine ESG performance. Therefore, understanding how the credibility and informational integrity of ESG ratings influence corporate valuation—particularly through market-based measures such as the Price-to-Book ratio—remains a critical gap requiring systematic investigation.

3. Objectives

The novel objectives of this study are:

1. To examine how ESG rating quality and credibility influence corporate valuation using the Price-to-Book (P/B) ratio.
2. To assess the extent to which verification and consistency of ESG ratings shape investor confidence and market perception.
3. To identify whether weak or inconsistent ESG assessments weaken the relationship between sustainability performance and firm valuation.

3.1 Research questions

Based on the study objectives, the following research questions are proposed:

RQ1: How does the quality and credibility of ESG ratings influence corporate valuation measured through the Price-to-Book (P/B) ratio?

RQ2: To what extent do verification mechanisms and consistency across ESG rating providers shape investor confidence and market perception?
RQ3: Does weak or inconsistent ESG assessment reduce the strength of the relationship between sustainability performance and corporate valuation?

3.2 Hypothesis

Hypothesis 1 (H1): ESG Rating Quality → P/B Ratio

$$PBR=\alpha+\beta 1ESGQ+\epsilon$$

Null Hypothesis ($H0_1$):

$$\beta 1=0$$

ESG rating quality and credibility have **no significant effect** on the P/B ratio.

Alternative Hypothesis ($H1_1$):

$$\beta 1>0$$

Higher ESG rating quality and credibility have a **positive and significant effect** on the P/B ratio.

Hypothesis 2 (H2): Verification & Consistency → Investor Confidence

$$IC=\alpha+\beta 2VER+\epsilon$$

Where **IC = Investor Confidence / Market Perception**

Null Hypothesis ($H0_2$):

$$\beta 2=0$$

Verification and consistency of ESG ratings **do not significantly influence** investor confidence.

Alternative Hypothesis ($H1_2$):

$$\beta 2>0$$

Stronger verification and higher consistency **significantly enhance** investor confidence and market perception.

Hypothesis 3 (H3): Inconsistent ESG Ratings → Moderation Effect

$$PBR=\alpha+\beta 3\ (SP\times INC)+\epsilon$$

Null Hypothesis ($H0_3$):

$$\beta 3=0$$

Inconsistent ESG ratings **do not moderate** the relationship between sustainability performance and corporate valuation.

Alternative Hypothesis ($H1_3$):

$$\beta 3<0$$

Inconsistent ESG ratings **negatively moderate** the relationship between sustainability performance and corporate valuation.

These equations use common notation:

- **PBR** = Price-to-Book Ratio
- **ESGQ** = ESG Rating Quality & Credibility
- **VER** = Verification & Consistency of ESG Ratings
- **SP** = Sustainability Performance
- **INC** = Inconsistent / Weak ESG Rating Credibility
- **β** = Effect coefficient

4. Research Methodology

Figure 1: Conceptual Workflow of ESG Rating Credibility and Its Influence on Corporate Valuation

Figure 1 illustrates the methodological workflow showing how ESG ratings, through their informational integrity and verification quality, shape investor perception and ultimately influence corporate valuation measured by the Price-to-Book (P/B) ratio. The diagram highlights the sequential mechanism linking rating credibility to market confidence and resulting valuation outcomes.

4.1 Research Design

This study adopts a quantitative research design to examine the impact of ESG rating quality and credibility on corporate valuation, measured through the Price-to-Book (P/B) ratio. The design follows an explanatory approach, aiming to identify causal and moderating relationships between ESG-related variables and market-based valuation outcomes. Panel data regression techniques are employed to capture temporal variations and firm-specific heterogeneity, ensuring robust estimation of effects across multiple years. The study integrates primary ESG rating indicators, verification attributes, and firm-level financial metrics to construct an empirical framework capable of evaluating how rating credibility influences

investor perception and valuation signals. This design is appropriate for testing hypotheses grounded in stakeholder theory and signalling theory, offering a structured method to quantify the transmission of ESG information into corporate value.

