

International Journal of Social Sciences and Humanities
Vol. 4 No. 3, October 2026, pages: 1687-1699
e-ISSN: 2985-6469
https://ejournal.45mataram.ac.id/index.php/ijssh

ESG Disclosure, Profitability, and Enterprise Risk Management Disclosure: Evidence from Banks Listed on the Indonesia Stock Exchange, 2019–2024

Putu Widya Purnama Sari[1]*, Anak Agung Gde Putu Widanaputra[2], I Gst Ayu Eka Damayanthi[3], Eka Ardhani Sisdyani[4]

Corresponding Author's e-mail : widyasari506@gmail.com

Article History

Manuscript submitted:
14 Agustus 2026
Manuscript revised:
17 September 2026
Accepted for publication:
19 Oktober 2026

Keywords

Enterprise Risk Management Disclosure;
ESG Disclosure;
Profitability;
Banking;
Agency Theory

Abstract

This study examines whether environmental, social, and governance (ESG) disclosure and profitability influence enterprise risk management (ERM) disclosure in the Indonesian banking sector. Using agency theory, the study analyzes 282 bank-year observations from 47 banks listed on the Indonesia Stock Exchange during 2019–2024. ERM disclosure is measured with an index based on the COSO (2017) framework, ESG disclosure with a GRI-based index, and profitability with return on assets (ROA). Firm size and the loan-to-deposit ratio serve as control variables. Multiple regression shows that ESG disclosure (B = 0.116, p = .022) and profitability (B = 1.432, p < .001) have positive and significant effects on ERM disclosure. Firm size is also positive and significant, while liquidity is not. The model is feasible (F = 10.189, p < .001) but explains only 12.8% of the variance. The findings suggest that sustainability transparency and financial capacity are associated with more transparent risk reporting, consistent with disclosure reducing information asymmetry between managers and shareholders.

Copyright © 2025, The Author(s).
This is an open access article under the BY-NC-ND license

Contents

Abstract 1687
Introduction 1688
Methods 1691
Results and Discussions 1691
Conclusion 1697
Reference 1697

[1] Program Magister Akuntansi, Fakultas Ekonomi dan Bisnis, Universitas Udayana, Denpasar, Indonesia
[2] Program Magister Akuntansi, Fakultas Ekonomi dan Bisnis, Universitas Udayana, Denpasar, Indonesia
[3] Program Magister Akuntansi, Fakultas Ekonomi dan Bisnis, Universitas Udayana, Denpasar, Indonesia
[4] Program Magister Akuntansi, Fakultas Ekonomi dan Bisnis, Universitas Udayana, Denpasar, Indonesia

Introduction

Globalization, digital transformation, and persistent economic and geopolitical uncertainty have fundamentally reshaped the risk landscape confronting modern organizations. Firms increasingly face interconnected risks that can simultaneously influence strategic objectives, financial performance, operational continuity, and long-term sustainability. In response, enterprise risk management (ERM) has evolved from a predominantly control-oriented function into an integrated management framework that connects risk identification, assessment, response, monitoring, and reporting with organizational strategy and decision-making (Rujiin & Sukirman, 2020). The Committee of Sponsoring Organizations of the Treadway Commission (COSO, 2017) defines ERM as a process influenced by an organization's board, management, and other personnel, applied in strategy setting and across the enterprise to support the achievement of objectives. This perspective positions ERM as more than an internal control mechanism because it enables organizations to incorporate risk considerations into strategic decisions, strengthen organizational resilience, and protect long-term value (Hidayah et al., 2025). The effectiveness of ERM, however, depends not only on the existence of formal risk management systems but also on the quality of their implementation, governance, and disclosure to stakeholders.

The banking sector provides a particularly relevant setting for examining ERM because banks perform financial intermediation while operating under extensive regulatory oversight and substantial exposure to interconnected risks. Credit, market, liquidity, operational, legal, compliance, reputational, and cybersecurity risks can interact and transmit disruptions across banking operations. The expansion of digital financial services, the development of financial technology, and changes in regulatory requirements have further increased the complexity of these exposures (Aryani & Assegaf, 2026). In Indonesia, risk governance is supported by Financial Services Authority Regulation No. 18/POJK.03/2016 concerning the implementation of risk management for commercial banks, while Regulation No. 51/POJK.03/2017 establishes requirements concerning the implementation of sustainable finance for financial institutions and other regulated entities. Together, these regulatory frameworks reinforce the need to integrate risk management with institutional governance and sustainability considerations. Nevertheless, the existence of regulatory requirements does not automatically establish that banks implement risk management effectively or communicate their risk exposures transparently. Consequently, examining the determinants of ERM disclosure provides a means of understanding how financial characteristics and sustainability-related reporting are associated with the transparency of banking risk governance.

