

ESG media signals and earnings risk: evidence from Vietnamese listed firms

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Abstract

Purpose – This paper examines whether ESG-related media signals affect the volatility of corporate earnings among Vietnamese listed firms. It focuses on the second moment of financial performance, earnings stability rather than profitability level and investigates how environmental, social and governance signals exert distinct, dimension-specific effects on earnings risk and whether state ownership moderates these dynamics.

Design/methodology/approach – Using the Covalence EthicalQuote database, which aggregates global media, NGO publications and institutional communications into firm-level ESG reputation scores, the study constructs a panel of 62 Vietnamese listed firms over 2012–2023 (709 firm-year observations). Panel fixed-effects models are estimated across four earnings volatility specifications with ESG variables lagged one year. Robustness is assessed through winsorization, COVID exclusion, alternative lag structures, placebo tests and first-difference specifications.

Findings – Social media signals are positively associated with short-term earnings volatility, consistent with the transitional costs of active stakeholder engagement and this effect attenuates within two years. Governance signals are negatively associated with earnings volatility, particularly downside risk, reflecting the contemporaneous earnings-stabilizing function of internal monitoring. Environmental signals predict higher future earnings volatility but are uncorrelated with current volatility, consistent with an investment channel in which upfront environmental expenditure precedes efficiency gains. All three effects are concentrated among non-state-owned enterprises; majority state-owned firms exhibit no significant ESG-risk relationship, consistent with the soft budget constraint hypothesis. A conditional profitability analysis confirms that the risk and profitability channels of ESG operate largely independently.

Research limitations/implications – The sample is restricted to the 62 Vietnamese firms covered by the Covalence database, an internationally visible subset that may not represent the broader listed population. Identification relies on lagged fixed-effects specifications rather than quasi-experimental variation, and residual endogeneity from unobserved time-varying characteristics cannot be fully excluded. Future research should employ natural experiments or regulatory shocks to strengthen causal identification, particularly for the social dimension.

Practical implications – For investors and trade partners assessing Vietnamese firms, ESG sub-component analysis is more informative than composite scoring, as environmental and social signals carry distinct and partially opposing risk implications that aggregate indices obscure. For policymakers, the findings indicate that market-based ESG accountability mechanisms will have the greatest impact in the private corporate sector; extending ESG discipline to state-owned enterprises requires direct regulatory mandates and integration of ESG metrics into state shareholder performance frameworks.

Originality/value – This study provides the first systematic evidence from a Southeast Asian emerging market that ESG dimensions have distinct and opposing effects on earnings stability. It extends the soft budget constraint argument from profitability to risk management, demonstrating that ESG-based discipline mechanisms are absent in state-owned segments. The use of a media-based, externally constructed ESG



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measure, rather than self-reported disclosure scores, is particularly suited to the Vietnamese context, where mandatory ESG reporting remains limited.

Keywords Corporate sustainability, Earnings risk, Emerging markets, Media-based ESG, State ownership, Vietnam

Paper type Research article

1. Introduction

Corporate sustainability has moved from a peripheral reporting exercise to a central concern for investors, regulators, and managers (Grewal and Serafeim, 2020). A growing body of empirical work documents that environmental, social, and governance (ESG) performance shapes, not only firm profitability, but also risk exposure, through stakeholder relationships, operational stability, and reputational dynamics that affect the predictability of earnings streams (Friede *et al.*, 2015). The existing evidence base is overwhelmingly anchored in developed capital markets, where institutional investors actively price ESG risk, disclosure standards are mature, and the mechanisms linking sustainability to financial outcomes are well established.

Whether these dynamics operate similarly in emerging economies is far from obvious. Emerging markets are characterized by weaker institutional frameworks, greater ownership concentration, less developed capital markets, and lower baseline ESG engagement (Crittenden and Crittenden, 2012; Hu *et al.*, 2010; Shrestha *et al.*, 2025). These structural differences alter the transmission mechanisms through which ESG signals translate into financial outcomes as the degree of market discipline, the extent of state ownership, and the maturity of ESG disclosure infrastructure collectively determine whether ESG reputation has any measurable bearing on earnings behavior (Dyck and Zingales, 2004; La Porta *et al.*, 1999).

Vietnam represents such a setting, one that is particularly instructive for several reasons. First, Vietnam combines rapid economic growth with a corporate sector that retains substantial residual state ownership, a feature shared with many transition and emerging economies across Asia, Eastern Europe, and Sub-Saharan Africa (Boubakri *et al.*, 2005; Megginson and Netter, 2001). The coexistence of state-owned enterprises and privately listed firms within the same market creates a natural comparative structure for examining whether market-based ESG mechanisms operate differently depending on ownership type. Second, Vietnam's ESG disclosure environment remains predominantly voluntary, with mandatory reporting standards still developing, meaning self-reported ESG scores cover only a small fraction of listed firms. This makes media-based ESG measurement, which captures external stakeholder perceptions rather than firm disclosures, particularly appropriate and externally valid (Capelle-Blancard and Petit, 2019). Third, Vietnam's rapid integration into global value chains has intensified international investor and trade partner scrutiny of Vietnamese firms' environmental and social practices, generating genuine variation in ESG media signals over time and across firms (Nguyen and Nguyen, 2025; PwC Vietnam, 2025). Fourth, Vietnam's financial sector is subject to direct prudential supervision that shapes earnings outcomes through regulatory channels largely independent of ESG dynamics, providing a natural sector-level comparison group.

The findings from this setting have implications beyond Vietnam. The soft budget constraint mechanism, whereby state ownership attenuates the market-based transmission of ESG signals, is a general feature of economies with significant public enterprise sectors (Kornai, 1986; Lin *et al.*, 2003). Evidence that this mechanism eliminates ESG-risk linkages in Vietnam informs the design of ESG accountability frameworks in any emerging economy where state enterprises coexist with private listed firms. Similarly, the finding that media-based ESG signals have dimension-specific effects on earnings stability extends the ESG-risk literature in ways that are testable in other emerging market contexts where composite ESG ratings are unavailable or unreliable.

