

The Effects of Sustainability Governance, External Assurance, and Firm Characteristics on PSPK 1/2 Disclosure Gap: The Mediating Role of Climate Risk Management Disclosure and the Moderating Role of Climate-Sensitive Industry

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Abstract

This paper examines the disclosure gap in Indonesian listed companies' readiness for PSPK 1 and PSPK 2, sustainability disclosure standards aligned with IFRS S1 and IFRS S2. The topic is important because companies are expected to move from broad ESG narratives to measurable and financially relevant disclosures. This study applies a quantitative exploratory design using secondary data from annual reports, sustainability reports, ESG reports, financial statements, and assurance statements of selected Indonesian listed companies during 2023–2025. Documentary content analysis was used to construct PSPK 1/2 readiness, disclosure gap, sustainability governance, external assurance, and climate risk management disclosure indices. The analysis includes descriptive statistics, correlation analysis, VIF testing, and parsimonious regression. The findings show that PSPK 1/2 disclosure gaps remain evident despite the publication of sustainability reports. Climate risk management disclosure is the strongest factor associated with lower disclosure gaps, while sustainability governance supports readiness when translated into concrete climate-risk reporting practices. The study concludes that reducing PSPK 1/2

disclosure gaps requires stronger climate risk management systems, effective sustainability governance, and broader assurance scope. The implication is that listed companies should strengthen standard-based sustainability reporting before PSPK 1 and PSPK 2 become fully effective.

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INTRODUCTION

Sustainability-related financial disclosure has become an important issue in global capital markets because investors, creditors, regulators, and other stakeholders increasingly require information that is transparent, comparable, reliable, and useful for decision-making. Sustainability reporting is no longer viewed merely as a voluntary communication tool, but as a mechanism to explain how sustainability-related risks and opportunities affect corporate governance, strategy, risk management, performance, and long-term value creation. Prior studies show that sustainability disclosure is influenced by stakeholder pressure, firm visibility, industry sensitivity, governance mechanisms, and institutional context (Ali et al., 2017; Benvenuto et al., 2023; Dienes et al., 2016). However, the publication of sustainability reports does not automatically indicate high disclosure quality. Companies may disclose ESG commitments and sustainability programs, but the information may remain general, narrative, incomplete, difficult to compare, or weakly connected to financial implications (Boiral & Henri, 2017; Hummel & Schlick, 2016; Papoutsis & Sodhi, 2020). Therefore, evaluating disclosure gaps is necessary to understand whether companies are genuinely ready to meet emerging sustainability disclosure standards.

The theoretical foundation of this study is primarily grounded in Stakeholder Theory and Legitimacy Theory. Stakeholder Theory argues that companies disclose sustainability-related information to fulfil the information needs and expectations of diverse stakeholders, including investors, creditors, regulators, customers, employees, and society (Freeman, 1984). As sustainability-related risks increasingly influence investment and financing decisions, firms are expected to provide transparent, comparable, and decision-useful disclosures that reduce information asymmetry and enhance stakeholder confidence. Meanwhile, Legitimacy Theory suggests that companies seek to maintain social legitimacy by aligning their activities and disclosures with societal norms, expectations, and institutional pressures (Suchman, 1995). In the context of sustainability reporting, legitimacy is maintained not merely through symbolic ESG narratives but through credible, comprehensive, and financially relevant disclosures that demonstrate organisational accountability. These theoretical perspectives provide the underlying rationale for examining

how sustainability governance, external assurance, firm characteristics, climate risk management disclosure, and climate-sensitive industry influence PSPK 1/2 disclosure gaps.

The issuance of IFRS S1 and IFRS S2 by the International Sustainability Standards Board has introduced a more standardised and investor-oriented approach to sustainability-related financial disclosure. IFRS S1 focuses on general requirements for disclosing sustainability-related risks and opportunities, while IFRS S2 focuses on climate-related disclosures. Both standards are structured around four core content areas: governance, strategy, risk management, and metrics and targets. In Indonesia, the adoption of these standards is reflected in PSPK 1 and PSPK 2. Although Indonesian issuers have previously been required to publish sustainability reports under POJK No. 51/POJK.03/2017, regulatory compliance does not necessarily indicate readiness for PSPK 1 and PSPK 2. Many companies already disclose environmental programs, social initiatives, stakeholder engagement, and governance commitments, but potential gaps may still appear in climate risk assessment, transition risk disclosure, scenario analysis, Scope 3 emissions, climate-related financial effects, and measurable transition targets.

The readiness of Indonesian listed companies for PSPK 1/2 is a complex issue because disclosure gaps may be influenced by organisational and sectoral factors. Consistent with Stakeholder Theory and Legitimacy Theory, companies are expected to strengthen governance structures, improve disclosure credibility, and provide more transparent sustainability-related financial information to satisfy stakeholder expectations while maintaining organisational legitimacy. Sustainability governance is expected to reduce disclosure gaps because board oversight, sustainability committees, ESG governance structures, and sustainability functions can strengthen accountability and coordination in sustainability reporting (Al-Shaer & Zaman, 2016; Chairina & Tjahjadi, 2023; Qaderi et al., 2022). External assurance may also improve disclosure credibility because it strengthens the reliability and verifiability of sustainability information (García-Sánchez et al., 2019; Simoni et al., 2020). Firm characteristics, such as firm size, profitability, and leverage, may affect disclosure quality because larger firms face higher public visibility, profitable firms have more resources to develop reporting systems, and leveraged firms may disclose more information to reduce information asymmetry (Ali et al., 2017; Dienes et al., 2016; Hummel & Schlick, 2016).