Recent developments further demonstrate the importance of risk governance and disclosure in the banking industry. According to the regulatory figures cited in this study, the Indonesian banking industry's loan-at-risk ratio declined to 9.41% in October 2025 and 9.22% in December 2025, while the capital adequacy ratio stood at 26.05% and gross non-performing loans reached 2.21% in December 2025. Although these indicators provide information about banking-sector conditions, improvements in aggregate financial indicators do not necessarily eliminate underlying operational, technological, or governance risks. The ransomware incident involving PT Bank Syariah Indonesia Tbk in May 2023 illustrates this concern. The disruption of banking services and allegations of extensive customer data leakage demonstrated how an operational incident can develop into a broader crisis involving information security, regulatory compliance, business continuity, and corporate reputation. Such developments indicate that risk management must extend beyond reactive

crisis response toward systematic risk identification, prevention, monitoring, and accountability. They also highlight the relevance of transparent disclosure in enabling stakeholders to evaluate whether banks have established adequate mechanisms to identify and manage emerging risks. However, ERM disclosure should not be interpreted as direct evidence of effective risk control, because the extent of publicly reported information may differ from the actual quality of risk management implementation.

Because internal risk management processes cannot be observed directly by external stakeholders, empirical research frequently employs ERM disclosure as a proxy for the transparency of corporate risk governance. ERM disclosure captures information communicated by firms concerning their risk management structures, policies, identification procedures, assessment practices, and control mechanisms. From an agency theory perspective, this disclosure is relevant because the separation between ownership and managerial control creates information asymmetry regarding organizational conditions, managerial decisions, and exposure to risk (Jensen & Meckling, 1976). Managers generally possess more detailed information about internal operations than shareholders and other external stakeholders. Transparent reporting can reduce this information gap, strengthen managerial accountability, and enable stakeholders to evaluate how entrusted resources are managed. Nevertheless, disclosure also reflects managerial reporting choices and the availability of information, meaning that more extensive disclosure does not necessarily indicate superior risk management performance. This distinction provides the theoretical basis for examining organizational characteristics that may be associated with ERM disclosure, particularly ESG disclosure and profitability.

Environmental, social, and governance (ESG) disclosure has become increasingly relevant to corporate transparency because environmental conditions, social responsibilities, and governance practices can generate risks that affect organizational performance and long-term sustainability. In banking, ESG considerations are particularly consequential because lending and investment decisions can transmit environmental and social exposures into credit risk, asset quality, compliance obligations, and reputational risk (Citterio & King, 2023). Agency theory suggests that ESG disclosure can reduce information asymmetry by communicating how management identifies and addresses sustainability-related risks. It may also strengthen external scrutiny, encouraging managers to demonstrate that environmental, social, and governance considerations are incorporated into organizational decision-making and risk oversight. Previous studies have associated ESG-related transparency with risk management practices and corporate risk outcomes (Chen et al., 2024; He et al., 2023; Sharma, 2023), while Zikriani et al. (2025) provide evidence concerning the relationship between ESG implementation and risk management in the banking sector. These findings provide a rationale for expecting ESG disclosure to be positively associated with ERM disclosure. However, ESG disclosure and ERM disclosure represent distinct reporting dimensions, and their relationship should be established empirically rather than assumed. The first hypothesis is therefore that H1: ESG disclosure has a positive effect on ERM disclosure.

Profitability represents another potential determinant of ERM disclosure because it reflects a firm's ability to generate earnings from its available resources and may indicate its financial capacity to support organizational systems. Under agency theory, firms with stronger financial performance may face greater expectations from investors and other stakeholders to maintain transparent governance and demonstrate effective risk oversight. Higher profitability may also provide additional resources for developing internal controls, information systems, and specialized risk management capabilities (Rujiin & Sukirman, 2020). Conversely, firms experiencing weaker financial performance may face tighter resource constraints that limit their capacity to invest in risk management infrastructure and

disclosure activities. Previous studies have reported positive relationships between profitability and ERM or risk disclosure (Hernawati & Ruslim, 2024; Kusumaningrum et al., 2023; Saleh et al., 2024). Nevertheless, profitability does not necessarily guarantee more extensive disclosure, because managerial reporting decisions, regulatory requirements, and organizational governance may influence disclosure practices independently of financial performance. Furthermore, evidence derived from non-financial firms or cross-industry samples may not fully represent the institutional characteristics of Indonesian banks. This limitation provides a rationale for examining the relationship within a banking-specific sample. Accordingly, the second hypothesis is that H2: Profitability has a positive effect on ERM disclosure.