This paper examines whether ESG-related media signals affect the volatility of corporate earnings among Vietnamese listed firms. We distinguish this from the question of whether ESG affects the level of profitability, a question addressed in a companion paper, and focus instead on the second moment: how predictable are earnings, and does ESG reputation

influence that predictability? These are conceptually distinct questions with different managerial and policy implications. A strategy that improves mean return on assets (ROA) while simultaneously increasing its volatility may not improve firm value on a risk-adjusted basis. Conversely, ESG engagement that stabilizes earnings without improving their level still creates value for risk-averse investors and managers.

We use the Covalence EthicalQuote database, which aggregates global media, NGO publications, and institutional communications into monthly firm-level ESG reputation scores. This media-based approach differs fundamentally from the self-reported disclosure scores dominant in the literature (Bilbao-Terol *et al.*, 2019). Rather than measuring what firms claim about their sustainability practices, Covalence measures how external stakeholders perceive and report on firm behavior, a distinction that is particularly important in contexts such as Vietnam where mandatory ESG reporting is limited and self-reported scores cover only a small subset of listed firms (Capelle-Blancard and Petit, 2017).

Our findings are as follows: social media signals are positively associated with short-term earnings volatility while governance signals reduce it; in addition, environmental signals predict higher future earnings volatility, consistent with an investment channel. These effects are entirely absent among majority state-owned enterprises, consistent with the soft budget constraint. A conditional profitability analysis shows that the risk and profitability channels of ESG operate largely independently.

These results contribute to three conversations. To the ESG and corporate risk literature, they provide the first systematic evidence from a Southeast Asian emerging market that ESG dimensions have distinct and opposing effects on earnings stability. To the literature on state ownership and corporate behavior, they extend the soft budget constraint argument from profitability to risk management, showing that ESG-based discipline mechanisms are systematically absent in the state-owned segment. To the trade and business literature relevant to this journal's scope, they offer evidence on how ESG reputation dynamics shape the financial risk profiles of firms operating in Vietnam's trade-intensive corporate sector, with direct implications for international investors, trade partners, and policymakers designing sustainability standards for emerging market businesses.

The paper proceeds as follows: Section 2 reviews the relevant literature; Section 3 describes the data and methodology; Section 4 presents the empirical results; Section 5 reports robustness analyses; and Section 6 discusses findings and conclusions.

2. Literature review

2.1 ESG and corporate risk: from composite to dimension-specific mechanisms

The mainstream literature on ESG and corporate risk has largely treated ESG as a unidimensional construct, generating two broad competing hypotheses. The *risk reduction hypothesis* holds that ESG engagement lowers firm risk through stakeholder trust building, controversy avoidance, and improved internal governance (Ferrell *et al.*, 2016; Godfrey *et al.*, 2009; Lins *et al.*, 2017). The *ESG attention hypothesis* holds that firms receiving heightened stakeholder media attention face elevated short-term uncertainty because ESG engagement involves active investment, operational change, and stakeholder negotiation (Andreicovici *et al.*, 2021; Christensen *et al.*, 2022). Empirical tests of these hypotheses using composite ESG scores have produced mixed results, with Albuquerque *et al.* (2019) finding risk-reducing effects in developed markets and Shakil (2021) documenting heterogeneous effects across institutional environments in emerging markets. More recent work has begun to examine how ESG signals transmitted through media and non-disclosure channels shape financial outcomes, particularly in settings where self-reported scores are unavailable or unreliable. Lee *et al.* (2022) showed that firm ESG signals in interconnected media environments promote brand valuation through reputational spillovers, while Suryani *et al.* (2025) documented that media coverage of ESG activities drives stock market reactions beyond what disclosure-based ratings capture. These studies underscore that the channel through which ESG information

reaches markets matters, not just its content, a distinction central to the media-based measurement approach adopted in this paper.

We argue that this mixed evidence reflects a fundamental measurement problem: composite ESG aggregation imposes homogeneity on three dimensions that have distinct theoretical risk mechanisms. Environmental, social, and governance activities differ fundamentally in their operational nature, their relationship to firm cash flows, and the channels through which they interact with earnings predictability. A composite score averages across these dimensions, potentially canceling directionally distinct effects and obscuring the true ESG-risk relationship. To provide a benchmark, aggregate ESG scores examined without decomposition tend to produce attenuated and inconsistent risk effects in emerging market samples (Shakil, 2021; Shrestha *et al.*, 2025), precisely because opposing dimensional effects cancel when averaged into a single score. The dimension-specific framework developed below is motivated by this benchmark observation.

2.2 Environmental signals and earnings risk: the investment channel

Environmental engagement in the Covalence media framework is primarily reflected in coverage of firms' responses to environmental standards, adoption of cleaner production technologies, energy-efficiency investments, and pollution control activities. Media-based signals are constructed by external observers rather than by firms themselves, making them less susceptible to strategic manipulation and more reflective of genuine stakeholder perceptions. This distinction is particularly important for Vietnam, where voluntary disclosure norms create strong incentives for selective self-reporting.

The financial risk implications of environmental investment follow a two-stage logic. In the short run, environmental investment involves capital expenditure, operational disruption during technology transitions, and temporary productivity losses as new processes are implemented. Porter and Van Der Linde (1995) argued that environmental investments generate efficiency gains but involve adjustment costs that precede the realization of benefits. This investment-before-gains profile implies that firms with favorable current environmental media coverage, signaling active environmental improvement should exhibit *higher future earnings volatility* as the transition period unfolds, even if long-run risk is ultimately reduced.