4.2 Data Collection

This study utilizes secondary data collected from publicly listed firms where ESG ratings, financial statements, and market valuation metrics are consistently available. ESG rating information is obtained from reputable databases that provide detailed scores across environmental, social, and governance pillars, along with indicators of rating verification and disclosure quality. Financial data, including Price-to-Book (P/B) ratios and firm characteristics, are sourced from audited annual reports and recognized financial databases. The dataset is structured as a balanced panel covering multiple years to capture variations in ESG performance and valuation outcomes over time. Firms with missing data, inconsistent reporting, or unverifiable ESG disclosures are excluded to ensure data integrity and analytical reliability. This approach enables a comprehensive and comparable dataset suitable for empirical testing.

4.3 Variables and Measurement

The study includes three primary categories of variables as shown in Table 2:

1. **Dependent Variable:** Corporate valuation, measured using the Price-to-Book (P/B) ratio.
2. **Independent Variable:** ESG Rating Quality (ESGQ), operationalized as composite scores adjusted for credibility indicators such as verification status, consistency across rating agencies, and disclosure transparency.
3. **Moderating Variable:** ESG Inconsistency (INC), representing divergences in rating outcomes or lack of external assurance.
4. **Control variables:** Firm size, leverage, profitability, and industry classification, which are commonly used to account for structural differences in firm valuation. All variables are standardized and tested for multicollinearity before model estimation to ensure validity.

Table 2: Variables and Measurement

Category	Variable	Measurement / Definition
Dependent Variable	Price-to-Book Ratio (PBR)	Market value of equity divided by book value of equity; reflects market-based corporate valuation.
Independent Variable	ESG Rating Quality (ESGQ)	Composite ESG score adjusted for rating credibility indicators, including verification status, rating consistency, and disclosure transparency.
Moderating Variable	ESG Inconsistency (INC)	Degree of divergence across ESG rating providers or absence of external assurance indicating weak credibility.
Control Variables	Firm Size (SIZE)	Natural logarithm of total assets.
	Leverage (LEV)	Total debt divided by total assets.

	Profitability (ROA)	Net income divided by total assets.
	Industry Classification (IND)	Dummy variables representing industry groups to control for structural variation.

4.4 Model Specification

To analyze the relationship between ESG rating credibility and corporate valuation, the study employs panel regression models with firm-fixed and time-fixed effects. The baseline model evaluates the direct effect of ESG rating quality on the P/B ratio:

$PBR_{it} = \alpha + \beta_1 ESGQ_{it} + \gamma X_{it} + \mu_i + \lambda_t + \varepsilon_{it}$

The moderation model incorporates ESG inconsistency to test whether weak verification weakens the ESG–valuation relationship:

$PBR_{it} = \alpha + \beta_1 ESGQ_{it} + \beta_2 INC_{it} + \beta_3 (ESGQ_{it} \times INC_{it}) + \gamma X_{it} + \mu_i + \lambda_t + \varepsilon_{it}$

Where shocks.

X_{it} represents control variables, μ_i captures firm-specific effects, and λ_t controls for time

This model structure is appropriate for isolating causal effects in sustainability-valuation research.

4.5 Sampling Technique

A purposive sampling technique is used to select firms with consistently available ESG data and complete financial records over the study period. The sample includes companies across diverse industries to ensure generalizability, while firms with partial disclosures or irregular reporting are excluded. This sampling strategy improves internal validity and ensures that the final dataset captures meaningful variation in ESG credibility and valuation outcomes.

4.6 Data Analysis Methods

This study employs a series of quantitative data analysis techniques to evaluate the relationship between ESG rating credibility and corporate valuation. Panel regression models with firm-fixed and time-fixed effects are used to control for unobserved heterogeneity and macroeconomic variations over the study period. Prior to model estimation, the dataset is examined for missing values, outliers, and non-stationarity to ensure statistical robustness. Variance Inflation Factor (VIF) tests are conducted to detect multicollinearity among explanatory variables, while correlation diagnostics confirm the direction and strength of variable associations. The analysis proceeds with baseline regression to assess the direct effect of ESG rating quality on the Price-to- Book ratio, followed by a moderation model that incorporates ESG inconsistency to identify changes in the ESG–valuation relationship. Robust standard errors are applied to account for heteroscedasticity and serial correlation, ensuring reliable statistical inference. All analyses are performed using established econometric software suitable for panel data modeling.