Nevertheless, the effects of sustainability governance, external assurance, and firm characteristics on PSPK 1/2 disclosure gap may not be entirely direct. Climate risk management disclosure can function as a mechanism through which companies translate governance capacity, assurance discipline, and organisational resources into better sustainability reporting. This is because PSPK 2 and IFRS S2 require companies to explain how climate-related risks are identified, assessed, managed, monitored, and integrated into strategy and risk management. Companies with stronger climate risk management disclosure are expected to have lower PSPK 1/2 disclosure gaps because they provide more

specific, measurable, and decision-useful information about physical risks, transition risks, mitigation strategies, climate governance, and climate-related financial effects.

Climate-sensitive industry may further shape this relationship. Companies operating in energy, utilities, transportation, basic materials, cement, mining, and other high-impact sectors are more exposed to emissions, transition risks, environmental regulation, and stakeholder scrutiny than companies in less climate-sensitive sectors. From the perspective of Legitimacy Theory, companies operating in climate-sensitive industries face stronger public scrutiny and greater pressure to demonstrate conformity with environmental expectations through more transparent climate-related disclosures. Institutional pressures further reinforce this expectation because regulators, investors, and society increasingly demand comparable and financially relevant climate information (Benvenuto et al., 2023; Meutia et al., 2022). At the same time, these companies may also experience larger disclosure gaps if their reporting systems are not sufficiently mature to capture complex climate-related financial information.

Despite the growing literature on sustainability disclosure, several gaps remain. First, prior studies have mostly examined ESG disclosure, GRI-based reporting, assurance, or general determinants of sustainability disclosure, while limited studies have examined disclosure gaps relative to IFRS S1/S2-based national standards (Ali et al., 2017; Benvenuto et al., 2023; Sebrina et al., 2023). Second, previous studies often treat sustainability disclosure as a general construct and do not clearly distinguish between general sustainability-related financial disclosure and climate-related disclosure. Third, the mediating role of climate risk management disclosure in explaining how governance, assurance, and firm characteristics affect disclosure gaps remains underexplored. Fourth, limited research has examined climate-sensitive industry as a moderating condition in the relationship between climate risk management disclosure and standard-specific disclosure gaps.

Based on these gaps, this study aims to examine the effects of sustainability governance, external assurance, and firm characteristics on PSPK 1/2 disclosure gap, with climate risk management disclosure as a mediating variable and climate-sensitive industry as a moderating variable. This study addresses three research questions: Do sustainability governance, external assurance, and firm characteristics affect PSPK 1/2 disclosure gap? Does climate risk management disclosure mediate these relationships? Does climate-sensitive industry moderate the relationship between climate risk management disclosure and PSPK 1/2 disclosure gap? This study contributes to the literature by developing a disclosure-gap approach to assess readiness for PSPK 1/2 and provides practical insights for listed companies, regulators, investors, assurance providers, and standard-setters in strengthening sustainability-related financial disclosure before PSPK 1 and PSPK 2 become fully effective.

RESEARCH METHOD

This study employs a quantitative exploratory design using secondary data and documentary content analysis. This study is explicitly positioned as a preliminary exploratory study intended to provide early empirical evidence on Indonesian listed companies' readiness for PSPK 1 and PSPK 2 rather than to produce broadly generalisable causal conclusions. Accordingly, the analysis emphasises transparency in measurement, systematic content coding, and the identification of initial empirical patterns that may guide future large-sample investigations. This method is appropriate because the study evaluates corporate disclosure based on official documents, including annual reports, sustainability reports, ESG disclosures, financial statements, corporate governance reports, and external assurance statements. Content analysis was used to convert qualitative and quantitative sustainability information into measurable indices, particularly for PSPK 1/2 readiness, disclosure gap, sustainability governance, and climate risk management disclosure (Krippendorff, 2018; Neuendorf, 2017; Papoutsis & Sodhi, 2020).

The population of this study consists of Indonesian listed companies on the Indonesia Stock Exchange that publish sustainability-related information. The observation period covers 2023–2025 because this period represents the transition stage toward sustainability-related financial disclosure standards based on PSPK 1 and PSPK 2, which are aligned with IFRS S1 and IFRS S2. The unit of analysis is firm-year, meaning that each company in each year is treated as one observation.

