

BUSINESS RISK MODERATES GREEN ACCOUNTING AND INDEPENDENT BOARD OF COMMISSIONERS WITH FINANCIAL PERFORMANCE

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Abstract

This study examines how Green Accounting (GA) and Independent Boards of Commissioners (IBC) affect Financial Performance (FP) in Indonesian firms, with Business Risk (BR) as a moderating factor. Based on Signaling Theory, the research analyzed 25 PROPER-listed companies from 2019–2023 (125 observations) using panel data regression. Results demonstrate that both GA ($\beta = 0.590$, $p < 0.01$) and IBC ($\beta = 3.054$, $p < 0.01$) significantly improve financial performance. Business Risk does not moderate the GA-FP relationship ($\beta = 0.683$, $p > 0.05$), indicating that environmental disclosure's value remains stable regardless of risk conditions. However, Business Risk positively moderates the IBC-FP relationship ($\beta = 17.399$, $p < 0.01$), showing that independent governance becomes increasingly valuable in high-risk environments. These findings highlight the consistent benefits of green accounting practices and underscore how strong governance provides crucial protection during uncertainty. The study offers practical guidance for managers to invest in sustainability reporting as a reliable performance driver and strengthen governance mechanisms as risk management tools. For policymakers, these results support promoting wider adoption of environmental and governance practices. The research contributes to literature by providing new evidence on risk's differential moderating effects, showing environmental signals maintain value consistently while governance signals become more powerful under risk.

Keywords: Green Accounting, Independent Board of Commissioners, Financial Performance, Business Risk

1. Introduction

Financial performance represents the ultimate outcome of a firm's business activities, reflecting its ability to deploy resources effectively and operate efficiently in pursuit of corporate objectives. It is a multidimensional construct encompassing both financial and non-financial indicators, such as profitability, customer satisfaction, internal business processes, and innovation (Fairuzaini et al., 2019). Among these, profitability remains a key metric, often assessed using ratios such as Net Profit Margin (NPM) and Return on Assets (ROA), which provide insights into the firm's capacity to generate returns from its assets and sales (Hanafi & Halim, 2003). Sound financial performance is not only a signal of operational success but also a determinant of investor confidence and corporate value.

In recent years, corporate sustainability has emerged as a critical strategic consideration globally. Beyond economic returns, firms are increasingly expected to address environmental and social responsibilities in response to climate change, resource depletion, and stakeholder pressures (Gunawan, 2015). The adoption of green accounting-integrating environmental costs into financial reporting-has been widely promoted as a means to measure, manage, and disclose the environmental impacts of

business activities (Arfan Ikhsan, 2008). Concurrently, the implementation of Good Corporate Governance (GCG) principles-transparency, accountability, responsibility, independence, and fairness-has been recognised as a mechanism to enhance investor trust, strengthen internal controls, and support long-term strategic decision-making (Effendi, 2016).

In Indonesia, the government has institutionalised corporate sustainability through the Program Penilaian Peringkat Kinerja Perusahaan dalam Pengelolaan Lingkungan Hidup (PROPER), administered by the Ministry of Environment and Forestry. This programme evaluates corporate compliance and innovation in environmental management, energy efficiency, emission reduction, and community empowerment. The number of participating firms has grown from 2,045 in 2019 to 3,694 in 2023, with an increase in gold-rated companies from 47 to 79 (KLHK, 2023). However, despite the adoption of green accounting and GCG practices, not all firms achieve satisfactory financial performance, suggesting that additional contextual factors may influence these relationships.

One such factor is business risk, which reflects the uncertainty of achieving expected returns due to market volatility, regulatory changes, commodity price fluctuations, or external shocks such as the COVID-19 pandemic (Brigham & Daves, 2021). High business risk may constrain resource allocation for environmental initiatives or weaken governance effectiveness, thereby moderating the impact of green accounting and GCG on financial performance. The period 2019–2023 has been marked by heightened uncertainty, including global health crises, geopolitical tensions, and energy transitions, posing significant challenges for firms seeking to balance sustainability and profitability.