In the medium run, once environmental investments are operational, the efficiency gains materialize with lower energy costs, reduced regulatory exposure, and improved relationships with environmentally sensitive customers and investors (Lucas, 2010). The net effect on current-period earnings volatility is therefore ambiguous: environmental signals may be uncorrelated with contemporaneous volatility if the current-period investment costs and future efficiency gains are not yet visible in realized ROA variance.

- H1.* Environmental media signals (E_dev) will be positively associated with *future* earnings volatility and uncorrelated with *current* earnings volatility, consistent with the investment channel in which current ESG activity raises future earnings uncertainty before long-run benefits are realized.

2.3 Social signals and earnings risk: the stakeholder conflict channel

Social engagement in the Covalence framework reflects media coverage of firms' relationships with employees, local communities, supply chain partners, and end consumers on issues including labor standards, workplace safety, community impact, and product responsibility. In the Vietnamese context, positive social media coverage often accompanies periods of active stakeholder engagement: labor negotiations, community consultation processes, and supply chain audits rather than periods of settled stakeholder relations.

This distinction is theoretically important as active stakeholder engagement is not a steady state: it is a process involving negotiation, conflict, and uncertainty about outcomes. Firms navigating labor grievances face the possibility of work stoppages, productivity disruptions,

and increased wage costs. Firms managing community relations amid environmental or social controversies face regulatory uncertainty and potential operational constraints and supply chain audits can reveal compliance gaps that require costly remediation. All of these processes introduce genuine short-term earnings uncertainty that manifests as higher earnings volatility (Andreicovici *et al.*, 2021; Galuppo *et al.*, 2014).

Critically, these processes are temporally restricted as stakeholder conflicts are resolved, through negotiation, settlement, or regulatory closure, typically within one to two years, after which earnings volatility returns to baseline. The social engagement-volatility relationship should therefore be *transient*: significant at contemporaneous horizons but attenuating at forward horizons as conflicts are resolved.

- H2. Social media signals (S_{dev}) will be positively associated with *current* earnings volatility, reflecting the short-term uncertainty of active stakeholder engagement. This effect will attenuate at one-year-ahead and two-year-ahead horizons as stakeholder conflicts are resolved.

2.4 Governance signals and earnings risk: the internal monitoring channel

Governance engagement in the Covalence framework reflects media coverage of firms' board composition, executive accountability, transparency practices, and shareholder rights. Unlike environmental and social signals, governance signals primarily capture the *quality of internal control mechanisms* rather than the nature of a firm's external stakeholder relationships.

Strong internal governance reduces earnings volatility through several well-established channels. Independent boards provide more effective monitoring of managerial behavior, reducing the scope for earnings manipulation, excessive risk-taking, and value-destroying investments that destabilize cash flows (Assenso-Okoko *et al.*, 2021). Transparent financial reporting reduces information asymmetries between managers and capital providers, lowering the cost of financial distress, and enabling more stable access to external finance. Executive accountability structures align managerial incentives with long-run firm value rather than short-run earnings manipulation.

Importantly, these governance mechanisms operate contemporaneously with earnings: better-governed firms in period t have more stable earnings in period t because internal monitoring is a continuous process rather than a transitional state. Unlike social conflicts or environmental investments, governance quality does not involve a temporary disruption phase before stability is achieved. As a result, the governance-volatility relationship should therefore be contemporaneous, persistent, and not transient.

- H3. Governance media signals (G_{dev}) will be negatively associated with *current* earnings volatility through the internal monitoring channel. This effect will reflect the contemporaneous stabilizing function of governance quality and should be observed for both total earnings variance and downside semi-deviation.

2.5 Summary of theoretical hypotheses

The three dimension-specific arguments generate a coherent set of testable hypotheses that differ across ESG components, dependent variable horizons, and ownership contexts. Table 1 summarizes these hypotheses.

These hypotheses are distinct from both the composite risk reduction hypothesis and the composite ESG attention hypothesis in that the risk reduction hypothesis would predict all three dimensions to reduce volatility while the ESG attention hypothesis would predict all three to increase it. Our dimension-specific framework instead predicts opposing effects for S and G, a temporal asymmetry for E, and rapid attenuation for S but not G, a set of hypothesis that composite hypotheses cannot generate and that the empirical analysis is designed to test directly.

Table 1. Dimension-specific theoretical hypotheses

ESG dimension	Primary mechanism	Predicted effect on current volatility	Predicted effect on future volatility	Predicted attenuation over time
Environmental (E)	Investment channel: upfront costs precede efficiency gains	None (insignificant)	Positive (+)	No – persists as investment horizon unfolds
Social (S)	Stakeholder conflict channel: active engagement raises near-term uncertainty	Positive (+)	None (insignificant)	Yes – resolves within 1–2 years as conflicts conclude
Governance (G)	Internal monitoring channel: board quality stabilizes earnings continuously	Negative (–)	None (insignificant)	Minimal – monitoring is a continuous mechanism

2.6 State ownership as an institutional moderator

The dimension-specific hypothesis above assume that ESG media signals translate into financial pressure through market-based mechanisms: customers adjusting purchasing behavior, investors repricing risk, lenders adjusting credit terms, and employees altering productivity. These transmission channels depend critically on firms facing genuine market discipline, a condition that is systematically weakened for state-owned enterprises.

Kornai’s (1986) soft budget constraint theory argues that state-owned enterprises (SOEs) can draw on government support, including credit access, administrative protection, and implicit guarantees, that insulates them from market-based discipline. For ESG dynamics specifically, this implies that, even when SOEs receive positive or negative ESG media coverage, the financial consequences may be muted because state backing weakens the market-based transmission mechanism, including customer attrition, credit tightening, and investor pressure (Kornai, 1986; Shleifer and Vishny, 1994). As documented in comparable transition economies, SOEs face operational mandates that include employment maintenance, regional development, and political objectives alongside profit maximization (Lin et al., 2003), further attenuating the link between ESG reputation and earnings outcomes. This ownership-based heterogeneity has received limited attention in the ESG-risk literature.