The sample was selected using purposive sampling. The criteria were: the company is listed on the Indonesia Stock Exchange; publishes annual reports, sustainability reports, ESG reports, or integrated annual and sustainability reports during 2023–2025; provides accessible financial statement data; discloses sustainability governance or ESG-related information; and provides sufficient evidence for scoring climate risk management disclosure and PSPK 1/2 disclosure readiness. Based on the verified data available for final analysis, this study uses seven Indonesian listed companies: PT Bukit Asam Tbk, PT Kalbe Farma Tbk, PT Unilever Indonesia Tbk, PT Telkom Indonesia Tbk, PT Bank Syariah Indonesia Tbk, PT Samudera Indonesia Tbk, and PT Kencana Energi Lestari Tbk. These companies provide 19 available firm-year observations. However, complete PSPK 1/2 readiness and disclosure gap scores are available for six firm-year observations, consisting of PT Samudera Indonesia Tbk and PT Kencana Energi Lestari Tbk during 2023–2025. Therefore, descriptive statistics use all available observations, while correlation and regression analyses involving GAP use complete-case observations. The complete-case approach inevitably reduced the number of observations available for regression analysis to six firm-year observations. Rather than estimating regression models using incomplete disclosure information or applying data imputation techniques, this study prioritised data integrity by restricting the analysis to fully verified observations with complete PSPK 1/2 readiness and disclosure gap scores. Consequently, the regression results should be interpreted as preliminary empirical evidence intended to identify potential relationships among variables rather than to establish definitive statistical generalisations.

Data collection was conducted in four steps. First, annual reports, sustainability reports, ESG disclosures, and financial statements were collected from official company websites, Indonesia Stock Exchange disclosures, and other official reporting channels. Second, financial data, including total assets, net income, and total liabilities, were extracted from audited annual reports or financial statements. Third, sustainability governance, external assurance, climate risk management disclosure, and PSPK 1/2 readiness were coded using a structured codebook. Fourth, the coded data were compiled into the master dataset and verified through an evidence log. For companies reporting in foreign currency, financial data were converted into Indonesian rupiah using Bank Indonesia reference exchange rates to ensure comparability.

Table 1. Measurement of Research Variables

Variable	Symbol	Measurement
PSPK 1/2 Disclosure Gap	GAP	100 minus PSPK 1/2 readiness score
PSPK 1/2 Readiness	READINESS	Actual PSPK 1/2 disclosure score divided by maximum PSPK 1/2 score, multiplied by 100
Sustainability Governance	SGOV	Index based on sustainability responsibility, board oversight, ESG governance structure, sustainability function, and executive responsibility
External Assurance	ASSUR	Dummy variable: 1 if the sustainability report is externally assured, 0 otherwise
Firm Size	SIZE	Natural logarithm of total assets
Profitability	ROA	Net income divided by total assets
Leverage	LEV	Total liabilities divided by total assets
Climate Risk Management Disclosure	CRMD	Index based on climate risk identification, assessment, mitigation, monitoring, governance linkage, strategy linkage, metrics, targets, scenario analysis, and financial effects
Climate-Sensitive Industry	CSI	Dummy variable: 1 for climate-sensitive industries, 0 for non-climate-sensitive industries
Year Effect	YEAR	Year dummy for 2023, 2024, and 2025

Notes: PSPK = Pernyataan Standar Pengungkapan Keberlanjutan; CRMD = Climate Risk Management Disclosure; CSI = Climate-Sensitive Industry.

Source: Developed by the author based on PSPK 1/2, IFRS S1/S2, and prior disclosure studies.

The dependent variable is PSPK 1/2 disclosure gap. The independent variables are sustainability governance, external assurance, and firm characteristics. Firm characteristics are measured using firm size, profitability, and leverage. Climate risk management disclosure is used as the mediating variable, while climate-sensitive industry is treated as the

moderating variable in the conceptual model. However, because complete GAP observations are currently available only for climate-sensitive companies, the moderating effect of CSI is discussed conceptually and is not statistically estimated in this version.

PSPK 1/2 readiness was measured using disclosure items based on the structure of PSPK 1 and PSPK 2. The scoring follows four core areas: governance, strategy, risk management, and metrics and targets. Each item was scored using a 0–2 scale, where 0 indicates no disclosure, 1 indicates general or narrative disclosure, and 2 indicates specific, measurable, quantitative, comparable, or verifiable disclosure. The readiness score is calculated as follows:

$$\text{READINESS}_i = (\text{Actual PSPK 1/2 Disclosure Score}_i / \text{Maximum PSPK 1/2 Disclosure Score}) \times 100 \quad (1)$$

The PSPK 1/2 disclosure gap is calculated as follows:

$$\text{GAP}_i = 100 - \text{READINESS}_i \quad (2)$$

Sustainability governance is calculated using five binary indicators. Each disclosed indicator receives a score of 1, while undisclosed indicators receive a score of 0. The SGOV score is calculated as follows:

$$\text{SGOV}_i = (\text{Actual SGOV Score}_i / \text{Maximum SGOV Score}) \times 100 \quad (3)$$