Prior studies on the relationship between green accounting, GCG, and financial performance have produced mixed findings. Some report positive effects of environmental accounting and governance on profitability (Wahyuni et al., 2019; Alfath, 2023), while others find insignificant or context-dependent results (Handayani, 2023; Made, 2025). This inconsistency highlights the need for further investigation, particularly with the inclusion of business risk as a moderating variable.

Addressing this research gap, the present study examines the effect of green accounting and GCG on the financial performance of PROPER-listed companies in Indonesia during 2019–2023, with business risk as a moderating factor. This research contributes to the literature by integrating environmental accounting, corporate governance, and risk management perspectives, offering empirical insights into their interplay in an emerging market context. Practically, the findings are expected to guide corporate managers in designing strategies that balance sustainability commitments with financial objectives, and to inform policymakers in strengthening regulatory frameworks for environmental and governance practices.

2. Theoretical Background

2.1 Signaling Theory

Signaling Theory explains the relationship between a company's disclosure of financial reports and the perception of external parties. According to Brigham and Houston (2019) in Santoso and Junaeni (2022), a signal is an action taken by company management to provide clues to investors regarding the firm's future prospects. Information that is published serves as a signal to assist investors in making investment decisions. Once such information is publicly available, market participants interpret it as either a positive or negative signal before making decisions.

Positive signals may be communicated through transparent and favorable financial reports, including disclosures on working capital and key financial ratios. This transparency increases investor trust and confidence in the company's earnings as genuine outcomes rather than manipulated figures. Conversely, a lack of adequate disclosure may cause investors to undervalue the company, leading them to apply the same valuation to all firms regardless of their actual performance (Widodo, 2016). Such misperceptions can harm firms with stronger fundamentals.

2.2 Legitimacy Theory

Legitimacy Theory posits that companies must maintain their social function by meeting societal expectations and fostering a positive public image (Riyadh et al., 2020). Firms continually ensure that their operations align with prevailing societal norms so that their existence is accepted by external stakeholders, particularly the community (Sulistiawati, 2016). This relationship is conceptualized through a "social contract" between the company and society regarding how the firm utilizes available resources.

According to Ainy and Barokah (2019), the sustainability of a company depends on both its economic and social outcomes. Therefore, corporate strategies should be oriented toward the interests of society, government, individuals, and the environment. By delivering socially and environmentally beneficial products and managing resources responsibly, a firm can maintain legitimacy and long-term societal support.

2.3 Financial Performance

Financial performance reflects the outcomes of a company's operational activities within a specific period, assessed in terms of capital adequacy, liquidity, and profitability. Fahmi (2013) defines it as an analytical process to evaluate whether a company operates in accordance with sound financial practices. Hery (2016) adds that performance can be objectively measured using financial ratios-such as profitability, liquidity, solvency, and efficiency-which provide insights into a firm's financial health.

Harahap (2015) emphasizes that financial performance reflects managerial efficiency in utilizing financial resources to generate profits, aligning with Munawir's (2010) view that it results from strategic decisions made by management. According to the Indonesian Institute of Accountants (IAI, 2023), financial performance reporting should present structured and comparable information on assets, liabilities, equity, income, and expenses to ensure relevance and reliability. Thus, financial performance is not only a measure of profitability but also an indicator of managerial accountability and resource efficiency.

2.4 Green Accounting

Green accounting, also known as environmental accounting, integrates environmental costs into a company's accounting practices (Lako, 2018; Ikhsan, 2008). It involves recognizing, measuring, recording, summarizing, and reporting environmental, social, and economic impacts in a single, integrated reporting framework. This approach aligns with Elkington's (1997, 2001) *triple bottom line* model, which emphasizes economic, environmental, and social dimensions.

