

External Assurance and Anti-Corruption Disclosure: Evidence from the Early Adoption of Materiality-Centered Sustainability Reporting

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ABSTRACT

This study examines whether externally assured sustainability reports (SRs) are more likely to provide greater anti-corruption disclosure when stakeholder attention to corruption is higher. The study is set in the context of the early adoption of materiality-centered sustainability reporting, focusing on the period immediately following the introduction of GRI G4 (2013) — the first sustainability reporting framework to formally position materiality as the cornerstone of determining report content. Drawing on stakeholder theory and the materiality principle, this study stipulates three factors that may raise stakeholders' attention to the corruption issue: industry corruption risk, country-level pressures on corruption (home-country corruption risk and home-country anti-corruption enforcement), and global pressure on corruption. By employing OLS regression with two groups of samples: 185 externally assured SRs and 145 non-assured SRs drawn from the GRI G4 early adoption years (2014–2015), this study finds that external assurers may play a role in promoting greater anti-corruption disclosure when companies face greater country-level and global pressure on corruption. However, this study finds no evidence of external assurers' role in the presence of higher industry corruption risk. Instead, the relation between industry corruption risk and anti-corruption disclosure is stronger when SRs are not externally assured. The findings contribute to the literature on sustainability assurance and the implementation of the materiality principle under GRI G4.

Keywords: anti-corruption disclosure; external assurance; materiality principle; sustainability reports

Cite this as: Rahmatdi, R., & Saputra, D. A. (2026). External assurance and anti-corruption disclosure: Evidence from the early adoption of materiality-centered sustainability reporting. *AKUMULASI: Indonesian Journal of Applied Accounting and Finance*, 5(1), 10-20. <https://doi.org/10.20961/akumulasi.v5i1.3687>

Received for publication on June 11, 2026

Accepted after corrections on July 20, 2026

INTRODUCTION

The Global Reporting Initiative (GRI) is considered the most widely used sustainability reporting guideline worldwide (Wagner & Seele, 2017). Currently, the GRI Universal Standards continue to serve as the dominant reference point for sustainability disclosure globally, with adoption spanning thousands of organizations across more than 100 countries (KPMG, 2022). The framework has undergone substantial transformation since its inception. It was not until the introduction of GRI G4 in 2013 that materiality received significant, formal recognition as the cornerstone for determining the content of sustainability reports. Unlike its predecessors, GRI G4 required companies to structure their entire reports around material aspects identified through stakeholder engagement, marking a fundamental shift in the philosophy underpinning the framework (GRI, 2015; Wagner & Seele, 2017). In the context of GRI G4 sustainability reporting guidelines, this study examines whether externally assured SRs tend to provide greater anti-corruption disclosure when stakeholders' attention to the corruption issue is greater.

Prior research on GRI G3 sustainability reporting reveals that greater firm exposure to corruption risk is associated with lower anti-corruption disclosure (Barkemeyer *et al.*, 2015a), and that firms from higher-corruption-risk countries are less likely to disclose anti-corruption efforts (Healy & Serafeim, 2016). Unlike those studies, this study analyses SRs prepared under GRI G4 — which is claimed to promote materiality as the center of reporting (GRI, 2015) — meaning companies are expected to emphasize anti-corruption disclosure when stakeholders pressure them to treat corruption as a material issue. However, the judgment of what is material to report in sustainability reporting is ultimately subjective (Calabrese *et al.*, 2016). Unlike financial reporting, assessing materiality from a sustainability perspective lacks quantitative thresholds. Firms therefore have the flexibility to decide what constitutes a material sustainability issue, which may result in selective disclosure by management (Edgley *et al.*, 2015). Furthermore, corruption, by its very nature, is secret and hidden, leading companies to avoid drawing public attention to corruption issues when they face significant corruption risk (Healy & Serafeim, 2016).

In light of the questionable implementation of the materiality principle in anti-corruption disclosure, this study investigates the role of external assurance. Prior literature highlights that external assurance enhances the credibility of sustainability reports and stakeholders' trust (Jones *et al.*, 2016; Jones & Solomon, 2010; Simnett *et al.*, 2009). Moreover, the assurance process fosters greater dialogue between companies and their stakeholders during the preparation of SRs, potentially helping companies identify what sustainability topics are considered material (Jones & Solomon, 2010). This study therefore examines whether externally assured GRI G4 SRs tend to provide greater anti-corruption disclosure when stakeholders consider corruption a significant issue.