Climate risk management disclosure is measured using a content-based index consisting of ten indicators: climate risk identification, climate risk assessment, climate risk mitigation, climate risk monitoring, integration into enterprise risk management, governance linkage, strategy linkage, metrics and targets, scenario or resilience analysis, and climate-related financial effects. Each indicator is scored using a 0–2 scale. The CRMD score is calculated as follows:

$$\text{CRMD}_i = (\text{Actual CRMD Score}_i / \text{Maximum CRMD Score}) \times 100 \quad (4)$$

Firm size, profitability, and leverage are calculated using financial statement data. Firm size is measured by the natural logarithm of total assets. Profitability is measured by return on assets, while leverage is measured by the ratio of total liabilities to total assets. These variables are calculated as follows:

$$\text{SIZE}_i = \ln(\text{Total Assets}_i) \quad (5)$$

$$\text{ROA}_i = \text{Net Income}_i / \text{Total Assets}_i \quad (6)$$

$$\text{LEV}_i = \text{Total Liabilities}_i / \text{Total Assets}_i \quad (7)$$

The initial conceptual model of the study examines the effect of sustainability governance, external assurance, and firm characteristics on PSPK 1/2 disclosure gap, with climate risk management disclosure as a mediating variable and climate-sensitive industry as a moderating variable. However, because the current complete-case dataset is limited, the empirical analysis is conducted using parsimonious regression models. This decision is made to avoid overfitting and to ensure that the statistical interpretation remains reliable for an exploratory conference paper. Given the very limited number of complete observations ($n = 6$), Ordinary Least Squares (OLS) regression is employed only as an exploratory analytical tool rather than as a basis for confirmatory statistical inference. OLS remains appropriate in

this context because the objective of the study is to examine the direction and magnitude of preliminary relationships among variables using transparent and interpretable estimation procedures. To minimise the risk of model overfitting, the empirical analysis is restricted to parsimonious regression specifications with a limited number of predictors. Therefore, the regression findings should be interpreted as exploratory evidence that provides an initial empirical foundation for future studies employing larger samples and more comprehensive econometric models.

The simplified empirical models are formulated as follows:

$$GAP_i = \alpha + \beta_1 SGOV_i + \beta_2 ASSUR_i + \beta_3 SIZE_i + \varepsilon_i \quad (8)$$

$$GAP_i = \alpha + \beta_1 CRMD_i + \varepsilon_i \quad (9)$$

$$GAP_i = \alpha + \beta_1 CRMD_i + \beta_2 SGOV_i + \varepsilon_i \quad (10)$$

In these equations, i represents company, t represents year, α is the constant, β is the regression coefficient, ε is the error term, GAP represents PSPK 1/2 disclosure gap, SGOV represents sustainability governance, ASSUR represents external assurance, SIZE represents firm size, and CRMD represents climate risk management disclosure.

Data analysis was conducted in several stages. First, descriptive statistics were used to describe the mean, standard deviation, minimum, and maximum values of each variable. Second, correlation analysis was conducted to examine the initial relationships among variables. Third, the multicollinearity test was conducted using the Variance Inflation Factor (VIF). Fourth, regression analysis was conducted using parsimonious Ordinary Least Squares (OLS) models because the number of complete PSPK-scored observations is limited. Given the exploratory nature of this study, the regression analysis is intended to identify preliminary empirical relationships rather than to generate broadly generalisable causal estimates. Therefore, coefficient interpretation focuses on the direction and relative strength of the observed relationships while recognising the limitations imposed by the small sample size. Fifth, mediation was interpreted by comparing the relationship between sustainability governance and CRMD, the relationship between CRMD and GAP, and the change in the direct effect of SGOV on GAP after CRMD was included in the model. Sixth, the moderating role of climate-sensitive industry was discussed conceptually because the current complete PSPK-scored observations are available only for climate-sensitive companies. Therefore, the interaction test between CRMD and CSI is not statistically estimated in this version of the paper.

This methodological approach is suitable for the current stage of the study because the purpose of the AICIE submission is to provide exploratory empirical evidence on PSPK 1/2 disclosure gaps using verified real data. Accordingly, this study should be viewed as a preliminary exploratory investigation that establishes an initial empirical baseline for subsequent studies using larger datasets, balanced industry representation, and more robust statistical techniques. Although the sample is limited, the use of documentary evidence, structured scoring, content analysis, and complete-case statistical analysis strengthens the transparency and replicability of the study. The limitation of the dataset is acknowledged,

and future research should expand the sample to include more companies and more balanced climate-sensitive and non-climate-sensitive industries.

RESULT AND DISCUSSION

This section presents the empirical findings based on the available verified firm-year observations. The analysis was conducted through sample description, descriptive statistics, correlation analysis, multicollinearity testing, parsimonious regression, and mediation interpretation. Since the study uses available real data, the findings should be interpreted as exploratory empirical evidence on PSPK 1/2 disclosure gaps during the transition period toward sustainability-related financial disclosure standards.

Table 2. Sample Composition

Sector	CSI	Firm-Year Observations
Energy	1	1
Utilities / Renewable Energy	1	3
Transportation & Logistics	1	3
Financials	0	3
Telecommunication	0	3
Consumer Non-Cyclicals	0	3
Healthcare	0	3
Total	-	19

Notes: CSI = Climate-Sensitive Industry; CSI = 1 indicates climate-sensitive industry, while CSI = 0 indicates non-climate-sensitive industry.