According to Kusumaningtias (2013), green accounting identifies, quantifies, and incorporates environmental considerations into business processes. Yoshi (2012) describes it as accounting for costs and activities related to environmental impact, while Burritt and Schaltegger (2017) view it as a systematic approach to recording and reporting environmental data for decision-making. The application of green accounting supports

sustainable economic growth by promoting fairness, resilience, ecosystem health, and reduced greenhouse gas emissions (GGGI, 2015).

2.5 Independent Board of Commissioners (IBC)

According to Article 120 paragraph (2) of Law No. 40 of 2007 concerning Limited Liability Companies (UUPT), "Independent Commissioners as stipulated in the code of good corporate governance are commissioners from external parties." According to Financial Services Authority (OJK) Regulation No. 33/POJK.04/2014, "Independent Commissioners are members of the board of commissioners who come from outside the issuer or public company and meet the requirements as Independent Commissioners as referred to in this Financial Services Authority Regulation." The board of commissioners is a supervisory agency without close ties to the company's shareholders. It oversees and protects minority shareholders and plays a crucial role in the decision-making process (Intia & Azizah, 2021). This is in line with research by Khairani (2019), which states that an entity with more board members is more valuable over time. The research was conducted by Syafitri et al. (2018) and Aryanto and Setyorini (2019) also showed that the board of commissioners has a positive impact on company value.

2.6 Business Risk

Business risk refers to the variability in expected earnings or operating income due to uncertainties inherent in a firm's operations, excluding debt financing (Brigham & Houston, 2014). Firms with higher business risk typically avoid high leverage, as creditors demand higher returns for increased uncertainty.

Factors influencing business risk include demand variability, price volatility, input cost fluctuations, price adjustment capabilities, product innovation cycles, foreign market exposure, and the degree of operating leverage (Brigham & Houston, 2011). Hopkin (2018) adds that operational risks-such as supply chain disruptions, product quality issues, and reputational threats-are critical in consumer goods industries. Mikes and Kaplan (2021) show that resilience strategies, such as diversification, digitalization, and data-driven innovation, enable firms to withstand shocks like pandemics, energy crises, and economic volatility.

In the context of firms listed under Indonesia's *Program Penilaian Peringkat Kinerja Perusahaan* (PROPER), effective business risk management is essential not only for operational continuity but also for maintaining consumer trust and ensuring long-term competitiveness.

2.6 Hypothesis Development

2.6.1 Green Accounting and Financial Performance

According to legitimacy theory, firms that implement green accounting - an environmental management accounting approach encompassing the identification, measurement, and disclosure of environmental impacts-can enhance corporate reputation, attract investor confidence, and reduce litigation risks, thereby potentially improving financial performance. Signaling theory further suggests that environmental disclosures, including information on carbon emissions, energy use, and waste management, serve as positive signals to stakeholders regarding a firm's commitment to sustainability (Risal et al., 2020; Putri et al., 2019; Ningsih & Rachmawati, 2017).

Empirical evidence on the relationship between green accounting and financial performance is mixed. Studies by Mari (2018) and Siti (2019) reveal a significant positive effect, suggesting that green accounting can contribute more to financial success than

other factors. Conversely, Shodik (2023) and Martha (2021) find no significant relationship, indicating that environmental disclosures alone may not necessarily translate into improved financial outcomes. Based on the theoretical rationale and empirical evidence, the first hypothesis is proposed: *H1: Green Accounting has an effect on financial performance.*

2.6.2 Board of Commissioners and Financial Performance

Within the framework of signaling theory, an effective, independent, and active board of commissioners conveys a positive signal to investors and stakeholders regarding sound corporate governance practices. The presence of a strong board can enhance market confidence, strengthen managerial oversight, and lead to better financial outcomes. In Indonesia, implementing Good Corporate Governance (GCG)-which emphasizes transparency, accountability, fairness, and responsibility-serves as a strategic means for gaining legitimacy.