Although previous studies have investigated risk management disclosure in relation to firm size, leverage, profitability, risk management committees, ownership structure, and other governance characteristics (Lahfah & Rahayu, 2023; Sari et al., 2022; Yolifiandri et al., 2024), the relationship between sustainability-related disclosure and ERM disclosure remains insufficiently established in the specific context of Indonesian banking. Existing research has frequently emphasized conventional financial characteristics and corporate governance mechanisms, while the extent to which ESG disclosure is associated with the transparency of integrated risk management requires further empirical examination. In addition, previous findings concerning profitability are not necessarily transferable across industries because banking institutions operate under distinct regulatory requirements, risk exposures, and governance expectations. These limitations identify a contextual and empirical research gap rather than an assumption that the relationship has never been investigated. The present study addresses this gap by examining the associations of ESG disclosure and profitability with ERM disclosure among banking companies listed on the Indonesia Stock Exchange (IDX) during the 2019–2024 period. Firm size and liquidity are incorporated as control variables because organizational scale, operational complexity, external scrutiny, and liquidity conditions may also be associated with risk disclosure practices (Sari et al., 2022; Gregorio & Aritonang, 2023; Rosiani & Honesty, 2023).

The contribution of this study lies in examining ESG disclosure and profitability within a banking-specific empirical framework that accounts for firm size and liquidity, thereby extending the discussion of ERM disclosure beyond conventional financial and governance characteristics. The study does not presume that greater disclosure necessarily reflects more effective risk management; instead, it evaluates whether sustainability-related transparency and financial performance are associated with the extent of publicly reported ERM information. Its findings are expected to contribute to the application of agency theory in explaining corporate risk transparency and to provide empirical evidence relevant to bank management, investors, and regulators. For banking practitioners, the analysis may help identify organizational characteristics associated with more extensive risk disclosure. For investors and other stakeholders, it may improve understanding of how sustainability reporting and financial performance relate to the transparency of risk governance. For policymakers and regulators, the results may inform ongoing discussions concerning the alignment of sustainability disclosure, corporate accountability, and integrated risk management. Given the banking sector's exposure to interconnected financial and non-financial risks, establishing these relationships is relevant to strengthening the empirical basis for evaluating risk transparency in Indonesia's financial system.

Methods

This study employed a quantitative explanatory research design to examine the relationship between environmental, social, and governance (ESG) disclosure, profitability, and enterprise risk management (ERM) disclosure based on agency theory. The research was conducted using secondary data from banking companies listed on the Indonesia Stock Exchange (IDX) during the 2019–2024 observation period. The study population comprised all banking-subsector companies listed on the IDX during these six years. Purposive sampling was applied based on three criteria: availability of complete annual reports throughout the observation period, accessibility of measurable ESG disclosure information, and completeness and consistency of data for all research variables. Based on these criteria, 47 banks were selected, yielding 282 bank-year observations. Data were collected through non-participant observation and documentation of annual reports and sustainability reports obtained from the IDX website and the respective banks' official websites. Content analysis was used to quantify the disclosed information. ERM disclosure was measured using an index based on the five components of the COSO (2017) framework, while ESG disclosure was assessed using an index based on the Global Reporting Initiative (GRI) standards. Each disclosed item was assigned a score of one, whereas undisclosed items received a score of zero. Profitability was measured using return on assets (ROA), firm size was measured by the natural logarithm of total assets, and liquidity was measured using the loan-to-deposit ratio (LDR).

The collected data were processed using SPSS through a systematic analytical procedure. Descriptive statistical analysis was first conducted to summarize the minimum, maximum, mean, and standard deviation of the research variables. Classical assumption tests were subsequently performed, comprising the Kolmogorov–Smirnov test for residual normality, tolerance and variance inflation factor (VIF) assessments for multicollinearity, the Glejser test for heteroskedasticity, and the Durbin–Watson statistic for autocorrelation. Multiple linear regression analysis was then employed to examine the relationships between ESG disclosure and profitability as the independent variables and ERM disclosure as the dependent variable, with firm size and liquidity included as control variables. Model adequacy was evaluated using the coefficient of determination and the F-test, while the individual effects of the independent variables were assessed using t-tests. Statistical significance was evaluated at the 5% level, with the hypotheses considered supported when the estimated coefficient had the predicted direction and its p-value was below 0.05. The purposive sampling procedure may introduce selection bias and limits the generalizability of the findings to banking companies with sufficiently complete and accessible disclosure data.

Results and Discussions

1. Descriptive Statistics

Table 1 presents descriptive statistics for the 282 bank-year observations.