H4. The dimension-specific ESG-risk relationships predicted for S and G will be concentrated among non-state-owned enterprises. For majority state-owned firms, ESG media signals will have no significant effect on earnings volatility, regardless of dimension.

2.7 Research gaps and contribution

Three gaps motivate this study: the absence of ESG-risk evidence from Vietnam in particular and Southeast Asia in general; the rarity of dimension-specific ESG decomposition in emerging market risk research; and the untested role of state ownership as a moderator of ESG-risk dynamics. This paper addresses all three through a dimension-specific theoretical framework applied to 62 Vietnamese listed firms from 2012 to 2023.

3. Data and methodology

3.1 Sample and data sources

ESG data are sourced from the Covalence EthicalQuote database, which monitors global media, NGO publications, government reports, and institutional communications to construct

monthly firm-level ESG reputation scores. Financial and governance data are compiled from audited annual financial statements filed with the Ho Chi Minh Stock Exchange (HOSE) and Hanoi Stock Exchange (HNX). The sample covers 62 Vietnamese listed firms from 2012 to 2023, yielding 709 firm-year observations across four sectors: non-financial corporations (JSC, 405 observations), commercial banks (187), securities firms (44), and insurance companies (11). The sample restriction to the years 2012–2023 reflects the period of adequate financial statement coverage; extension to earlier years would substantially reduce the usable panel.

3.2 ESG variable construction

The Covalence EthicalQuote score is calibrated on a 0–100 scale with 50 as the neutral baseline, the default assigned to firms with no qualifying media signal in a given period. Scores above 50 indicate net positive media coverage on ESG-related topics; scores below 50 indicate net negative coverage. We compute deviation scores:

$ESG_dev_{it} = ESG_{it} - 50$ with analogous constructions for environmental (E), social (S), and governance (G) sub-scores. We use December end-of-year scores to align with annual financial reporting cycles. All ESG variables enter regressions lagged one year to address reverse causality, the possibility that current earnings volatility influences current media coverage.

The distribution of ESG deviation scores reflects the media-based construction: approximately 75% of firm-year observations have $ESG_dev = 0$, reflecting the neutral baseline for firms absent from global ESG media. Identification in the fixed-effects models therefore comes from the subset of observations where firms transition between the zero baseline and non-zero media signal territory, a feature that concentrates identification on the firms and periods with the most informative ESG dynamics.

It is important to distinguish this media-based ESG measurement approach from greenwashing. The Covalence scores are constructed entirely from external observer sources, including global media outlets, NGO reports, and institutional publications, rather than from firm-initiated disclosures, and firms cannot directly manipulate their Covalence scores by selectively reporting favorable sustainability information, as the database aggregates third-party assessments of firm behavior. This external construction is particularly important in the Vietnamese context, where voluntary disclosure norms create incentives for strategic self-reporting that media-based measures circumvent (Capelle-Blancard and Petit, 2017).

3.3 Earnings risk measures

We construct four measures of earnings risk. The primary dependent variable is a clean backward-looking earnings volatility measure (ROA_vol3_lag), defined as the rolling three-year standard deviation of ROA over years $t-3$ to $t-1$. This construction deliberately excludes the current year t from the volatility window, ensuring that the ESG signal at $t-1$ and the volatility measure share no common ROA observations. This addresses the mechanical overlap concern that would arise if the volatility window included year t , since ESG_dev_{t-1} and ROA_{t-1} would then appear in both the regressor and the dependent variable simultaneously.

The second primary measure is forward-looking volatility ($ROA_fwdvol3$), defined as the standard deviation of ROA over years $t+1$ to $t+3$. This prospective measure is entirely free of any overlap with the lagged ESG regressor and tests whether current ESG signals predict future earnings instability, a more demanding and arguably more informative test of the ESG-risk relationship. As a robustness check and for comparability with prior literature, we also report results using the conventional rolling three-year volatility measure $SD(ROA_{t-2}, ROA_{t-1}, ROA_t)$, which includes year t and is therefore subject to the mechanical overlap concern. The consistency of results across all three specifications addresses this concern directly. We additionally construct ROA semi-deviation ($ROA_semidev$) as a downside risk measure, using the same clean backward-looking window.

3.4 Control variables and governance data

Control variables follow standard practice in the panel performance and risk literature: log total assets (firm size), board size, state-ownership percentage, foreign-ownership percentage, and board independence ratio (non-executive directors divided by total board members, capped at unity to address outliers). Missing governance observations are imputed using sector-year medians; results are robust to complete-case analysis.

3.5 Empirical specification

The primary specification is:

$$Risk_Measure_{it} = \alpha_i + \lambda_t + \beta_1 E_dev_{i,t-1} + \beta_2 S_dev_{i,t-1} + \beta_3 G_dev_{i,t-1} + \gamma' X_{i,t-1} + \varepsilon_{it}$$

where α_i are firm fixed effects absorbing all time-invariant firm characteristics, λ_t are year fixed effects absorbing common macroeconomic conditions, including Vietnam's GDP growth cycles and financial sector regulations, $X_{i,t-1}$ is the vector of lagged controls, and ε_{it} is the idiosyncratic error term. Standard errors are clustered at the firm level to account for serial correlation in errors within firms over time.

Firm fixed effects are essential given the substantial heterogeneity across Vietnamese listed firms in their baseline risk profiles, sector characteristics, and ESG media visibility. Year fixed effects control for common shocks, including the COVID-19 period (2020–2021) which generated widespread earnings disruption across all sectors. The lagged ESG specification addresses the most direct form of reverse causality, while placebo tests using future ESG scores and randomly shuffled scores further assess identification validity. Beyond lagging, endogeneity is addressed through three design choices: all ESG regressors are lagged one year ensuring the signal predates the outcome; firm fixed effects absorb all time-invariant confounders; and placebo tests using future ESG scores provide direct evidence against reverse causality (Friede *et al.*, 2015; Shrestha *et al.*, 2025). We acknowledge, however, that residual endogeneity from unobserved time-varying firm characteristics, such as a simultaneous shift in firm strategy that affects both ESG engagement and earnings stability, cannot be fully excluded with observational panel data alone.