Empirical studies report divergent findings. Research by Paramitha (2021), Fitrianiingsih (2022), Sitepu (2023), Margaret (2023), and Rizki (2023) finds no significant relationship between independent commissioners and financial performance. In contrast, Titania (2023) reports a significant positive association, underscoring the role of GCG in enhancing a firm's legitimacy, access to capital markets, and financial stability. Accordingly, the second hypothesis is formulated: *H2: The Independent Board of Commissioners has an effect on financial performance.*

2.6.3 Business Risk as a Moderator of the Green Accounting–Financial Performance Relationship

Green accounting not only ensures compliance with environmental regulations but also fosters operational efficiency by minimizing waste and environmental costs (Sari & Kusuma, 2023). By improving environmental performance, firms can enhance competitiveness, reputation, and stakeholder trust.

However, business risk-the inherent uncertainty in a firm's operational and market environment-can moderate the relationship between green accounting and financial performance. Companies neglecting environmental aspects face risks such as legal sanctions, reputational damage, and loss of stakeholder confidence. Conversely, effective green accounting practices can mitigate these risks (Santoso & Handoko, 2023). Therefore, the third hypothesis is stated as: *H3: Business risk moderates the relationship between green accounting and financial performance.*

2.6.4 Business Risk as a Moderator of the Independent Board of Commissioners – Financial Performance Relationship

Effective *Independent Board of Commissioners* can mitigate business risk by reducing the likelihood of legal issues, reputational crises, and stakeholder distrust (Churniawati et al., 2020; Nurhayati, 2023). While IBC can enhance operational efficiency and reduce costs, it may also impose short-term expenses that could impact profitability.

Business risk may influence how IBC affects financial performance. Firms with robust governance are better positioned to manage risks and maintain stakeholder confidence, which in turn supports long-term financial sustainability (Amalia, 2023). Thus, the fourth hypothesis is formulated: *H4: Business risk moderates the relationship between Independent Board of Commissioners and financial performance.*

3. Methods

3.1 Research Desain

This study employs a quantitative associative research design, emphasizing hypothesis testing through numerical measurement of research variables and statistical data analysis. The approach enables an examination of the relationships between variables by utilizing objective and measurable data, in accordance with the positivist research paradigm.

3.2 Data Type and Source

The study utilizes secondary data comprising:

- 1) Annual Financial Reports obtained from the official website of the Indonesia Stock Exchange (IDX).
- 2) Environmental Performance Assessment Reports (“PROPER”) published by the Directorate General of Pollution and Environmental Damage Control, Ministry of Environment and Forestry of the Republic of Indonesia.

The observation period covers the years 2019–2023, selected to provide a recent and relevant time frame for analyzing the variables of interest while ensuring data availability and consistency.

3.3 Population and Sample

The research population consists of companies listed in both the PROPER program and the Indonesia Stock Exchange during the observation period. The sample selection employs purposive sampling, with the following inclusion criteria:

- 1) Companies registered in the IDX and included in the PROPER ranking for the entire 2019–2023 period.
- 2) Companies that publish complete annual financial reports for the 2019–2023 period.

Table 1 presents the sample selection process:

Table 1. Sample Selection Criteria

No	Criteria	Not Meeting Criteria	Meeting Criteria
1	Companies listed in the IDX and included in PROPER during 2019–2023	2	25
2	Companies providing and publishing complete financial reports during 2019–2023	0	25
	Number of Companies		25
	Observation Years		5
	Total Observations (25×5)		125

3.4 Data Analysis Technique

The collected data will be analyzed using statistical procedures appropriate for hypothesis testing. EViews 12.0 software is employed to perform the analysis, ensuring robust estimation and reliability of results. The techniques include descriptive statistics, classical assumption testing, and regression analysis in accordance with the research model and hypotheses.

4. Results and Discussion

4.1. Descriptive Statistics

The study analyzed a balanced panel dataset of 25 companies listed on the Indonesian stock exchange over a 5-year period (2019–2023), resulting in 125 observations. The descriptive statistics for all variables are presented in Table 2.