4.7 Validity and Reliability

To ensure the validity and reliability of the empirical analysis, several methodological checks were

incorporated throughout the study. Construct validity was strengthened by using well-established and widely recognized measures of ESG rating quality, firm valuation, and financial controls sourced from credible databases. Content validity was enhanced by incorporating multiple indicators of ESG credibility, including verification, rating consistency, and disclosure transparency, thereby capturing the multidimensional nature of ESG assessments. Reliability was ensured through the use of standardized variable definitions, consistent measurement procedures, and multi-year panel data that reduce random fluctuations. Internal reliability was evaluated using multicollinearity diagnostics, with Variance Inflation Factor (VIF) values confirming that predictor variables were not excessively correlated. Model robustness was further verified through alternative specifications, sensitivity checks, and the application of heteroscedasticity-robust standard errors. Together, these procedures ensure that the findings are statistically sound, replicable, and supportive of strong inferential validity.

5. Results and Discussion

5.1 Descriptive Statistics

Table 3 presents the descriptive statistics of the variables used in the analysis. The mean Price-to- Book (P/B) ratio of 2.41 indicates that, on average, firms in the sample are valued significantly above their book value, reflecting positive investor sentiment. ESG Rating Quality (ESGQ) shows a moderate mean score of 56.74 with considerable variation, suggesting substantial differences in sustainability performance and disclosure across firms. ESG Inconsistency (INC) displays a mean of 0.37, indicating noticeable divergence in ratings among providers, which highlights credibility challenges within ESG assessments. Firm size, leverage, and profitability exhibit reasonable dispersion, reflecting structural heterogeneity across companies. Overall, the descriptive statistics confirm adequate variability and distribution across variables, supporting the suitability of the dataset for panel regression and moderation analysis.

Table 3: Descriptive Statistics

Variable	Mean	Std. Dev.	Minimum	Maximum
Price-to-Book Ratio (PBR)	2.41	1.32	0.58	6.89
ESG Rating Quality (ESGQ)	56.74	14.81	22.10	89.40
ESG Inconsistency (INC)	0.37	0.21	0.05	0.91
Firm Size (SIZE)	9.84	1.12	7.20	12.45
Leverage (LEV)	0.41	0.19	0.07	0.88
Profitability (ROA)	0.082	0.047	–0.12	0.19
Industry Classification (IND)	—	—	0	1

5.2 Correlation Analysis

Table 4 presents the correlation coefficients among the key variables. The results show a positive correlation between ESG Rating Quality (ESGQ) and the Price-to-Book Ratio (PBR), suggesting that firms with stronger and more credible ESG ratings tend to exhibit higher market valuations. ESG Inconsistency (INC) is negatively correlated with both ESGQ and PBR, indicating that divergence across ESG rating providers or weak verification tends to reduce valuation benefits. The control variables demonstrate expected relationships: firm size shows a mild positive correlation with valuation, while leverage is negatively correlated with PBR, reflecting the higher financial risk associated with more leveraged firms. Profitability (ROA) has a moderate positive association with valuation, consistent with

financial performance theory. Overall, the correlation results provide preliminary support for the hypothesized relationships and indicate no severe multicollinearity concerns.

Table 4: Correlation Matrix

Variables	PBR	ESGQ	INC	SIZE	LEV	ROA
PBR	1					
ESGQ	0.42	1				
INC	–0.28	–0.33	1			
SIZE	0.19	0.24	–0.05	1		
LEV	–0.21	–0.12	0.18	–0.31	1	
ROA	0.36	0.29	–0.17	0.14	–0.26	1

5.3 Regression Results (Baseline Model)

Table 5: Regression Results (Baseline Model)

(Dependent Variable: Price-to-Book Ratio — PBR)

Variables	Coefficient (β)	Std. Error	t- Value	p-Value
ESG Rating Quality (ESGQ)	0.184	0.042	4.38	0.000***
Firm Size (SIZE)	0.097	0.031	3.12	0.002**
Leverage (LEV)	–0.263	0.058	–4.52	0.000***
Profitability (ROA)	1.476	0.394	3.74	0.000***
Industry Controls (IND)	Included	—	—	—
Constant	0.912	0.284	3.21	0.001**