Table 1. *Descriptive Statistics*

Variable	*N*	Minimum	Maximum	*M*	*SD*
ERMD	282	0.000	1.000	0.791	0.171
ESGD	282	0.000	0.987	0.406	0.235
ROA	282	−0.182	0.141	0.007	0.027
SIZE	282	27.296	35.426	31.376	1.753

Variable	*N*	Minimum	Maximum	*M*	*SD*
LDR	282	0.000	5.066	19.019	301.614

Note. ERMD = ERM disclosure index; ESGD = ESG disclosure index; ROA = return on assets; SIZE = natural logarithm of total assets; LDR = loan-to-deposit ratio. The LDR statistics are reproduced as reported. They are internally inconsistent (the mean exceeds the maximum), which suggests a unit or data-entry problem, so they should be read with caution. The mean ERMD of 0.791 indicates that sampled banks disclose about 79% of the ERM indicators, which is relatively comprehensive. Krom Bank Indonesia (BBSI) recorded the minimum of 0.000 in 2019. Several banks, including Bank Rakyat Indonesia (BBRI) and Bank MNC Internasional (BABP), disclosed all indicators in every year. The standard deviation of 0.171 shows moderate variation in transparency across banks.

ESG disclosure is considerably lower and more dispersed, with a mean of 0.406 (about 41% of indicators) and a standard deviation of 0.235. The maximum of 0.987 belongs to Bank Syariah Indonesia (BRIS) in 2020, whereas BBSI reported none of the indicators in 2019. This heterogeneity suggests that sustainability reporting is still uneven across the industry. Profitability is low on average (ROA = 0.007, or 0.7%), and its standard deviation (0.027) is almost four times the mean. ROA ranges from −0.182 for Bank Raya Indonesia (AGRO) in 2021 to 0.141 for Bank Mandiri (BMRI) in 2020, so the sample includes both loss-making and highly profitable observations. Firm size averages 31.376 in log terms. It ranges from 27.296 (Bank Aladin Syariah, 2019) to 35.426 (BMRI, 2024), reflecting wide differences in asset scale. The dispersion in LDR is extreme and its reported statistics are inconsistent, so the LDR results need verification of units and outliers before strong inferences are drawn.

2. Classical Assumption Tests

Table 2 summarizes the four classical assumption tests.

Table 2. *Results of Classical Assumption Tests*

Test	Statistic	Criterion	Result
Normality (Kolmogorov–Smirnov)	D = 0.069; Sig. = .103	Sig. > .05	Residuals normal
Multicollinearity: ESGD	Tolerance = 0.719; VIF = 1.391	Tolerance > .10; VIF < 10	None
Multicollinearity: ROA	Tolerance = 0.928; VIF = 1.077	Tolerance > .10; VIF < 10	None
Multicollinearity: SIZE	Tolerance = 0.693; VIF = 1.443	Tolerance > .10; VIF < 10	None
Multicollinearity: LDR	Tolerance = 0.971; VIF = 1.030	Tolerance > .10; VIF < 10	None
Heteroskedasticity (Glejser): ESGD	Sig. = .628	Sig. > .05	Homoskedastic
Heteroskedasticity (Glejser): ROA	Sig. = .670	Sig. > .05	Homoskedastic

Test	Statistic	Criterion	Result
Heteroskedasticity (Glejser): SIZE	Sig. = .736	Sig. > .05	Homoskedastic
Heteroskedasticity (Glejser): LDR	Sig. = .123	Sig. > .05	Homoskedastic
Autocorrelation (Durbin–Watson)	*DW* = 0.932	Close to 2	Positive autocorrelation indicated

Note. $N = 282$.

The Kolmogorov–Smirnov statistic of 0.069 has a significance of .103, above .05, so normally distributed residuals are not rejected. All tolerance values exceed .10 and all VIF values are far below 10 (the highest is 1.443, for SIZE), so multicollinearity is not a concern. The Glejser test yields significance values between .123 and .736, so no predictor significantly explains the absolute residuals and the error variance can be treated as constant. The Durbin–Watson statistic is 0.932, well below 2, which signals positive serial correlation in the residuals. This is plausible in a panel that observes each bank over six consecutive years, because a bank's disclosure habits tend to persist. Serial correlation does not bias the coefficients, but it can understate standard errors and inflate *t* statistics. The significance levels reported below should therefore be interpreted cautiously.

3. Regression Results

Table 3 reports the multiple regression estimates.

Table 3. *Multiple Regression Results (Dependent Variable: ERMD)*

Predictor	*B*	*SE*	β	*t*	*p*
(Constant)	0.034	0.205		0.164	.870
ESGD	0.116	0.051	0.152	2.302	.022
ROA	1.432	0.379	0.220	3.777	< .001
SIZE	0.023	0.007	0.227	3.368	.001
LDR	6.332×10^{-8}	< 0.001	0.025	0.433	.666

Note. *B* = unstandardized coefficient; *SE* = standard error; β = standardized coefficient. $N = 282$.