This study provides evidence that external assurance may help implement the materiality principle in sustainability reporting, encouraging companies to disclose more anti-corruption information when they face greater country-level and global pressures on corruption. Companies facing greater home-country corruption risk, stronger home-country anti-corruption enforcement, and global pressures on corruption tend to provide higher levels of anti-corruption disclosure for externally assured GRI G4 SRs. In contrast, when GRI G4 SRs are not externally assured, these country-level and global pressure variables are not associated with corporate anti-corruption disclosure. However, this study finds no evidence that external assurance encourages companies to disclose more anti-corruption information when industry corruption risk is higher. Instead, the relation between industry corruption risk and anti-corruption disclosure is stronger when GRI G4 SRs are not externally assured — possibly

suggesting that external assurers lack industry-specific knowledge, whereas management has a better understanding of the companies' specific business environments (Edgley *et al.*, 2015).

The findings contribute to the literature in three ways. First, this study extends prior literature on external assurance by providing evidence that external assurers may help shape anti-corruption disclosure, specifically within the early application of materiality-centered sustainability reports under GRI G4 framework. In that sense, prior studies mainly examine sustainability reports under GRI G3, where the materiality concept was not well applied, or reports under the GRI Standards after the materiality concept became more well-established (Barkemeyer *et al.*, 2015a, 2015b; Branco & Matos, 2016; Previtali & Cerchiello, 2023). Second, the study provides insights into the effectiveness of the materiality principle adopted in GRI G4. Third, the findings have practical implications for governments, external assurers, and company boards regarding anti-corruption disclosure incentives.

Materiality Concept in GRI Guidelines: A Stakeholder Theory Perspective

The materiality principle was initially implemented in financial reporting before being adopted in non-financial reporting (Edgley *et al.*, 2015). However, materiality guidance in non-financial reporting is relatively unclear compared to financial reporting, lacking helpful threshold benchmarks (Edgley *et al.*, 2015) and providing vague guidance that affects materiality decisions (Moroney & Trotman, 2016). GRI G4 (2013) represented a significant advancement: it replaced the GRI G3 application-level system — which incentivized reporting as many indicators as possible rather than focusing on material issues — with a core/comprehensive framework centered on materiality decisions. Under GRI G4, firms must disclose their materiality assessment upfront, making materiality the primary determinant of report content (GRI, 2015; Wagner & Seele, 2017). Despite this advancement, recent scholarship highlights that the complexity of materiality determination persists beyond the introduction of GRI G4. Tensions between different definitions of materiality continue to produce inconsistency in practice (Jørgensen *et al.*, 2022), and materiality in sustainability reporting remains fundamentally a social construct shaped by power relations between firms and stakeholders (Puroila & Mäkelä, 2019), reinforcing the argument that external assurance may play a necessary mediating role.

Edgley, Jones, and Atkins (2015) argued that the materiality decision in sustainability reporting is influenced by a new stakeholder logic focused on community impact. It conforms to stakeholder theory, one of the core theories in the corporate social responsibility (CSR) literature. The theory underpins a normative view that companies have a wider obligation than merely to shareholders, and therefore need to embed social interests in their activities (Freeman *et al.*, 2010). The perspectives on stakeholder theory have shifted from a corporate-centric view that treats stakeholders as subjects to be managed to a process-oriented view of stakeholder engagement within the company (Steurer, 2006). In line with the shifting focus of stakeholder theory, the GRI G4 also encourages companies to engage their stakeholders in the materiality decision on what significant issues that should be disclosed in SRs (GRI 2013a).

Assurance in Sustainability Reporting

Prior literature asserts that assurance is a fundamental element in ensuring the reliability of SRs (Moroney & Trotman, 2016; Jones *et al.*, 2016; Simnett *et al.*, 2009). Simnett *et al.* (2009) find that companies seek external assurance to improve their reputation and SR credibility. Moroney *et al.* (2012) find evidence that externally assured companies prepared better quality SRs. Pflugrath *et al.* (2011) demonstrate that an assurance statement increases perceived credibility among financial analysts, while Casey and Grenier (2015) find that voluntary assurance is associated with lower analyst forecast dispersion. Jones and Solomon (2010) assert that external assurance may facilitate greater dialogue between companies and stakeholders in defining the content of material reports — yet direct evidence

of this role with respect to the materiality principle was absent from the literature prior to the present study. More recently, Clarkson *et al.* (2019) find that assured sustainability reports are associated with higher disclosure quality for environmentally sensitive firms, and Al-Shaer and Zaman (2018) document that companies with sustainability committees are more likely to seek external assurance and produce higher-quality reports.