Identification rests on within-firm changes in ESG media signals over time predicting subsequent changes in earnings volatility, after controlling for firm-specific time trends absorbed by the fixed effects. The key assumption is that idiosyncratic changes in a firm's ESG media coverage are not driven by the same unobserved factors that simultaneously determine its earnings volatility trajectory, a condition supported by the placebo tests.

The choice of firm fixed effects over random effects is supported on theoretical grounds: the substantial heterogeneity across Vietnamese listed firms in baseline risk profiles, ESG media visibility, and sector characteristics makes it implausible that firm-specific effects are uncorrelated with the regressors, which is the key assumption required for random effects consistency. Formal testing using the Hausman specification test is available from the authors upon request.

4. Results

4.1 Descriptive statistics and preliminary evidence

The clean backward-looking volatility measure (ROA_vol3_lag) has a mean of 0.0159 and standard deviation of 0.0174, closely comparable to the conventional overlapping measure (mean = 0.0163), confirming that the window adjustment does not materially alter the distributional properties of the dependent variable. The downside semi-deviation (ROA_semiddev_lag) averages 0.0132, capturing the asymmetric lower-tail component of earnings instability. The forward-looking measure (ROA_fwdvol3) averages 0.0163, symmetric with the backward-looking measure by construction. All distributions are right-skewed, with a small number of firm-years exhibiting very high earnings instability driving the upper tails, which motivates the winsorization robustness check reported in Section 5.

Table 2 reports the correlation matrix for the clean risk measures and ESG sub-scores. ROA_vol3_lag and ROA_semiddev_lag are highly correlated (0.932), confirming they capture similar dimensions of realized earnings instability. ROA_fwdvol3 is more weakly correlated with the backward-looking measures (0.542 with ROA_vol3_lag), reflecting its distinct time orientation. Among the ESG sub-scores, E_dev_lag1, S_dev_lag1, and G_dev_lag1 all correlate negatively with ROA_vol3_lag (range: 0.095 to -0.144), suggesting that higher ESG coverage is associated with lower realized volatility in the cross-section. This pattern may, however, reflect firm-size selection: larger, more internationally visible firms both attract more ESG media coverage and have more stable earnings due to diversification. The fixed-effects specification addresses this by isolating within-firm variation over time.

4.2 Main results: ESG sub-components and earnings volatility

Table 3 presents the central results across four volatility specifications: column 1 reports the conventional overlapping measure for comparability with prior literature; columns 2 and 3

Table 2. Correlation matrix – all regression variables

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ROA_vol3_lag (1)	1.000							
ROA_semiddev_lag (2)	0.798	1.000						
ROA_fwdvol3 (3)	0.427	0.339	1.000					
ESG_dev_lag1 (4)	−0.091	−0.104	−0.012	1.000				
E_dev_lag1 (5)	−0.102	−0.107	−0.013	0.958	1.000			
S_dev_lag1 (6)	−0.061	−0.078	−0.011	0.9610	0.857	1.000		
G_dev_lag1 (7)	−0.100	−0.120	−0.010	0.951	0.862	0.902	1.000	
Ln(Assets) (8)	−0.461	−0.398	−0.332	−0.029	−0.022	−0.030	−0.033	1.000

Table 3. Main results – ESG sub-components and earnings volatility

	(1) ROA_ vol3	(2) ROA_ vol3_lag	(3) ROA_ semiddev_lag	(4) ROA_ fwdvol3
E score (t−1)	−0.0005	0.0001	0.0005	0.0017***
S score (t−1)	0.0011**	0.0016**	0.0014**	−0.0001
G score (t−1)	−0.0018*	−0.0033***	−0.0033***	−0.0014
Ln(Assets)	−0.0050**	−0.0061**	−0.0039*	−0.0018
Board size	−0.0004	−0.0002	0.0003	0.0001
State ownership	0.0000	0.0000	0.0000	0.0000
Foreign ownership	0.0001	0.0000	0.0000	−0.0001
Board independence	0.0007	0.0019	0.0034	0.0032
Observations	647	585	585	523
Firms	62	62	62	62
R ² (within)	0.0505	0.0634	0.0616	0.0281
Firm and year FE	Yes	Yes	Yes	Yes

Note(s): *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$. Standard errors in parentheses. Column 1 uses the conventional rolling volatility SD(ROA_{t-2}, ROA_{t-1}, ROA_t), which shares the year t-1 ROA observation with the ESG regressor and is reported solely for comparability with prior literature. Columns 2 and 3 are the preferred specifications using clean backward-looking windows that exclude the current year, eliminating any mechanical overlap between the dependent variable and the ESG regressor. A diagnostic comparison confirms that the overlap in Column 1 attenuates rather than inflates the main coefficients: the S_dev bias is -5.8 per cent and the G_dev bias is 41.7 per cent, both in the direction of understatement. Column 4 tests whether current ESG signals predict future earnings instability

report the preferred clean backward-looking specifications; and column 4 reports the forward-looking specification.

The preferred specification (column 2, ROA_vol3_lag) shows that S_dev_lag1 is positive and significant ($\beta = 0.0016$, SE = 0.0008, $p = 0.042$) and G_dev_lag1 is negative and highly significant ($\beta = -0.0033$, SE = 0.0013, $p = 0.009$). E_dev_lag1 is insignificant in both backward-looking specifications ($p = 0.789$). Compared to the overlapping column 1 measure, the clean specification produces larger coefficient magnitudes for both S and G, confirming that the conventional measure understates rather than inflates the true ESG-risk relationship, with the G_dev attenuation reaching 41.7%.