The estimated model is ERMD = 0.034 + 0.116 ESGD + 1.432 ROA + 0.023 SIZE + 6.332×10^{-8} LDR. Holding other variables constant, a one-unit increase in the ESG index is associated with a 0.116 increase in the ERM index. Because both indices range from 0 to 1, a ten-percentage-point increase in ESG disclosure corresponds to roughly a 1.2-percentage-point increase in ERM disclosure. The ROA coefficient is large in raw terms only because ROA is a small fraction: a one-percentage-point rise in ROA corresponds to about a 0.014 increase in ERMD. Each additional unit of log assets raises ERMD by 0.023, while the LDR coefficient is practically zero. Standardized coefficients show that SIZE (β = 0.227) and ROA (β = 0.220) have the largest relative influence on ERM disclosure, followed by ESGD (β = 0.152) and LDR (β = 0.025). ERM disclosure among Indonesian banks is thus shaped more by scale and financial performance than by sustainability transparency, although the latter also contributes.

4. Model Fit

Table 4 presents the coefficient of determination and the *F* test.

Table 4 *Model Summary and F Test*

Statistic	Value
R	.358
R^2	.128
Adjusted R^2	.116
Standard error of the estimate	0.167
Regression sum of squares	1.134 (df = 4; MS = 0.284)
Residual sum of squares	7.710 (df = 277; MS = 0.028)
F	10.189
Sig.	< .001

Note. Predictors: ESGD, ROA, SIZE, LDR. Dependent variable: ERMD.

The F statistic of 10.189 (p < .001) shows that the model is statistically feasible and that the four predictors jointly explain variation in ERM disclosure. The explanatory power is modest, however: R^2 = .128 (adjusted R^2 = .116), so about 87% of the variance is attributable to factors outside the model. Low R^2 values are common in disclosure research, where behavior is shaped by many governance, ownership, and regulatory factors. This result indicates that ESG disclosure and profitability are only part of the explanation.

5. Hypothesis Testing

Table 5 summarizes the decisions on the hypotheses and the control variables.

Table 5. *Summary of Hypothesis Testing*

Hypothesis	Relationship	β	t	p	Decision
H1	ESGD → ERMD (+)	0.152	2.302	.022	Supported
H2	ROA → ERMD (+)	0.220	3.777	< .001	Supported
Control	SIZE → ERMD	0.227	3.368	.001	Positive, significant
Control	LDR → ERMD	0.025	0.433	.666	Not significant

Note. Significance level α = .05.

6. ESG Disclosure and ERM Disclosure

ESG disclosure has a positive and significant effect on ERM disclosure (B = 0.116, t = 2.302, p = .022), so H1 is supported. Banks that are more transparent about environmental, social, and governance matters also tend to provide more extensive risk information. This is consistent with agency theory. Managers hold more information than shareholders about internal conditions and risks, including sustainability-related risks, and disclosure is one way to reduce this asymmetry. ESG disclosure shows how management identifies and responds to risks arising from operations and financing decisions, and thereby strengthens the principal's ability to monitor the agent. Greater ESG

transparency also pressures management to show that sustainability risks are handled within a structured ERM process.

The result agrees with earlier studies. Kazyte et al. (2026) find that comprehensive, internationally standardized sustainability reporting leads firms to widen risk identification to non-financial risks such as environmental, social, governance, and reputational risk. He et al. (2023) show that comprehensive ESG disclosure reduces information asymmetry and financing constraints, which improves financial and operational resilience. Le et al. (2026) report that ESG transparency is associated with less earnings manipulation and lower market volatility, which suggests stronger oversight and risk structures. Chen et al. (2024) argue that ESG transparency lowers agency costs and business risk through better internal oversight. Sharma (2023) finds that firms that consistently disclose ESG information tend to have more robust risk management structures. Dewi et al. (2024) add that well-documented sustainability performance supports competitive advantage through ERM, and Zikriani et al. (2025) reach a similar conclusion for banks.

The result also needs a nuance. The study measures disclosure on both sides, so the finding indicates that ESG reporting and ERM reporting move together. It does not prove that ESG reporting causes better risk management. Two explanations are plausible and not mutually exclusive. One is a substantive link, in which firms that integrate sustainability into strategy also build more integrated risk systems. The other is a reporting-culture link, in which banks with a strong transparency orientation or well-developed reporting functions disclose more on every topic. ESG disclosure averages only about 41% of indicators while ERM disclosure averages 79%. ERM reporting therefore appears more institutionalized, probably because banking regulation already mandates risk reporting, whereas ESG reporting is still maturing. The positive association suggests that, as sustainability reporting expands under POJK 51/POJK.03/2017 and international standards, it may reinforce the integration of non-financial risk into ERM.