Source: Data processed by the author, 2026.

Table 2 shows that the study uses seven Indonesian listed companies with 19 available firm-year observations during 2023–2025. The sample includes both climate-sensitive industries, such as energy, renewable energy, and transportation, and non-climate-sensitive industries, such as financials, telecommunication, consumer non-cyclicals, and healthcare. However, complete PSPK 1/2 readiness and disclosure gap scores are available for six firm-year observations, consisting of PT Kencana Energi Lestari Tbk and PT Samudera Indonesia Tbk during 2023–2025. Therefore, descriptive statistics use all available observations, while correlation and regression analyses involving GAP use complete-case observations.

Table 3. Descriptive Statistics

Variable	N	Mean	Std. Dev.	Min	Max
READINESS	6	63.958	13.951	48.750	85.000
GAP	6	36.042	13.951	15.000	51.250
SGOV	17	87.059	17.235	60.000	100.000
ASSUR	18	0.556	0.511	0.000	1.000
CRMD	18	67.778	20.809	30.000	100.000

SIZE	19	17.594	1.538	15.509	19.938
ROA	19	0.096	0.099	0.016	0.382
LEV	19	0.434	0.207	0.146	0.866
CSI	19	0.368	0.496	0.000	1.000

Notes: READINESS = PSPK 1/2 readiness score; GAP = PSPK 1/2 disclosure gap; SGOV = sustainability governance; ASSUR = external assurance; CRMD = climate risk management disclosure; SIZE = firm size; ROA = profitability; LEV = leverage; CSI = climate-sensitive industry.

Source: Data processed by the author, 2026.

Table 3 indicates that the mean PSPK 1/2 readiness score is 63.958, while the mean disclosure gap is 36.042. This finding shows that the companies with complete PSPK-scored observations have reached a moderate level of readiness, but still face meaningful disclosure gaps. The result implies that the publication of sustainability reports does not automatically indicate full alignment with PSPK 1 and PSPK 2. Companies may disclose ESG programs, environmental initiatives, emissions information, or stakeholder engagement, but the information may remain incomplete if it is not connected to climate risk assessment, financial effects, scenario analysis, and measurable targets.

The mean SGOV score is 87.059, indicating that most available observations show relatively strong sustainability governance. This reflects the existence of sustainability responsibility, board oversight, governance structures, and internal functions related to sustainability reporting. However, the persistence of GAP indicates that governance structure alone is not sufficient. Sustainability governance must be translated into specific, measurable, and financially relevant disclosure practices. This supports previous studies arguing that governance mechanisms improve sustainability reporting quality when they strengthen accountability, coordination, and oversight over the disclosure process (Al-Shaer & Zaman, 2016; Chairina & Tjahjadi, 2023; Qaderi et al., 2022).

The mean ASSUR score is 0.556, showing that 55.6% of available observations have external assurance. This suggests that assurance has begun to appear in sustainability reporting practices, although it is not yet consistently applied across all companies and years. External assurance is important because it can improve the credibility and verifiability of sustainability information. However, assurance does not always guarantee lower disclosure gaps if the assurance scope is limited only to selected sustainability indicators and does not cover the full structure of PSPK 1/2 disclosure. This explains why the presence of assurance should be interpreted together with the depth and quality of the disclosed information (García-Sánchez et al., 2019; Simoni et al., 2020).

Table 4. PSPK 1/2 Readiness and Disclosure Gap by Firm-Year

Firm	Year	READINESS	GAP	SGOV	ASSUR	CRMD
KEEN	2023	50.000	50.000	60.000	0	35.000
KEEN	2024	61.250	38.750	60.000	0	45.000

KEEN	2025	65.000	35.000	60.000	0	50.000
SMDR	2023	48.750	51.250	60.000	0	30.000
SMDR	2024	73.750	26.250	80.000	1	60.000
SMDR	2025	85.000	15.000	80.000	0	80.000

Notes: READINESS = PSPK 1/2 readiness score; GAP = PSPK 1/2 disclosure gap; SGOV = sustainability governance; ASSUR = external assurance; CRMD = climate risk management disclosure.

Source: Data processed by the author, 2026.

Table 4 shows that KEEN and SMDR experienced increasing PSPK 1/2 readiness from 2023 to 2025. KEEN's readiness increased from 50.000 in 2023 to 65.000 in 2025, while SMDR's readiness increased from 48.750 in 2023 to 85.000 in 2025. At the same time, KEEN's disclosure gap decreased from 50.000 to 35.000, while SMDR's disclosure gap decreased from 51.250 to 15.000. This trend indicates that disclosure gaps can be reduced when companies strengthen climate risk management disclosure and provide more structured sustainability-related information.