The downside risk specification (column 3, ROA_semiddev_lag) produces near-identical results: S_dev_lag1 = 0.0014 ($p = 0.034$) and G_dev_lag1 = -0.0033 ($p = 0.005$). The consistency across total variance and downside semi-deviation confirms that social signals raise overall earnings unpredictability while governance signals reduce both total variance and the probability of severe downside deviations.

Column 4 (ROA_fwdvol3) reveals a distinct pattern: E_dev_lag1 is positive and highly significant ($\beta = 0.0017$, SE = 0.0005, $p = 0.001$), while S and G are uniformly insignificant ($p = 0.920$ and $p = 0.340$, respectively). The complete reversal of dimensional effects across backward- and forward-looking horizons is theoretically informative and is discussed further in [Section 4.3](#).

The economic magnitudes of the preferred specification are meaningful. A one-standard-deviation increase in S_dev_lag1 (SD = 2.19) is associated with an increase in ROA_vol3_lag of 0.0035, equivalent to 22.0% of mean earnings volatility. A one-standard-deviation improvement in G_dev_lag1 (SD = 1.48) is associated with a decrease in ROA_vol3_lag of 0.0049, equivalent to 30.8% of mean volatility. These magnitudes confirm that governance quality is the more powerful risk management dimension in the Vietnamese corporate context.

4.3 Lead-lag structure of ESG-risk effects

The lead-lag analysis tests whether ESG-risk effects are transient or persistent by estimating the baseline model at three horizons: concurrent backward-looking volatility (ROA_vol3_lag), one-year-ahead volatility (ROA_fwdvol2), and two-year-ahead volatility (ROA_fwdvol3). All specifications use the clean, non-overlapping volatility measures.

The results reveal a clear attenuation pattern. The S_dev_lag1 effect is significant only at the concurrent horizon ($\beta = 0.0016$, $p = 0.042$) and becomes uniformly insignificant at both forward horizons (1-yr: $p = 0.499$; 2-yr: $p = 0.920$). The G_dev_lag1 effect follows the same pattern: significant at the concurrent horizon ($\beta = -0.0033$, $p = 0.009$) and insignificant at one-year-ahead ($p = 0.191$) and two-year-ahead ($p = 0.340$) horizons.

This short-lived structure implies that social stakeholder engagement raises earnings volatility in the near term but does not permanently alter a firm's risk profile. Firms navigate the period of active stakeholder conflict and return to baseline within approximately two years. The pattern is inconsistent with a structural risk transformation hypothesis and more consistent with a transient reputational uncertainty mechanism: elevated attention from social stakeholders creates temporary earnings unpredictability as the firm manages multiple stakeholder demands simultaneously, but this uncertainty resolves as engagement processes conclude.

4.4 ESG and risk-adjusted profitability

The Sharpe-like ratio analysis reported in the prior version of this paper is replaced with a more defensible approach following reviewer guidance. The original ratio measure (ROA divided by ROA_vol3) creates a mechanical relationship between numerator and denominator and lacks a clean economic interpretation in an accounting returns context. Instead, we connect the risk and profitability dimensions of ESG through two complementary analyses.

The first analysis tests whether ESG sub-components predict profitability *conditional on* the level of earnings volatility, addressing the question of whether ESG generates profitability

effects beyond any risk-stabilizing channel. Table 4 presents results from the baseline profitability specification (column 1, replicating the companion paper's main finding) alongside specifications that include ROA_vol3_lag as an additional control variable (columns 2 and 3).

The results are clear. Adding the volatility control leaves the ESG coefficients essentially unchanged: E_dev_lag1 remains positive and significant at the 5% level ($\beta = 0.0035$, $p = 0.014$ versus $\beta = 0.0036$, $p = 0.023$ in the baseline), and S_dev_lag1 remains negative and highly significant ($\beta = -0.0057$, $p < 0.001$ versus $\beta = -0.0059$, $p = 0.001$ in the baseline). The coefficient attenuation is minimal, 2.8% for E and 3.4% for S and both variables retain significance at the same or stronger levels. ROA_vol3_lag itself is not significant ($\beta = -0.164$, $p = 0.473$), suggesting that once ESG signals are controlled, earnings volatility carries little additional explanatory power for profitability levels. The ROE specification (column 3) confirms the same pattern: E_dev_lag1 = 0.0101 ($p = 0.019$) and S_dev_lag1 = -0.0120 ($p = 0.015$), both surviving the inclusion of the volatility control.

These results have a clear interpretation. ESG sub-components affect profitability through channels that are largely independent of the earnings risk channel documented in Sections 4.2 and 4.3. Environmental signals improve ROA not by stabilizing earnings, but through operational efficiency and reputational channels that directly affect revenue and cost. Social signals reduce ROA not by raising volatility, but through direct stakeholder cost channels, higher labor costs, community expenditures, and supply chain compliance costs, that compress margins independently of earnings predictability. The ESG-profitability and ESG-risk relationships are therefore complementary rather than mediated: ESG dimensions simultaneously affect both the level and the stability of earnings, with distinct dimension-specific signatures in each domain.

These results confirm that ESG dimensions affect both profitability and risk through complementary but largely independent channels, with distinct dimension-specific signatures in each domain.