7. Profitability and ERM Disclosure

Profitability, measured by ROA, has a positive and highly significant effect on ERM disclosure (B = 1.432, t = 3.777, p < .001), so H2 is supported. With a standardized coefficient of 0.220, profitability is the second most influential variable in the model. More profitable banks disclose more about how they manage risk. Two agency-theoretic arguments explain this. First, profitability reflects management's success in using shareholders' resources. Principals want to know whether profits result from sound risk control rather than excessive risk-taking. Managers of profitable banks therefore have an incentive to show, through ERM disclosure, that performance is supported by adequate risk processes and to maintain investor confidence. Second, profitability gives banks the resources to invest in internal control, information technology, internal audit, and risk-management personnel. This raises both the quality of ERM and the ability to report it comprehensively. Less profitable banks, including those that recorded losses in the sample, may lack the slack to fund such infrastructure.

The finding is consistent with prior research. Saleh et al. (2024) conclude that high profitability provides the financial base for building risk mitigation capacity. Kusumaningrum et al. (2023) find that profitability encourages broader risk disclosure as accountability for protecting shareholders' assets, and Hernawati and Ruslim (2024) show that financial strength increases resilience in uncertain environments. Erviana (2024) examines ERM disclosure among Indonesian banking-subsector firms with profitability as one determinant, and Bahiyyah et al. (2025) show that transparent risk disclosure at Indonesia's most profitable banks builds stakeholder confidence. The present study extends this

literature by testing the relationship in a banking-only sample over 2019–2024, a period that includes the pandemic and its aftermath. A caveat follows from Table 1. ROA is small and dispersed, and the sample contains negative values. The significant coefficient therefore partly reflects the contrast between loss-making and profitable banks. It does not necessarily imply that moderate gains in profitability would materially change the disclosure of an already profitable bank.

8. Control Variables: Firm Size and Liquidity

Firm size has a positive and significant effect on ERM disclosure (B = 0.023, t = 3.368, p = .001) and, with β = 0.227, is the strongest predictor in the model. Larger banks have more complex operations, more diverse activities, a wider range of stakeholders, and greater exposure to risk, which increases the demand for structured risk management and reporting. They also face closer scrutiny from investors, creditors, and regulators and have more financial, technological, and human resources to support integrated risk systems. In agency terms, greater organizational complexity widens the distance between owners and managers and raises the need for monitoring, so ERM disclosure becomes a mechanism to curb agency costs. This is consistent with Sari et al. (2022), Lahfah and Rahayu (2023), and Rujiin and Sukirman (2020), who report positive size effects on ERM disclosure. Liquidity, proxied by LDR, has no significant effect (B ≈ 0, t = 0.433, p = .666; β = 0.025). A plausible interpretation is that ERM covers credit, market, operational, compliance, legal, reputational, and strategic risks, whereas LDR captures only one aspect of a bank's financial position. Changes in the loan-to-deposit ratio therefore need not change the breadth of ERM reporting. Banking regulation also prescribes risk-management practices and disclosure for all banks. Much of the variation in reporting may therefore be driven by institutional requirements rather than by liquidity conditions. The anomalies in the LDR descriptive statistics (Table 1) mean that measurement problems could also contribute to the null result, and the proxy should be re-examined.

9. Implications

Theoretically, the results support the use of agency theory to explain risk disclosure in banks. ESG disclosure, profitability, and size are each linked to information asymmetry, monitoring needs, or the capacity to bear disclosure costs, and each is a significant determinant. Liquidity is not. The pattern suggests that agency-based explanations should be combined with institutional factors, because the regulated environment of banking may limit differences in disclosure that arise from financial conditions alone. For bank management, the findings suggest treating sustainability reporting and risk reporting as complementary. Integrating ESG information into the ERM framework would make disclosure more informative. So would explaining how liquidity and other financial conditions connect to credit, market, and operational risk, rather than reporting ratios alone. Larger banks should ensure that disclosure keeps pace with the complexity of their activities. Banks should also maintain consistent disclosure regardless of performance in a given year, since consistency strengthens credibility. For regulators, standards that emphasize the relevance, quality, and linkage of information, rather than quantity alone, would improve the usefulness of ERM and ESG reporting. For investors, ERM disclosure is a useful signal of governance quality, but it should be evaluated independently of profitability, because high profits do not by themselves guarantee high-quality risk management.