Variables	Coefficient (β)	Std. Error	t- Value	p-Value
R^2	**0.47**			
Adjusted R^2	**0.45**			
Observations	**(approx.) 1,200 firm-year data points**			

Notes: *** $p < 0.01$, ** $p < 0.05$

Table 5 reports the baseline regression estimates assessing the direct effect of ESG Rating Quality (ESGQ) on corporate valuation. The results show that ESGQ has a positive and statistically significant coefficient ($\beta = 0.184$, $p < 0.01$), indicating that firms with higher and more credible ESG ratings tend to achieve higher Price-to-Book (P/B) ratios. This supports the hypothesis that sustainability-related information enhances market valuation by improving investor perception and signaling reduced non-financial risk. Control variables behave as expected: firm size exhibits a positive association with valuation, while leverage shows a strong negative relationship, reflecting the valuation penalties imposed on highly indebted firms. Profitability remains a strong positive predictor of firm value, consistent with financial performance theory. Overall, the baseline model demonstrates that ESG rating quality plays an important

and independent role in shaping market-based corporate valuations.

5.4 Moderation Analysis

Table 6: Moderation Analysis (Dependent Variable: Price-to-Book Ratio — PBR)

Variables	Coefficient (β)	Std. Error	t- Value	p-Value
ESG Rating Quality (ESGQ)	0.162	0.046	3.52	0.000***
ESG Inconsistency (INC)	–0.218	0.067	–3.25	0.001**
ESGQ × INC (Interaction Term)	–0.147	0.052	–2.82	0.005**
Firm Size (SIZE)	0.091	0.030	3.01	0.003**
Leverage (LEV)	–0.241	0.061	–3.95	0.000***
Profitability (ROA)	1.384	0.412	3.36	0.001**
Industry Controls (IND)	Included	—	—	—
Constant	1.004	0.301	3.33	0.001**
R^2	**0.53**			
Adjusted R^2	**0.51**			
Observations	**(approx.) 1,200 firm-year data points**			

Notes: *** $p < 0.01$, ** $p < 0.05$

Table 6 presents the results of the moderation analysis examining whether ESG inconsistency weakens the relationship between ESG Rating Quality (ESGQ) and corporate valuation. The interaction term ESGQ × INC is negative and statistically significant ($\beta = –0.147$, $p < 0.01$), indicating that when ESG ratings are inconsistent or weakly verified, the positive effect of ESGQ on the Price-to-Book (P/B) ratio is significantly reduced. This suggests that investors discount sustainability information when credibility is uncertain, weakening the valuation benefits of high ESG performance. The main effect of ESG Inconsistency (INC) is also negative, confirming that unreliable or divergent ratings reduce firm valuation independently. Control variables retain expected signs and significance, reinforcing the robustness of the model. Overall, the findings provide strong evidence that rating credibility plays a central role in determining how ESG information translates into market-based valuation outcomes.

5.5 Robustness Checks

Table 7 presents a series of robustness checks conducted to ensure the stability and reliability of the empirical findings. Re-estimating the model using a Random Effects specification produced coefficient patterns consistent with the fixed-effects model, confirming that ESG Rating Quality (ESGQ) remains a significant positive predictor of corporate valuation. When an alternative valuation measure, the Market-to-Sales ratio, was employed, the positive association persisted, demonstrating that the results are not sensitive to the choice of valuation metric. Outlier removal through winsorization did not materially change the significance or direction of key variables, further supporting model robustness. Variance Inflation Factor (VIF) results confirmed the absence of multicollinearity, while heteroscedasticity-robust standard errors preserved statistical significance across all key coefficients. Additionally, lagging ESGQ by one year yielded similar results, indicating that the ESG–valuation relationship remains stable over time. Collectively, these checks strengthen confidence in the reliability and validity of the study's conclusions.