4.5 Sector heterogeneity

Estimating the baseline model separately by sector reveals that the main results are concentrated in non-financial firms: S_dev_lag1 is positive and marginally significant

Table 4. ESG and profitability conditional on earnings volatility

	(1) Baseline ROA	(2) ROA + vol control	(3) ROE + vol control
E score (t-1)	0.0036**	0.0035**	0.0101**
S score (t-1)	-0.0059***	-0.0057***	-0.0120**
G score (t-1)	0.0033	0.0029	0.0039
ROA_vol3_lag		-0.1640	0.0097
Ln(Assets)	-0.0118*	-0.0160*	-0.0389*
Board size	-0.0007	-0.0011	-0.0039
State ownership	0.0001	0.0001	0.0001
Foreign ownership	0.0006**	0.0007**	0.0015**
Board independence	0.0200**	0.0173*	0.0232
Observations	647	585	585
Firms	62	62	62
R ² (within)	0.0807	0.0963	0.0686
Firm and Year FE	Yes	Yes	Yes

Note(s): *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$. Standard errors in parentheses. Column 1 replicates the baseline profitability specification from the companion paper. Columns 2 and 3 add ROA_vol3_lag as a control variable to test whether ESG predicts profitability beyond its effect on earnings risk. The minimal attenuation of ESG coefficients (2.8 per cent for E, 3.4 per cent for S) indicates that the profitability and risk channels operate largely independently

($\beta = 0.0014, p = 0.099$) and G_dev_lag1 is negative and significant ($\beta = -0.0034, p = 0.016$) for non-financial corporations, while all ESG coefficients are statistically insignificant for financial sector firms, consistent with prudential supervision substituting for market-based ESG discipline mechanisms (Shakil, 2021).

4.6 Ownership heterogeneity

Table 5 presents ownership-split results using the clean ROA_vol3_lag measure. For non-SOE firms (state ownership $\leq 50\%$, $N = 488$, 55 firms), S_dev_lag1 is positive and marginally significant ($\beta = 0.0016, p = 0.053$) and G_dev_lag1 is negative and highly significant ($\beta = -0.0036, p = 0.008$). The governance effect is notably stronger in this clean specification than in the conventional overlapping measure, consistent with the general pattern that clean measures produce larger and more precisely estimated coefficients. The complete absence of significant ESG-risk effects among SOEs replicates and extends the soft budget constraint evidence documented for profitability outcomes in comparable transition economy settings (Lin *et al.*, 2003; Shleifer and Vishny, 1994).

The placebo test using one-year-ahead ESG scores applied to the clean ROA_vol3_lag measure yields uniformly insignificant coefficients for all three sub-components (E: $p = 0.417$, S: $p = 0.697$, G: $p = 0.181$). This is a substantially cleaner result than the borderline G_dev_future significance ($p = 0.079$) obtained with the overlapping conventional measure, confirming that the earlier marginal result was driven by mechanical overlap between the future ESG signal and the current-year ROA observation shared with the conventional volatility window.

5. Robustness analysis

Each specification is motivated by a specific threat to inference, and the pattern of results across specifications is more informative than any single robustness check in isolation, therefore: the winsorization check addresses outlier influence; COVID exclusion addresses pandemic-period noise compression; the two-year lag tests whether effects persist beyond one year; and the active ESG subsample addresses zero-inflation concerns. The two-year lag coefficients are near zero (S: $\beta = -0.00006, p = 0.879$; G: $\beta = -0.00032, p = 0.756$), confirming the ESG-risk relationship is short-lived. Table 6 presents robustness results across six alternative specifications. The S_dev coefficient is positive and significant at the 5% level in five of the six specifications, ranging from 0.0010 to 0.0016, with the strongest effect in the

Table 5. Ownership-split results – ROA_vol3_lag

	Non-SOE ($N = 488$, firms = 55)	SOE ($N = 95$, firms = 12)
E score ($t-1$)	0.0002	0.0287**
S score ($t-1$)	0.0016*	-0.0078
G score ($t-1$)	-0.0036***	-0.0254**
Ln(Assets)	-0.0059*	-0.0005
Board size	-0.0002	-0.0009
State ownership	-0.0001	-0.0001
Foreign ownership	0.0000	-0.0002**
Board independence	-0.0009	0.0089
R^2 (within)	0.0692	0.1553
Firm and year FE	Yes	Yes

Note(s): *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$. Standard errors in parentheses. SOE results should be interpreted with caution given the small subsample size (12 firms) and large coefficient magnitudes that may reflect influential observations rather than genuine population effects

Table 6. Robustness checks

	Winsor 95%	Excl. COVID	2-year lag	Active ESG	Semidev	Non-SOE
E score (t–1)	–0.0006**	–0.0008*		–0.0006	–0.0002	–0.0004
S score (t–1)	0.0011***	0.0016**		0.0012**	0.0010**	0.0010**
G score (t–1)	–0.0015*	–0.0026*		–0.0017*	–0.0018***	–0.0018*
E score (t–2)			–0.0004			
S score (t–2)			–0.0006			
G score (t–2)			–0.0003			
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	647	524	585	299	647	488
Firms	62	62	62	29	62	56
R ² (within)	0.0580	0.0754	0.0550	0.0686	0.0356	0.0521
Firm and year FE	Yes	Yes	Yes	Yes	Yes	Yes

Note(s): *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$. Column 1: ROA_vol3 winsorized at 95th percentile. Column 2: excludes 2020–2021. Column 3: ESG scores lagged two years. Column 4: restricted to firms with within-firm ESG standard deviation > 0.1. Column 5: semi-deviation as dependent variable. Column 6: non-SOE firms only (state ownership ≤ 50 per cent)

COVID-exclusion sample. The G_dev coefficient is negative across all six specifications, reaching statistical significance at 5% in the semi-deviation specification ($\beta = -0.0018$, $p = 0.004$) and at 10% in three others, with the COVID-exclusion sample producing the largest magnitude ($\beta = -0.0026$, $p = 0.054$). Results are stable across winsorization at the 95th percentile, COVID-period exclusion, two-year lag structures, and restriction to firms with active ESG variation, addressing distributional, temporal, and sample concerns, respectively.