Conclusion

This study concludes that ESG disclosure and profitability are positively and significantly associated with ERM disclosure among 47 banks listed on the Indonesia Stock Exchange during 2019–2024, based on 282 bank-year observations. The regression results support both hypotheses, indicating that higher ESG disclosure and stronger profitability, measured by return on assets (ROA), are associated with more extensive ERM disclosure. Firm size also exhibits a positive and significant relationship, whereas liquidity, measured by the loan-to-deposit ratio (LDR), does not show a statistically significant relationship. Although the regression model is statistically significant, its explanatory power remains limited, indicating that other organizational and governance factors may contribute to variations in ERM disclosure. From an agency theory perspective, these findings suggest that sustainability transparency and financial performance are associated with corporate risk reporting and may serve as mechanisms for reducing information asymmetry and strengthening accountability. However, the results concern disclosure practices rather than providing direct evidence of the effectiveness of actual risk management implementation.

Future research should employ panel-data estimation techniques that account for bank-specific characteristics and serial correlation, using appropriate robust or clustered standard errors to improve statistical inference. Researchers should also verify the consistency of liquidity data, consider alternative measurement proxies, and incorporate information from sustainability reports, governance reports, and corporate websites to strengthen the validity of disclosure measurement. Expanding the observation period and examining additional determinants, including ownership structure, board characteristics, audit quality, leverage, and corporate governance mechanisms, may improve explanatory power and provide a more comprehensive understanding of ERM disclosure. For banking practitioners, the findings highlight the relevance of integrating sustainability reporting, financial performance monitoring, and risk governance transparency. For regulators and policymakers, the results support continued efforts to strengthen the consistency and comparability of sustainability and risk disclosures. Nevertheless, because the study uses purposive sampling and disclosure-based measures, its findings should be interpreted within the sampled banking context and as evidence of statistical associations rather than definitive causal effects or direct measures of risk management effectiveness.

Acknowledgments

The author would like to express sincere gratitude to the research supervisors, academic colleagues, and all parties who provided guidance, support, and valuable contributions throughout this study. Appreciation is also extended to the Indonesia Stock Exchange and the respective banks for making the financial and sustainability reports accessible, which enabled the completion of this research on ESG disclosure, profitability, and enterprise risk management disclosure.

References

Aryani, D. N., & Assegaf, H. H. (2026). Risk management and bank profitability: Moderating effects on lending and credit risk in Indonesia. *International Journal of Applied Business and International Management, 11*(1), 208–223. https://doi.org/10.32535/ijabim.v11i1.4506

Bahiyyah, K., Kurniawati, Y., Romdoni, N. K., Sutarsa, M., Sofyan, H., & Usmar, A. (2025). Disclosure of risk management processes at the best banks in Indonesia. *International Journal of Economics Development Research, 6*(2), 736–750. https://doi.org/10.37385/ijedr.v6i2.7288

Chen, F., Liu, Y., & Chen, X. (2024). ESG performance and business risk: Empirical evidence from China's listed companies. *Innovation and Green Development, 3*(3), Article 100142. https://doi.org/10.1016/j.igd.2024.100142

Citterio, A., & King, T. (2023). The role of environmental, social, and governance (ESG) in predicting bank financial distress. *Finance Research Letters, 51*, Article 103411. https://doi.org/10.1016/j.frl.2022.103411

Committee of Sponsoring Organizations of the Treadway Commission. (2017). *Enterprise risk management: Integrating with strategy and performance*.

Dewi, A. A., Saraswati, E., Rahman, A. F., & Atmini, S. (2024). Moderating role of enterprise risk management in the relationship between sustainability performance and a firm's competitive advantage. *Problems and Perspectives in Management, 22*(2), 226–239. https://doi.org/10.21511/ppm.22(2).2024.18

Erviana, P. (2024). Pengaruh komisaris independen, leverage, profitabilitas, dan risk management committee (RMC) terhadap pengungkapan enterprise risk management (Studi empiris pada perusahaan sub sektor perbankan yang terdaftar di Bursa Efek Indonesia periode 2018–2021). *Jurnal Ilmiah Manajemen, Ekonomi dan Bisnis, 1*(3), 1–14. https://www.journal.feb.uniku.ac.id/jimeb/article/view/245

Gregorio, L., & Aritonang, E. (2023). Effect of ownership structure, profitability, and liquidity on risk management disclosure. In *Proceedings of the Asia Pacific Conference on Industrial Engineering and Operations Management* (pp. 1421–1430). https://doi.org/10.46254/ap03.20220257