Corruption as a Negative Externality

Prior studies demonstrate that corruption produces negative externalities to the community (Gupta *et al.*, 2002; Gyimah-Brempong, 2002; Habib & Zurawicki, 2002) and to shareholders (Weitzel & Berns, 2006; Fisman & Svensson, 2007). Corruption inhibits economic growth and exacerbates social inequality, while corporate bribery can constrain firm growth (Fisman & Svensson, 2007). Khatib (2024) finds that firms operating in higher-corruption environments exhibit lower sustainability reporting quality, reflecting how the concealment imperative of corrupt practices extends into voluntary disclosure choices. Because corruption is not easily observed — as it is secret and hidden (Wilkinson, 2006) — stakeholders may not be aware that companies create negative externalities from bribery, making it questionable whether companies facing high corruption risk will provide anti-corruption disclosures in their SRs. This concern is reinforced by evidence that self-reported anti-corruption efforts remain limited and inconsistent in high-risk sectors (Hardoon & Heinrich, 2011).

This study draws on stakeholder theory (Freeman *et al.*, 2010) and the materiality principle to argue that externally assured SRs are more likely to provide greater anti-corruption disclosure when relevant factors show that corruption is a significant issue for stakeholders. This expectation is consistent with evidence that companies' commitment to anti-corruption disclosure is positively associated with sustainability performance (Gerged *et al.*, 2025) and that coercive institutional pressures significantly shape anti-corruption reporting (Sari *et al.*, 2021). Three factors have been identified that may help measure the significance of corruption issues from stakeholders' perspectives (Barkemeyer *et al.*, 2015a; Healy & Serafeim, 2016; Branco & Matos, 2016).

Industry Corruption Risk

Companies operating in certain industries — such as extractive industries and construction — face greater pressure from corruption issues (Barkemeyer *et al.*, 2015a, 2015b; Healy & Serafeim, 2016; Hardoon & Heinrich, 2011). When the risk of industry corruption is higher, stakeholders will pay more attention to corruption and consider anti-corruption a material aspect of SRs. As external assurance helps companies define material report content based on stakeholder interests, this study predicts:

H1a: Using a sample of externally assured SRs, there is a positive association between corporate anti-corruption disclosure and industry corruption risk.

H1b: Using a sample of non-externally assured SRs, there is no association between corporate anti-corruption disclosure and industry corruption risk.

Country-Level Pressures on Corruption

This study defines country-level pressure on corruption using two measures. First, home-country corruption risk: the level of corruption in the country where companies are located is likely an important factor in determining whether corruption is significant for stakeholders (Healy & Serafeim, 2016). Second, home-country anti-corruption enforcement: stronger enforcement of anti-corruption measures indicates that the government, as a key stakeholder, places greater attention to the issue. External auditors of SRs are expected to help translate stakeholder concerns about corruption into greater anti-corruption disclosure:

H2a: Using a sample of externally assured SRs, there is a positive association between corporate anti-corruption disclosure and country-level pressures on corruption.

H2b: Using a sample of non-externally assured SRs, there is no association between corporate anti-corruption disclosure and country-level pressures on corruption.

Global Pressure on Corruption

UN Global Compact (UNGC) membership, which includes anti-corruption as a key principle, signals that stakeholders are expected to be more aware of the significance of corruption, leading external auditors to emphasize anti-corruption as a material aspect (Barkemeyer *et al.*, 2015a; Branco & Matos, 2016):

H3a: Using a sample of externally assured SRs, there is a positive association between corporate anti-corruption disclosure and global pressure on corruption.

H3b: Using a sample of non-externally assured SRs, there is no association between corporate anti-corruption disclosure and global pressure on corruption.