Table 2. Descriptive Statistics

Variable	Mean	Median	Maximum	Minimum	Std. Dev.	Skewness	Kurtosis	Jarque-Bera	Prob.
KK	0.1001	0.0750	0.4918	-0.1117	0.1002	1.427	5.413	72.76	0.000
GA	3.5040	3.0000	5.0000	2.0000	0.7364	0.959	2.683	19.70	0.000
IBC	0.4327	0.4000	0.8333	0.2000	0.1320	1.260	4.431	43.73	0.000
RB	0.1219	0.0891	0.4795	-0.0426	0.1103	1.226	4.000	36.52	0.000

Note: KK = Financial Performance; GA = Green Accounting; GCG = Good Corporate Governance; RB = Business Risk.

The mean values indicate the central tendency of each variable. The standard deviation for all variables is smaller than their respective means, suggesting that the data points are generally clustered around the mean, though some positive skewness is present. The Jarque-Bera test statistics are significant ($p < 0.05$), indicating that the null hypothesis of a normal distribution is rejected for all variables. This is a common characteristic of financial and governance data and was accounted for in subsequent robust regression techniques.

4.2. Panel Data Regression Model Selection

To determine the most appropriate estimation model, three panel data models were tested: Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM). The results of the model selection tests are summarized in Table 2.

Table 3. Panel Model Selection Tests

Test	Purpose	Statistic	p-value	Selected Model
Chow Test	CEM vs. FEM	Chi-sq = 0.4367	0.9794	Common Effect Model (CEM)
Hausman Test	FEM vs. REM	Chi-sq = 0.3745	0.9454	Random Effect Model (REM)
Lagrange Multiplier Test	CEM vs. REM	Chi-sq = 1.3495	0.5093	Common Effect Model (CEM)

Given that two out of three tests (Chow and LM) favoured the Common Effect Model, it was selected as the most efficient and appropriate model for this study, both for the baseline and moderation analyses.

4.3. Classical Assumption Tests

To ensure the validity and reliability of the regression model, a series of diagnostic tests were conducted. The results, summarized in Table 3, confirm that the model is free from critical econometric issues and is robust for hypothesis testing.

Table 3. Results of Classical Assumption Tests

Assumption Test	Test Method	Test Statistic	p-value	Inference	Conclusion
Normality (Jarque-Bera Test)	Jarque-Bera	1.598	0.450	$p > 0.05$	Residuals are normally distributed.
Multicollinearity (Variance Inflation Factor - VIF)	VIF	Max VIF = 1.886	-	All VIF < 10	No multicollinearity detected.
Autocorrelation (Durbin-Watson Test)	Durbin-Watson	d = 1.840	-	$du < d < (4-du)$	No autocorrelation detected.
Heteroscedasticity (Breusch-Pagan-Godfrey Test)	Breusch-Pagan	Chi-sq = 2.795	0.732	$p > 0.05$	Homoscedasticity assumption upheld.

Prior to hypothesis testing, the model was checked for violations of classical linear regression assumptions. The results confirm the model's robustness:

- 1) Normality (Jarque-Bera): Although the raw data was non-normal, the residuals of the regression model were normally distributed (J-B = 1.598, $p = 0.4498$).
- 2) Multicollinearity (VIF): All Variance Inflation Factor (VIF) values were significantly below the threshold of 10 (max VIF = 1.886), indicating no multicollinearity issues.

- 3) Autocorrelation (Durbin-Watson): The D-W statistic of 1.840 falls within the acceptable range ($du < DW < 4-du$), suggesting no autocorrelation in the residuals.
- 4) Heteroscedasticity (Breusch-Pagan): The test was non-significant (Chi-sq = 2.795, $p = 0.7316$), confirming homoscedasticity.

4.4. Hypothesis Testing Results

4.4.1. Direct Effects (Without Moderation)

The baseline model examining the direct effects of Green Accounting (GA) and Independent Board of Commissioners (IBC) on Financial Performance (KK) was significant.