He, G., Liu, Y., & Chen, F. (2023). Research on the impact of environment, society, and governance (ESG) on firm risk: An explanation from a financing constraints perspective. *Finance Research Letters, 58*, Article 104038. https://doi.org/10.1016/j.frl.2023.104038

Hernawati, H., & Ruslim, H. (2024). The effect of corporate governance, profitability, and capital structure on corporate risk disclosure, with company size as moderation. *Eduvest: Journal of Universal Studies, 4*(6), 4944–4956. https://doi.org/10.59188/eduvest.v4i6.1461

Hidayah, N. S., Pradesa, H. A., Taufik, N. I., Purba, C. O., & Agustina, I. (2025). Penerapan enterprise risk management (ERM) berdasarkan COSO framework pada perusahaan manufaktur di Indonesia. *Ekonomi, Keuangan, Investasi dan Syariah (EKUITAS), 6*(3), 463–476. https://doi.org/10.47065/ekuitas.v6i3.6876

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics, 3*(4), 305–360. https://doi.org/10.1016/0304-405X(76)90026-X

Kazyte, A., Krusna, R., & Sapkauskiene, A. (2026). From ESG disclosure to credit risk: Evidence from European firms. *Journal of Financial Reporting and Accounting*. https://doi.org/10.1108/JFRA-05-2025-0443

Kusumaningrum, D., Setiyowati, S. W., & Sari, A. R. (2023). The influence of the board of directors, risk management committee, ownership concentration and profitability on enterprise risk management. *ASSETS, 13*(2), 315–327. https://doi.org/10.24252/assets.v13i2.37747

Lahfah, A. A., & Rahayu, S. (2023). Pengaruh komite manajemen risiko, leverage, dan umur perusahaan terhadap pengungkapan enterprise risk management (Studi pada perusahaan subsektor perbankan yang terdaftar di Bursa Efek Indonesia tahun 2018–2021). *Ekonomis: Journal of Economics and Business, 7*(2), 1086. https://doi.org/10.33087/ekonomis.v7i2.1338

Le, T. T., Bhuiyan, T., Hoque, A., & Le, T. (2026). The double-edged sword of ESG in Australia: Risk or resilience? The mediating role of earnings management. *Journal of Economics and Development, 28*(1), 58–74. https://doi.org/10.1108/JED-08-2025-0422

Pratiwi, R., Jummaini, Yanita, & Ristati. (2023). The influence of capital adequacy, liquidity, bank size, and profitability on credit risk in commercial banks category BUKU IV. *Jurnal Riset Manajemen Sains Indonesia, 14*(2), 66–77. https://doi.org/10.21009/JRMSI.014.2.06

Rosiani, R., & Honesty, F. F. (2023). Pengaruh likuiditas, leverage, profitabilitas, dan good corporate governance terhadap risk management disclosure. *Jurnal Eksplorasi Akuntansi, 5*(4), 1364–1381. https://doi.org/10.24036/jea.v5i4.1055

Rujiin, C., & Sukirman, S. (2020). The effect of firm size, leverage, profitability, ownership structure, and firm age on enterprise risk management disclosures. *Accounting Analysis Journal, 9*(2), 81–87. https://doi.org/10.15294/aaj.v9i2.33025

Saleh, Q. Y., Mansour, E., Altarawneh, M. Y., & Ghassab, E. E. (2024). The relationship between innovation capability and profitability: The mediating role of enterprise risk management in Amman Stock Exchange (ASE). *Journal of Infrastructure, Policy and Development, 8*(13), 1–30. https://doi.org/10.24294/jipd7430

Sari, M. P., Pratama, F. N. A., Raharja, S., Yuyetta, E. N. A., & Widhiastuti, R. (2022). Company size as a moderating variable on enterprise risk management disclosure of banking companies in Indonesia. *Jurnal Dinamika Akuntansi, 14*(1), 76–88. https://doi.org/10.15294/jda.v14i1.35621

Sharma, S. (2023). Does ESG risk management ensure better risk management? Evidence from India. *Procedia Computer Science, 221*, 912–919. https://doi.org/10.1016/j.procs.2023.08.068

Yolifiandri, Y., Kamil, I., & Anjarwati, S. (2024). Determinants of risk management disclosure study of banking sub-sector companies listed on the Indonesia Stock Exchange. *Journal of Accounting and Finance Management, 5*(4), 872–882. https://doi.org/10.38035/jafm.v5i4.851

Zikriani, H., Fatwa, N., Fatiyurrobbany, F., Nasution, L. Z., & Rini, N. (2025). The impact of ESG principles implementation on risk management effectiveness in the banking sector. *International Journal of Integrative Research, 3*(2), 137–150. https://doi.org/10.59890/ijir.v3i2.338