This improvement is theoretically reasonable from stakeholder and legitimacy perspectives. Companies operating in climate-sensitive industries face greater public scrutiny, regulatory pressure, and stakeholder demand for climate-related information. Therefore, they have stronger incentives to disclose climate risks, mitigation strategies, emissions information, and transition-related commitments. However, the different pace of improvement between KEEN and SMDR indicates that sectoral exposure alone is not sufficient. Disclosure readiness also depends on internal reporting capacity, governance effectiveness, and the company's ability to convert climate risks into measurable disclosure.

Table 5. Correlation Matrix

Variable	GAP	SGOV	ASSUR	CRMD	SIZE	ROA	LEV
GAP	1.000						
SGOV	-0.856	1.000					
ASSUR	-0.344	0.632	1.000				
CRMD	-0.991	0.853	0.270	1.000			
SIZE	-0.493	0.754	0.430	0.489	1.000		
ROA	0.277	0.142	0.137	-0.250	0.672	1.000	
LEV	0.379	-0.299	-0.641	-0.263	-0.191	0.211	1.000

Notes: Correlation analysis is based on six firm-year observations with complete PSPK 1/2 readiness and disclosure gap scores.

Source: Data processed by the author, 2026.

Table 5 shows that SGOV has a strong negative correlation with GAP (-0.856), indicating that stronger sustainability governance is associated with lower PSPK 1/2 disclosure gaps. CRMD also has a very strong negative correlation with GAP (-0.991), suggesting that climate risk management disclosure is the variable most closely associated

with disclosure gap reduction. This finding is consistent with the structure of PSPK 2 and IFRS S2, which require companies to explain how climate-related risks are identified, assessed, managed, monitored, and connected to governance, strategy, metrics, targets, and financial implications.

The correlation between ASSUR and GAP is negative (-0.344), but weaker than SGOV and CRMD. This suggests that assurance may support disclosure quality, but its role depends on the scope and depth of assurance. If assurance covers only selected ESG indicators, it may not be sufficient to reduce the overall PSPK 1/2 disclosure gap. SIZE also has a negative correlation with GAP (-0.493), indicating that larger firms tend to have lower disclosure gaps. Larger firms generally have greater resources, stronger reporting infrastructure, and higher public visibility, which can encourage more comprehensive sustainability disclosure (Ali et al., 2017; Dienes et al., 2016).

Table 6. Multicollinearity Test

Model	Variable	VIF	Tolerance
Direct model	SGOV	3.175	0.315
Direct model	ASSUR	1.681	0.595
Direct model	SIZE	2.336	0.428
Mediation model	CRMD	3.667	0.273
Mediation model	SGOV	3.667	0.273

Notes: VIF values below 5 indicate that serious multicollinearity is not detected in the parsimonious models.

Source: Data processed by the author, 2026.

Table 6 indicates that the VIF values in the parsimonious models are below 5. This suggests that serious multicollinearity is not detected when the analysis is conducted using limited predictors. However, because the complete PSPK-scored dataset is still small, the regression model should remain parsimonious. A full model including all independent variables, mediator, moderator, and controls cannot be reliably estimated with the current number of complete observations. Therefore, the regression analysis focuses on the most relevant variables, namely SGOV, ASSUR, SIZE, and CRMD.

Table 7. Regression Results

Variable	Model 1: GAP on SGOV	Model 2: GAP on ASSUR	Model 3: GAP on CRMD	Model 4: GAP on CRMD and SGOV
Constant	113.125	38.000	74.110	76.319
SGOV	-1.156	-	-	-0.052
ASSUR	-	-11.750	-	-
CRMD	-	-	-0.761	-0.736
N	6	6	6	6
R ²	0.733	0.118	0.983	0.983

Adjusted R ²	0.666	-0.102	0.979	0.972
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Notes: $p < 0.01$; $p < 0.05$; $p < 0.10$. Regression is based on complete PSPK-scored observations.

Source: Data processed by the author, 2026.

Table 7 shows that sustainability governance has a negative effect on PSPK 1/2 disclosure gap in Model 1. The coefficient of SGOV is -1.156 and significant at the 5% level, indicating that stronger sustainability governance is associated with a lower disclosure gap. This result supports the argument that sustainability governance reduces reporting gaps by improving accountability, oversight, and internal coordination in sustainability reporting. Companies with clearer sustainability responsibility, board oversight, and internal sustainability functions are more likely to prepare disclosure that is aligned with the structure of governance, strategy, risk management, and metrics and targets.

Model 2 shows that external assurance has a negative but statistically insignificant coefficient. This means that the presence of assurance alone does not automatically reduce PSPK 1/2 disclosure gap in the current sample. One possible explanation is the methodological limitation of the study. Because the regression analysis is based on only six complete firm-year observations, the statistical power to detect significant relationships is inherently limited. Consequently, the absence of statistical significance should not be interpreted as conclusive evidence that external assurance has no effect on disclosure quality. Instead, the finding should be viewed as preliminary evidence that requires validation using a larger and more representative sample.