RESEARCH METHOD

Sample Selection

The sample comprises 330 GRI G4 SRs prepared by 165 listed companies for 2014 and 2015, drawn from the GRI Sustainability Disclosure Database. The sample is limited to 2014 and 2015 to capture the early adoption period of GRI G4 (2013), when assurance providers exercised the greatest degree of professional judgment as reporting norms were still emerging (Vigneau *et al.*, 2015). Nevertheless, Rosati and Faria (2019) find that external assurance only has a limited role in the early adoption of Sustainable Development Goals (SDGs) reporting for companies. Therefore, the role of external assurance in the early adoption of GRI G4 (2013) which emphasises the implementation of materiality principle is more contentious. This period is also unaffected by the subsequent transition to GRI Standards (2016–2018). The sample is confined to ten industries selected based on the Transparency International Bribe Payers Survey (2008, 2011), covering high-risk (construction, real estate, mining), moderate-risk (telecommunications, forest and paper products), and low-risk industries, to ensure sufficient variation in industry corruption risk. Non-English SRs and companies with incomplete data were excluded, yielding a final sample of 185 externally assured SRs (2014: 89; 2015: 96) and 145 non-assured SRs (2014: 76; 2015: 69).

Variable Measurement

Corporate anti-corruption disclosure (DISC) is measured by an unweighted disclosure index based on binary content analysis of GRI G4 anti-corruption indicators G4-SO3, G4-SO4, and G4-SO5 (11 items total), expressed as a percentage of the maximum possible score (Hossain & Adams, 1995; Barako & Brown, 2008).

Industry corruption risk (INDUSTRYCR) is measured using the Transparency International Bribe Payers Index 2011, scored from 0 (highest bribery risk) to 10 (lowest bribery risk) (Hardoon & Heinrich, 2011). Home-country corruption risk (HOMECCR) is measured using the World Bank's corruption rating, which ranges from –2.5 (most corrupt) to 2.5 (least corrupt). Home-country anti-corruption enforcement (ENFORCEMENT) is measured by the de facto anti-bribery enforcement score from the RAND Business Bribery Risk Assessment (Stanley *et al.*, 2014). Global pressure on corruption (UNGC) is a dummy variable equal to 1 if the company is a UNGC member.

This study includes control variables that prior studies have found to be related to a firm's CSR performance or disclosure (Healy & Serafeim, 2016; Moroney *et al.*, 2012; Udayasankar, 2008). It includes director independence (INDIRECTOR), firm size (SIZE, measured as natural log of employees),

profitability (ROE), foreign sales ratio (FOREIGN), home-country disclosure index (COUNTRYDISC), and GRI G4 accordance level (ACCORLEVEL, 1 = comprehensive).

Research Model

$$DISC = \beta_0 + \beta_1INDUSTRYCR + \beta_2HOMECCR + \beta_3ENFORCEMENT + \beta_4UNGC + \beta_5INDIRECTOR + \beta_6SIZE + \beta_7ROE + \beta_8FOREIGN + \beta_9COUNTRYDISC + \beta_{10}LEVEL + \varepsilon$$

The model is estimated separately for externally assured and non-assured SRs to allow comparison of the differential role of external assurance.

RESULTS AND DISCUSSION

Descriptive Statistics

Table 1. Descriptive statistics

Variables	ASSURED SRs (n=185)				UNASSURED SRs (n=145)				Mean diff.	p-value
	Mean	Min	Max	SD	Mean	Min	Max	SD		
<i>DISC</i>	15.42	0	90.909	17.309	7.712	0	90.909	14.186	-7.718***	0.000
<i>INDUSTRYCR</i>	6.497	5.3	7.1	0.543	6.552	5.3	7.1	0.561	0.056	0.363
<i>HOMECCR</i>	1.132	-0.764	2.1	0.836	1.053	-1.049	2.1	1.002	-0.079	0.437
<i>ENFORCEMENT</i>	33.822	1	56	17.425	35.648	1	56	13.602	1.827	0.300
<i>UNGC</i>	0.438	0	1	0.497	0.283	0	1	0.452	-0.155***	0.004
<i>INDIRECTOR</i>	0.593	0	1	0.228	0.573	0.067	1	0.254	-2.043	0.443
<i>SIZE</i>	4.010	2.017	5.642	0.738	3.617	1.380	5.525	0.774	-0.393***	0.000
<i>ROE</i>	0.101	-3.606	3.203	0.485	0.107	-5.605	3.350	0.707	0.006	0.924
<i>FOREIGN</i>	0.519	0	1	0.360	0.373	0	1	0.379	-0.146***	0.000
<i>COUNTRYDISC</i>	7.491	0	10	2.214	7.541	0	10	2.139	0.242	0.837
<i>ACCORLEVEL</i>	0.145	0	1	0.401	0.041	0	1	0.200	-0.159***	0.000