Table 4. Direct Effects Regression Results (CEM)

Variable	Coefficient	Std. Error	t-Statistic	p-value
C	-3.6459	0.6350	-5.7412	0.0000
GA	0.5901	0.1428	4.1312	0.0001
IBC	3.0542	0.8153	3.7463	0.0003
RB	2.6706	0.9847	2.7122	0.0077
R-squared	0.2855			
Adjusted R-squared	0.2678			
F-statistic	16.1168 ($p = 0.0000$)			

The model was statistically significant (F-stat. = 16.12, $p < 0.001$), explaining 28.55% of the variance in financial performance ($R^2 = 0.2855$). The results support H1 and H2:

H1: Green Accounting has a positive and significant effect on Financial Performance ($\beta = 0.590$, $p < 0.001$).

H2: Independent Board of Commissioners has a positive and significant effect on Financial Performance ($\beta = 3.054$, $p < 0.001$).

4.4.2. Moderation Effects (With Business Risk)

The model was expanded to include the interaction terms between the independent variables (GA, IBC) and the moderator (Business Risk, RB).

Table 5. Moderation Effects Regression Results (CEM)

Variable	Coefficient	Std. Error	t-Statistic	p-value
C	-3.2775	0.6312	-5.1929	0.0000
GA	0.6570	0.1442	4.5570	0.0000
IBC	1.9707	0.8583	2.2961	0.0234
RB	0.9522	1.1074	0.8599	0.3916
RB GA	0.6832	1.2557	0.5441	0.5874
RB GCG	17.3986	5.4257	3.2067	0.0017
R-squared	0.3445			
Adjusted R-squared	0.3169			
F-statistic	12.5074 ($p = 0.0000$)			

The inclusion of moderation effects improved the model's explanatory power ($R^2 = 0.3445$). The results for the moderation hypotheses are:

H3: Business Risk does not significantly moderate the relationship between Green Accounting and Financial Performance ($\beta = 0.683$, $p = 0.587$). H3 is rejected.

H4: Business Risk significantly and positively moderates the relationship between Independent Board of Commissioners and Financial Performance ($\beta = 17.399$, $p < 0.01$). H4 is supported.

4.5. Discussion

This study provides empirical evidence on the influence of Green Accounting (GA) and Independent Board of Commissioners (IBC) on Financial Performance (FP), and the moderating role of Business Risk (BR) in these relationships. The findings, grounded in Signaling Theory, offer nuanced insights into how these variables interact within the Indonesian context.

4.5.1. The Direct Effect of Green Accounting on Financial Performance

H1, which postulated a positive effect of Green Accounting on Financial Performance, is supported ($\beta = 0.657$, $p < 0.001$). This result strongly aligns with Signaling Theory. In an environment of information asymmetry, a company's commitment to environmental stewardship, as demonstrated through its GA practices, functions as a powerful positive signal to the market. This signal conveys transparency, managerial competence, and a long-term commitment to sustainable development, which is valued by investors, consumers, and regulators.

The findings corroborate previous research by Sari & Nugroho (2020), who found that environmental disclosures directly and indirectly enhance profitability metrics like ROA and NPM. By voluntarily reporting environmental costs and initiatives, companies reduce perceived investment risk and attract ethically-conscious capital. This can lead to tangible financial benefits, including lower cost of capital, enhanced brand equity, access to new markets, and improved operational efficiencies from better resource management. Consequently, GA transcends mere regulatory compliance, emerging as a strategic tool for value creation.

4.5.2. The Direct Effect of Independent Board of Commissioners on Financial Performance

H2, proposing a positive effect of Independent Board of Commissioners on Financial Performance, is also supported ($\beta = 1.971$, $p < 0.05$). This finding underscores the critical role of robust governance mechanisms in driving financial success. From a Signaling Theory perspective, strong IBC-characterized by transparency, accountability, and independent oversight-sends a credible signal to the market that the company is well-managed, ethical, and prioritizes shareholder interests.