Beyond the sample-size issue, a more substantive explanation relates to the current scope of sustainability assurance practices in Indonesia. External assurance engagements generally aim to enhance the credibility and reliability of sustainability reports; however, they do not necessarily evaluate whether disclosures comprehensively satisfy the specific requirements of PSPK 1 and PSPK 2. In many cases, assurance engagements remain focused on selected ESG indicators, environmental performance metrics, greenhouse gas emissions, or disclosures prepared under established sustainability reporting frameworks such as the GRI Standards. By contrast, PSPK 1 and PSPK 2 require companies to disclose financially material sustainability-related information, including climate-related governance, transition and physical risks, scenario analysis, resilience assessment, climate-related financial effects, and measurable transition plans. These disclosure elements extend beyond the traditional scope of many assurance engagements currently practiced.

Consequently, companies may obtain external assurance while still exhibiting substantial PSPK 1/2 disclosure gaps if assured reports do not comprehensively address the financially oriented disclosure requirements introduced by IFRS S1 and IFRS S2. In other words, assurance may improve the credibility of disclosed information without necessarily improving the completeness of disclosure relative to PSPK 1/2. This interpretation is consistent with García-Sánchez et al. (2019) and Simoni et al. (2020), who argue that the

effectiveness of external assurance depends not merely on its existence but also on its scope, quality, and the reporting framework being assured.

Therefore, the insignificant coefficient observed in this study is likely attributable to a combination of methodological and substantive factors. The limited sample size reduces statistical power, while the evolving nature of sustainability assurance practices in Indonesia means that many assurance engagements have not yet fully incorporated the climate-related financial disclosure requirements underlying PSPK 1 and PSPK 2. As sustainability assurance evolves to encompass broader climate-risk and financially material disclosures, its influence on reducing disclosure gaps may become more evident in future research.

Model 3 shows that CRMD has a strong negative effect on GAP. The coefficient of CRMD is -0.761 and significant at the 1% level. This means that a one-point increase in CRMD is associated with a 0.761-point decrease in PSPK 1/2 disclosure gap. This finding is the strongest empirical result in the current analysis. It indicates that companies with better climate risk management disclosure tend to have lower disclosure gaps. This result is consistent with the structure of PSPK 2 and IFRS S2, where climate-related disclosure requires companies to explain climate risk identification, assessment, mitigation, monitoring, governance linkage, strategy linkage, metrics, targets, and financial effects.

Model 4 further shows that when CRMD and SGOV are included together, CRMD remains negative and significant, while SGOV becomes insignificant. This result suggests that the effect of sustainability governance on disclosure gap may operate through climate risk management disclosure. In other words, governance structures reduce disclosure gaps when they are translated into concrete climate risk disclosure practices. This finding answers the research gap by showing that disclosure readiness is not only a matter of having sustainability governance, but also depends on the company's ability to convert governance capacity into decision-useful climate-risk information.

Table 8. Mediation and Moderation Summary

Relationship	Coefficient / Result	Interpretation
SGOV → CRMD	1.500	Stronger sustainability governance is associated with higher CRMD
CRMD → GAP	-0.736	Higher CRMD is associated with lower PSPK ½ disclosure gap
SGOV → GAP after CRMD	-0.052	Direct effect weakens after CRMD is included
Indirect pathway	Supported descriptively	CRMD appears to mediate the relationship between SGOV and GAP
CRMD × CSI → GAP	Not estimated	Moderation cannot be tested because complete GAP observations are currently available only for climate-sensitive companies

Notes: $p < 0.01$; $p < 0.05$. Mediation is interpreted as exploratory evidence due to limited complete observations.

Source: Data processed by the author, 2026.

Table 8 provides evidence that climate risk management disclosure plays an important mediating role. The positive relationship between SGOV and CRMD indicates that stronger sustainability governance supports better climate risk management disclosure. Meanwhile, the negative relationship between CRMD and GAP indicates that better climate risk management disclosure reduces PSPK 1/2 disclosure gap. The weakening of the direct effect of SGOV after CRMD is included suggests that CRMD functions as a mechanism through which sustainability governance affects disclosure gap.

This finding is important because it deepens the explanation of why governance matters. Governance does not reduce disclosure gaps automatically. Governance becomes effective when it shapes internal reporting systems, strengthens climate risk identification, improves risk assessment, and ensures that climate-related information is integrated into business strategy and reporting. This supports stakeholder, legitimacy, and information asymmetry perspectives. From the stakeholder perspective, companies improve disclosure to respond to stakeholder information needs. From the legitimacy perspective, companies in climate-sensitive sectors disclose climate-related information to maintain public acceptance. From the information asymmetry perspective, specific and measurable disclosure reduces uncertainty for investors and creditors.

The moderation effect of climate-sensitive industry cannot be statistically estimated in the current completed PSPK-scored dataset because all observations with complete GAP scores are from climate-sensitive industries. Therefore, the moderating role of CSI is discussed as a conceptual and methodological implication rather than as a confirmed statistical finding. Future data completion should include non-climate-sensitive companies with full PSPK scoring so that the interaction between CRMD and CSI can be tested more robustly.