Note: *** p < 0.01, ** p < 0.05, * p < 0.10 (two-tailed test). DISC = anti-corruption disclosure index; INDUSTRYCR = TI Bribe Payers Index 2011 (lower score = higher bribery risk); HOMECCR = World Bank country corruption rating (-2.5 to 2.5); ENFORCEMENT = de facto anti-bribery enforcement score (RAND, 2014); UNGC = UN Global Compact membership dummy; INDIRECTOR = proportion of independent directors; SIZE = ln(employees); ROE = net income / beginning equity; FOREIGN = foreign sales / total sales; COUNTRYDISC = World Bank related-party disclosure requirement score; ACCORLEVEL = GRI G4 comprehensive level dummy.

Table 2. Correlation matrix

No	Variables	1	2	3	4	5	6	7	8	9	10
1	DISC	1.000									
2	INDUSTRYCR	-0.034	1.000								
3	HOMECCR	0.016	0.012	1.000							
4	ENFORCEMENT	0.076	0.065	0.476***	1.000						
5	UNGC	0.175***	0.122**	0.115**	0.011	1.000					
6	INDIRECTOR	0.048	0.036	0.439***	0.166***	-0.038	1.000				
7	SIZE	0.210***	0.205***	-0.055	-0.252***	0.228***	-0.056	1.000			
8	ROE	-0.010	-0.069	-0.085	0.049	0.060	-0.122**	0.046	1.000		
9	FOREIGN	0.155***	0.130**	0.256***	0.194***	0.091*	0.104*	0.210***	-0.127**	1.000	
10	COUNTRYDISC	0.107	-0.095*	-0.051	-0.135**	-0.025	-0.170***	0.056	0.032	-0.020	1.000
11	ACCORLEVEL	0.220***	-0.089	-0.056	-0.051	0.188***	-0.060	0.131**	0.008	0.063	0.181***

Note: *** p < 0.01, ** p < 0.05, * p < 0.10 (two-tailed test).

Table 1 reports descriptive statistics for both sample groups with t-tests for mean differences. Externally assured SRs exhibit significantly higher mean anti-corruption disclosure scores (15.42 vs. 7.712, $p < 0.01$), consistent with assurance providers encouraging compliance with GRI disclosure requirements (Moroney *et al.*, 2012). Companies engaging external assurers are also significantly larger and have broader international operations, consistent with a wider stakeholder base that motivates the adoption of external assurance. UNGC membership is significantly higher among the assured group (43.8% vs. 28.3%, $p < 0.01$). The correlation matrix (Table 2) shows no independent variable pair with a correlation above 0.5, suggesting multicollinearity is unlikely to be an issue.

Hypotheses Testing

Table 3 presents the OLS regression results for the assured and non-assured subsamples.

Table 3. Regression results

Variables	ASSURED SRs		UNASSURED SRs	
	Coefficient	p-value	Coefficient	p-value
<i>INDUSTRYCR</i> (–)	0.584	0.807	–6.032***	0.008
<i>HOMECCR</i> (–)	–3.302*	0.068	–0.811	0.620
<i>ENFORCEMENT</i> (+)	0.177**	0.034	0.155	0.179
<i>UNGC</i> (+)	5.342**	0.037	0.626	0.825
<i>INDIRECTOR</i> (+)	3.083	0.599	4.535	0.410
<i>SIZE</i> (+)	4.504**	0.014	2.065	0.236
<i>ROE</i> (+)	0.047	0.985	–0.546	0.756
<i>FOREIGN</i> (+)	0.301	0.933	6.576*	0.056
<i>COUNTRYDISC</i> (+)	–1.137**	0.047	0.508	0.386
<i>ACCORLEVEL</i> (+)	7.594**	0.017	0.755	0.905
<i>Constant</i>	–6.018	0.720	26.077	0.137
<i>Prob > F</i>		0.000		0.094
<i>R-squared</i>		0.132		0.111
Observations		185		145

Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$. The dependent variable is DISC (anti-corruption disclosure index). Expected signs are shown in parentheses. See Table 1 for variable definitions.