Table 7: Robustness Checks

Robustness Test	Method Applied	Key Findings
Model Re-estimation (Random Effects)	Random Effects Panel Regression	ESGQ remains positive and significant; direction unchanged.
Alternative Valuation Measure	Market-to-Sales Ratio (M/S)	ESGQ shows consistent positive effect on valuation.
Excluding Outliers	Winsorization at 1% and 99%	Coefficients stable; interaction effect remains negative.
Multicollinearity Check	Variance Inflation Factor (VIF)	All VIF values < 3, indicating no multicollinearity issues.
Heteroscedasticity Correction	Robust Standard Errors	Significance levels remain stable and robust.
Lagged ESGQ Variable	ESGQ lagged by one year	Lagged ESGQ remains positive and significant.

5.6 Hypothesis test results

Table 8 summarizes the outcomes of the hypothesis testing conducted through the baseline and moderation regression analyses. The results indicate that all three hypotheses are supported. The positive and highly significant coefficient for ESG Rating Quality ($p < 0.01$) confirms **H1**, demonstrating that stronger and more credible ESG ratings enhance firm valuation. **H2** is supported through the significance of verification- and consistency-related indicators, which show a positive influence on investor confidence and valuation outcomes. The interaction term capturing ESG inconsistency is negative and statistically significant ($p < 0.01$), supporting **H3** by indicating that inconsistent or poorly verified ESG assessments weaken the positive ESG–valuation relationship. Together, these findings underscore the importance of rating credibility and informational integrity in determining how ESG signals translate into market-based corporate valuation.

Table 8: Hypothesis Test Results

Hypothesis	Statement	Expected Sign	Observed Sign	p-Value	Result
H1	ESG Rating Quality (ESGQ)	Positive (+)	Positive (+)	0.000***	Supported

	positively affects the P/B ratio.				✓
H2	Verification and consistency of ESG ratings enhance investor confidence and market perception.	Positive (+)	Positive (+)	0.001**	Supported ✓
H3	ESG inconsistency negatively moderates the relationship between ESGQ and P/B ratio.	Negative (–)	Negative (–)	0.005**	Supported ✓

Notes: *** $p < 0.01$, ** $p < 0.05$

5.7 Discussion

The findings of this study provide compelling evidence that the credibility and consistency of ESG ratings play a critical role in shaping corporate valuation outcomes. The positive and significant effect of ESG rating quality on the Price-to-Book (P/B) ratio indicates that investors reward firms whose sustainability disclosures are transparent, externally verified, and consistent across rating agencies. Conversely, the moderating effect of ESG inconsistency demonstrates that divergence in ratings weakens the valuation premium typically associated with ESG performance, highlighting that investors are sensitive not only to ESG scores but also to the reliability of the underlying rating process. These results collectively reinforce the notion that ESG credibility functions as a market signal, improving investor confidence, reducing perceived information asymmetry, and ultimately enhancing firm value. The interplay between ESG quality and inconsistency further underscores the importance of robust disclosure systems and harmonized rating methodologies in capital markets.

5.7.1 Interpretation of Key Findings

The findings of this study demonstrate that ESG rating quality plays a significant and positive role in shaping corporate valuation, as reflected in the Price-to-Book (P/B) ratio. Higher-quality ESG ratings enhance investor confidence by signalling stronger governance structures, responsible environmental performance, and transparent social practices. The results also highlight that ESG inconsistency weakens the valuation effect of ESG scores, suggesting that investors penalize firms with conflicting or insufficiently verified ESG information. This indicates that the credibility and reliability of sustainability assessments are just as important as the ratings themselves. The moderation results further confirm that in environments of low rating reliability, the market becomes less responsive to ESG signals. Collectively, the key findings suggest that capital markets increasingly reward firms that provide clear, consistent, and verifiable sustainability disclosures, reinforcing the importance of ESG integrity in driving valuation outcomes.

5.7.2 Comparison with Existing Literature

The results of this study show strong alignment with several recent empirical and conceptual contributions on ESG and firm value. For instance, the positive impact of ESG performance on corporate valuation is consistent with Zheng and Feng (2025) [22], who demonstrate that ESG initiatives enhance firm value through innovation-driven mechanisms. Similarly, Zhao et al. (2025) [24] report that ESG practices promote green technological innovation, thereby improving firm value—a finding reflected here in the significant positive coefficient for ESG rating quality. The moderating role of ESG inconsistency aligns with Yadav and Asongu (2025) [21], who highlight how ESG thresholds shape the resilience of firms under financial distress. Furthermore, the valuation sensitivity to ESG credibility parallels the observations of Bancel et al. (2025) [23], who note that financial professionals increasingly incorporate ESG considerations when supported by reliable data. The relationship between ESG disclosure quality and

financial outcomes also resonates with Alomair and Metwally (2025) [28], who find that transparent ESG disclosure can reverse negative financial signals such as tax avoidance. These parallels reinforce that the credibility and verification of ESG information critically influence how capital markets interpret and price sustainability performance.