Figure 1. Trend of PSPK 1/2 Readiness and Disclosure Gap for KEEN and SMDR

Notes: The figure should present the 2023–2025 trend of READINESS and GAP for KEEN and SMDR. READINESS increases over time, while GAP decreases over time.

Source: Data processed by the author, 2026.

Overall, the findings indicate that PSPK 1/2 disclosure gap is mainly reduced when companies improve climate risk management disclosure. Sustainability governance is also important, but its effect appears to be channelled through CRMD. This means that companies should not only establish sustainability committees, governance structures, or internal sustainability responsibilities, but also strengthen the substance of climate-related disclosure. The most critical areas include climate risk assessment, transition risk disclosure, climate scenario analysis, climate-related financial effects, emissions metrics, and measurable targets.

These results contribute to the sustainability disclosure literature by showing that standard-specific disclosure readiness should not be evaluated merely from the existence of sustainability reports. A company may publish sustainability reports every year, but still have disclosure gaps if the information is narrative, incomplete, weakly measurable, or not connected to financial implications. Therefore, the disclosure-gap approach used in this study provides a more focused way to assess readiness for PSPK 1 and PSPK 2.

From a practical perspective, the findings suggest that Indonesian listed companies should begin strengthening climate risk management systems before PSPK 1 and PSPK 2 become fully effective. Companies need to improve internal coordination between sustainability units, finance departments, risk management functions, and board-level oversight. External assurance providers should also expand the scope of assurance beyond selected ESG indicators toward comprehensive assessments of climate-related financial disclosures required under PSPK 1 and PSPK 2, including climate governance, transition and physical risks, scenario analysis, climate-related financial effects, and measurable transition targets. Such an expanded assurance scope would enable assurance not only to enhance the credibility of sustainability reports but also to contribute more effectively to reducing PSPK 1/2 disclosure gaps. Regulators and standard-setters may use these findings to identify areas where companies still require technical guidance, especially in climate scenario analysis, financial effects of climate risks, and measurable transition targets.

CONCLUSION

This study concludes that PSPK 1/2 disclosure gap remains a relevant issue for Indonesian listed companies during the transition period toward sustainability-related financial disclosure standards. Based on the available verified data, the findings show that companies have started to improve their sustainability disclosure practices, but meaningful gaps still exist, particularly in climate risk assessment, scenario analysis, climate-related financial effects, Scope 3 emissions, and measurable transition targets. This indicates that the publication of annual reports or sustainability reports does not automatically reflect full readiness for PSPK 1 and PSPK 2.

The strongest finding of this study is that climate risk management disclosure is closely associated with lower PSPK 1/2 disclosure gaps. Companies that provide more specific disclosure on climate risk identification, assessment, mitigation, monitoring, and integration into business strategy tend to show better readiness. Sustainability governance also supports disclosure readiness, but its role becomes more meaningful when governance capacity is translated into concrete climate-risk reporting practices. Therefore, sustainability governance should not only exist as a formal organisational structure, but should be translated into effective climate risk management processes that generate structured, measurable, verifiable, and financially relevant disclosures consistent with the requirements of PSPK 1 and PSPK 2.

This study also finds that external assurance has a negative but statistically weaker relationship with disclosure gap. This suggests that assurance may improve credibility, but it may not be sufficient when the assurance scope is limited to selected ESG indicators. Assurance practices should therefore support broader verification of sustainability-related financial disclosure, including climate-related risks, transition strategies, financial effects, and measurable targets. Meanwhile, the moderating role of climate-sensitive industry cannot be statistically confirmed in this version of the study because complete PSPK 1/2 disclosure gap scores are currently available only for climate-sensitive companies.

The practical implication of this study is that Indonesian listed companies should strengthen internal reporting systems before PSPK 1 and PSPK 2 become fully effective. Companies need to improve coordination among sustainability units, risk management functions, finance departments, internal audit, and board-level governance. Regulators and standard-setters may also use these findings as early evidence that companies still require technical guidance, especially in climate scenario analysis, transition risk disclosure, climate-related financial effects, and measurable targets.

This study has limitations. First, the analysis uses seven Indonesian listed companies with 19 available firm-year observations, while complete PSPK 1/2 readiness and disclosure gap scores are available for only six firm-year observations. Second, because the empirical analysis relies on a very limited number of complete-case observations, the findings should be interpreted as preliminary exploratory evidence rather than definitive statistical conclusions or broad generalisations for all Indonesian listed companies. Future research should expand the sample size, include balanced climate-sensitive and non-climate-sensitive industries, apply stronger panel regression models, and develop a more detailed assurance quality index. Future studies may also examine how the scope and quality of external assurance evolve to incorporate the climate-related financial disclosure requirements introduced by PSPK 1 and PSPK 2. Overall, the main take-home message of this study is that reducing PSPK 1/2 disclosure gaps requires more than publishing sustainability reports or establishing sustainability governance structures. Achieving readiness for PSPK 1 and PSPK 2 ultimately depends on the extent to which governance mechanisms, external assurance, and organisational capabilities are translated into comprehensive, structured, measurable, verifiable, and decision-useful climate risk management disclosures.

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