Industry Corruption Risk (H1)

H1 predicts a positive relation between DISC and *INDUSTRYCR* for the assured sample, and no relation for the non-assured sample. Contrary to this prediction, *INDUSTRYCR* is not significantly associated with DISC in the assured subsample, while the association is significant and negative in the non-assured subsample ($p < 0.01$). H1 is therefore not supported. A possible explanation is that management and its internal assurance process are more knowledgeable about the company's specific business environment (Edgley *et al.*, 2015), enabling industry-specific materiality judgments without external assurance input.

Country-Level Pressures on Corruption (H2)

H2 predicts a positive relation between DISC and country-level corruption pressures for the assured sample, with no relation for the non-assured sample. The results support this hypothesis. For externally assured SRs, *HOMECCR* is significantly associated with DISC ($p < 0.10$) and *ENFORCEMENT* is

significantly associated with DISC ($p < 0.05$). Neither variable is significant for the non-assured subsample. These findings indicate that external assurers help companies identify anti-corruption as a material aspect when country-level corruption pressure is higher, translating government and regulatory stakeholder concerns into greater disclosure. This finding may confirm Healy and Serafeim's (2016) finding, which shows insignificant association between country-level corruption and anti-corruption disclosure.

Global Pressure on Corruption (H3)

H3 predicts a positive relation between DISC and UNGC membership for the assured sample, with no relation for the non-assured sample. The results support H3: UNGC membership is significantly positively associated with DISC in the assured subsample ($p < 0.05$) but not in the non-assured subsample. Prior studies have shown that UNGC membership is generally positively associated with anti-corruption disclosure (Khelil, Khelif, & Achek, 2025). Nevertheless, this suggests that external assurers help operationalize UNGC commitments into higher anti-corruption disclosure, consistent with the assurance-as-materiality-mechanism argument.

Among control variables in the assured subsample, SIZE is positively associated with DISC ($p < 0.05$), and ACCORLEVEL is positively associated with DISC ($p < 0.05$), both consistent with predictions. Unexpectedly, COUNTRYDISC shows a significant negative association with DISC ($p < 0.05$); this study does not offer an explanation for this finding and suggests it as an avenue for future research.

Additional Analyses

Several robustness tests are conducted to validate the main findings. First, the World Bank corruption rating is replaced with the Transparency International Corruption Perceptions Index (CPI) as an alternative measure of home-country corruption risk; results remain consistent with the main findings. Second, media coverage of corruption — measured via Dow Jones Factiva keyword searches and classified into four categories following Blanc *et al.* (2017) — is included as a control variable; the main results remain unchanged. Third, year fixed effects are incorporated into the model, and the findings remain consistent. Taken together, the additional analyses support the robustness of the main conclusions.

CONCLUSION

This study examines whether externally assured GRI G4 sustainability reports provide greater anti-corruption disclosure when stakeholder attention to corruption is greater. Three factors measuring stakeholder attention are tested: industry corruption risk, country-level pressures on corruption (home-country corruption risk and anti-corruption enforcement), and global pressure on corruption (UNGC membership).

The findings support H2 and H3 while failing to support H1. External assurance has a potential role in enhancing the implementation of the materiality principle, encouraging companies to disclose more anti-corruption information when they face greater country-level and global pressures on corruption. However, external assurers appear to have no role when industry corruption risk is the primary driver; instead, this relation is significant in the non-assured subsample, suggesting that management and internal processes are more attuned to industry-specific corruption contexts than external assurers.

The practical implications are threefold. For governments, the findings emphasize the importance of enforcing anti-corruption laws to increase private sector awareness and disclosure. For external assurers of SRs, the results indicate a need to develop stronger industry-specific knowledge.

For standard setters, the evidence provides partial support for the effectiveness of GRI G4's materiality-centered design in improving disclosure quality under external assurance.

The study has limitations. The sample is restricted to 2014–2015, reflecting a deliberate theoretical focus on the early adoption period of GRI G4 when reporting norms were still emerging; future research could extend to a longer post-adoption window. The sample of assured SRs tends to be prepared by larger companies, though the absence of significant differences in director independence and audit committee prevalence mitigates this concern. The unexpected negative coefficient on COUNTRYDISC warrants further investigation.

This study also opens up for future research. First, since this study is not designed using moderating effect, future research can directly examine whether the coefficients of assured and non-assured SR are statistically different or not. Second, future research can study anti-corruption disclosure using Natural Language Processing (NLP). Lastly, the role of external assurers may depend on the type of the assurers (e.g., Big 4 versus non Big 4 auditors), and therefore, future research can further investigate this.

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