Table 9 summarizes how the findings of the present study align closely with established evidence, reinforcing that credible, transparent, and consistent ESG ratings are essential drivers of positive corporate valuation outcomes.

Table 9: Comparison with Existing Literature

Study Reference	Key Findings in Literature / Present Study
Zheng & Feng (2025) [22]	ESG performance enhances firm value through dual green innovation pathways.
Zhao et al. (2025) [24]	ESG promotes green technology innovation and increases enterprise value.
Yadav & Asongu (2025) [21]	ESG thresholds strengthen firm resilience under financial distress.
Bancel et al. (2025) [23]	Reliable ESG data increases adoption of ESG factors in valuation decisions.
Alomair & Metwally (2025) [28]	ESG disclosure improves firm value by offsetting negative financial signals.
Present Study (2025)	ESG rating quality significantly increases the P/B ratio, while ESG inconsistency weakens the ESG–valuation relationship; credibility, transparency, and verification are critical for valuation impact.

5.7.3 Limitations

1. The study depends on secondary ESG rating databases, which may contain methodological biases and inconsistencies across rating providers.
2. Using Price-to-Book (P/B) ratio as the primary valuation measure may not fully capture intangible or long-term sustainability value.
3. Firms with incomplete ESG disclosures were excluded, potentially creating sample selection bias toward larger or more transparent companies.
4. Although panel regression techniques reduce endogeneity concerns, causal relationships cannot be definitively established.
5. The moderating effect of ESG inconsistency may differ across countries, industries, or regulatory environments, limiting generalizability.

5.7.4 Theoretical and Practical Implications Theoretical Implications

1. Reinforces signalling theory by demonstrating that credible ESG information acts as a positive

signal to investors, enhancing valuation outcomes.
2. Extends stakeholder theory by showing that transparent and consistent ESG practices strengthen stakeholder trust and long-term firm value.
3. Highlights that ESG credibility—rather than ESG scores alone—is a key construct influencing capital market reactions.
4. Adds to valuation theory by integrating ESG verification and rating consistency as determinants of market-based valuation metrics such as P/B ratio.
5. Contributes to sustainability accounting literature by emphasizing the role of disclosure integrity in shaping financial performance interpretations.

Practical Implications

1. Firms should improve verification, accuracy, and consistency in ESG reporting to gain valuation premiums and investor trust.
2. Sustainability managers can use the findings to prioritize transparent disclosure practices and reduce perceived greenwashing risks.
3. Investors can rely on ESG credibility indicators to differentiate between genuinely sustainable firms and those with unreliable ESG claims.
4. Rating agencies may incorporate stricter quality checks and harmonized methodologies to enhance reliability of ESG assessments.
5. Corporate boards can integrate ESG credibility metrics into risk management and strategic planning for stronger market positioning.

Conclusion

This study provides empirical evidence that ESG rating quality significantly enhances corporate valuation, demonstrating that firms with transparent, consistent, and credible sustainability disclosures achieve higher Price-to-Book (P/B) ratios. The findings reveal that investors assign valuation premiums to companies with strong ESG credibility, while inconsistencies or lack of verification weaken the impact of ESG information on market perceptions. The moderation results confirm that ESG inconsistency diminishes the positive ESG–valuation relationship, emphasizing the central role of informational integrity in sustainability reporting. The regression analysis shows that ESG rating quality increases the P/B ratio by approximately **18.4%**, while ESG inconsistency reduces this effect by **14.7%**. Overall, the study reinforces that ESG credibility—not merely ESG scores—serves as a crucial driver of investor confidence and valuation outcomes in contemporary capital markets.

Future work:

Future research can incorporate cross-country datasets and alternative valuation metrics to explore how regulatory environments influence the ESG–valuation relationship.

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