This signal mitigates agency costs and builds immense trust with stakeholders. As Wibowo & Putra (2021) affirm, effective governance structures are interpreted by the market as an indicator of reduced risk and superior managerial quality. This enhances investor confidence, facilitates easier access to financing, and fosters stable stakeholder relationships, all of which directly contribute to improved financial performance. Therefore, IBC is not a mere formality but a fundamental pillar for achieving sustainable financial growth.

4.5.3. The Moderating Effect of Business Risk on the GA-FP Relationship

H3, which hypothesized that Business Risk moderates the relationship between Green Accounting and Financial Performance, is not supported ($\beta = 0.683$, $p = 0.587$). This non-significant result is a profound finding. It indicates that the positive value of Green Accounting as a signal is resilient and independent of the level of business risk a company faces.

This can be interpreted through the lens of Signaling Theory: the signal of environmental responsibility is so intrinsically valuable for legitimacy and reputation building that its impact on financial performance remains consistent. Whether operating

in a high or low-risk environment, the market rewards transparency and sustainability practices equally. This suggests that GA is perceived as a fundamental component of strategic legitimacy rather than a tactical tool for risk mitigation. As Sari & Sudibyo (2021) observed, the benefits of GA are rooted in market perception, which remains steadfast even during economic uncertainty or industry volatility. Investors seem to view a commitment to GA as a mark of a resilient and strategically managed firm, regardless of short-term risks.

4.5.4. The Moderating Effect of Business Risk on the IBC-FP Relationship

H4, stating that Business Risk positively moderates the relationship between Independent Board of Commissioners and Financial Performance, is strongly supported ($\beta = 17.399$, $p < 0.01$). This is a key result of the study, highlighting a critical contingency in the value of governance.

This finding is powerfully explained by Signaling Theory. In periods of high business risk, information asymmetry and uncertainty are amplified. Investors and creditors actively seek credible signals to identify companies that can navigate the turbulence. Strong IBC becomes precisely that signal—a beacon of stability and prudent management. It assures the market that the company has the oversight, controls, and ethical foundation to manage adversity effectively.

This result is consistent with previous studies (Fauziah & Budiarta, 2019; Fitriani & Suaryana, 2020) which found that the premium placed on good governance intensifies in risky environments. In such contexts, mechanisms like an independent board and audit committees are not just beneficial but essential for maintaining trust. Therefore, the value of the GCG signal is not static; it is amplified under conditions of high business risk, making it a crucial risk mitigation tool itself.

5. Conclusion

This study investigated the moderating role of business risk on the relationship between green accounting, Independent Board of Commissioners (IBC), and financial performance in companies listed on the “PROPER” program and the Indonesia Stock Exchange (IDX) during the period 2019–2023. The findings provide several important conclusions.

- 1) Green accounting has a positive and significant effect on financial performance. Consistent with signaling theory, the adoption of green accounting practices conveys a positive signal to investors and stakeholders regarding a firm’s commitment to environmental sustainability. This enhances corporate reputation and market confidence, which in turn improves financial outcomes.
- 2) Independent Board Of Commissioners (IBC) also exerts a positive and significant influence on financial performance. Strong governance structures reflect credible and transparent management, which reduces information asymmetry and fosters investor trust. This alignment with signaling theory emphasizes the role of IBC in strengthening profitability and long-term value creation.
- 3) Business risk does not significantly moderate the relationship between green accounting and financial performance. This indicates that the positive effect of green accounting on financial outcomes remains stable regardless of fluctuations in business risk, suggesting that environmental initiatives provide consistent value to firms.
- 4) Business risk significantly moderates the relationship between IBC and financial performance. Under conditions of high business risk, the influence of IBC becomes

more pronounced. This highlights the strategic importance of robust governance practices in maintaining competitiveness and resilience during periods of regulatory change, market volatility, or broader economic disruptions.

Overall, these results contribute to the growing body of literature on sustainability and corporate governance by confirming the dual importance of green accounting and IBC in enhancing financial performance. They further suggest that while environmental initiatives offer steady benefits, the role of governance becomes increasingly critical when firms operate in high-risk environments.

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