The two-year lag specification, reported in column 3, shows that the S_dev coefficient is essentially zero ($\beta = -0.00006$, $p = 0.879$) and the G_dev coefficient is similarly negligible ($\beta = -0.00032$, $p = 0.756$). This attenuation is consistent with the lead-lag analysis showing that ESG-risk dynamics are short-lived and do not persist beyond one year. Excluding COVID-affected years produces larger and more precisely estimated coefficients throughout, suggesting that the pandemic-period earnings disruption compressed the ESG-related signal in the full sample.

The placebo test using one-year-ahead ESG scores applied to the clean ROA_vol3_lag measure yields uniformly insignificant coefficients for all three sub-components (E: $p = 0.417$, S: $p = 0.697$, G: $p = 0.181$). This resolves a concern noted with the conventional overlapping measure, where G_dev_future1 was marginally significant ($p = 0.079$). The improvement from $p = 0.079$ to $p = 0.181$ is attributable to high within-firm autocorrelation in governance signals ($AR(1) = 0.775$, $p < 0.001$), which caused future G scores to spuriously predict current overlapping volatility through their correlation with concurrent G scores.

We implement four additional tests to assess the robustness of the identification claims. The pre-trend test examines whether ESG signals two periods prior (t–2) predict earnings volatility one period prior (t–1). If pre-trends are absent, this supports the interpretation that the main t–1 to t relationship reflects a genuine response to ESG signals rather than a shared underlying trajectory. The results reveal a problematic pattern: S_dev_lag2 significantly predicts vol(t–1) ($\beta = 0.00195$, $p = 0.027$) and G_dev_lag2 strongly predicts vol(t–1) ($\beta = -0.00410$, $p = 0.003$). This indicates that firms with consistently high social media attention or consistently strong governance signals they already had systematically different volatility profiles in prior periods, which warrants caution in causal interpretation.

The first-difference specification regresses changes in earnings volatility on changes in ESG signals, removing all time-invariant firm characteristics, including gradual within-firm trajectories. In this most demanding specification, only ΔG_dev_lag1 remains significant ($\beta = -0.00265$, $p = 0.026$), while ΔS_dev_lag1 is insignificant ($\beta = 0.00121$, $p = 0.247$).

The governance finding thus survives the strictest within-firm differencing test, while the social finding does not. The governance finding survives first-differencing and lagged volatility control, consistent with board quality operating as a continuous earnings-stabilizing mechanism (Assenso-Okofe *et al.*, 2021; Assenso-Okofe *et al.*, 2021), while the social finding does not, indicating that firms with persistently high social media attention tend to have persistently higher earnings volatility.

Controlling for lagged earnings volatility as an additional regressor absorbs persistence in the volatility process and rules out the possibility that pre-existing volatile conditions attract ESG media coverage. G_dev_lag1 survives this test ($\beta = -0.00217, p = 0.044$) while S_dev_lag1 attenuates to insignificance ($\beta = 0.00085, p = 0.210$). The lagged volatility coefficient is itself large and significant ($\beta = 0.358, p < 0.001$), confirming substantial persistence in earnings volatility over time.

The industry-year leave-one-out instrument yields first-stage F-statistics below conventional relevance thresholds ($F < 2$ for all three sub-components), indicating that Vietnamese firms within the same sector do not exhibit sufficient synchronized ESG dynamics for this instrument to be viable. We therefore do not pursue the IV approach further.

Taken together, the identification tests support a clear but differentiated conclusion. The governance finding (G_dev reduces earnings volatility) is the most credible result: it survives first-differencing ($\beta = -0.00265, p = 0.026$), survives lagged volatility control ($\beta = -0.00217, p = 0.044$), and is consistent with the theoretical prediction that board quality provides a contemporaneous earnings-stabilizing mechanism. The governance result is robust to seven of eight specifications across Tables 3–5.

The social finding (S_dev increases earnings volatility) is empirically consistent across several specifications but faces identification challenges. The presence of significant pre-trends ($S_dev_lag2 \rightarrow vol(t-1): p = 0.027$) and attenuation upon lagged volatility control (from $p = 0.042$ to $p = 0.210$) indicate that firms with persistently high social media attention tend to have persistently higher earnings volatility, and the within-firm variation exploited by fixed effects may not be fully orthogonal to this persistent characteristic. The S_dev finding should therefore be interpreted as an association, as firms experiencing within-firm increases in social media attention tend to experience contemporaneous increases in earnings volatility, rather than as a clean causal effect.

This differentiated conclusion is itself theoretically meaningful. The internal monitoring mechanism through which governance quality stabilizes earnings is a direct, contemporaneous, and persistent process that standard panel identification can credibly capture. The stakeholder engagement mechanism through which social signals raise volatility is more diffused, involves longer causal chains, and is inherently more difficult to identify cleanly in observational data. Future research employing quasi-experimental designs, regulatory shocks to governance standards, exogenous changes in media coverage, or natural experiments in stakeholder pressure, would provide stronger identification for the social dimension.

6. Discussion and conclusion

6.1 Discussion and implications

This paper addresses a question distinct from the mainstream ESG-performance literature: not whether ESG improves what firms earn, but instead whether it influences how stably they earn it. The results reveal a nuanced picture that differs substantially from developed-market findings and that varies meaningfully across ESG dimensions, ownership types, and time horizons.

Social signals raise short-term earnings volatility while the positive S_dev effect contradicts the simple risk-reduction hypothesis and is instead consistent with the ESG attention hypothesis: firms receiving elevated social media attention are navigating active

stakeholder engagement processes, including labor negotiations, community relations management, and supply chain audits, that introduce genuine short-term operational uncertainty. This interpretation is supported by the rapid attenuation of the effect: the social signal-volatility link is significant only at the contemporaneous horizon and disappears within two years, suggesting that firms resolve stakeholder conflicts and return to baseline risk levels rather than undergoing permanent risk transformation.

For Vietnam specifically, the social dimension is dominated by labor relations, community impact in manufacturing and industrial contexts, and supply chain transparency, all of which are issues that have become increasingly prominent as Vietnamese firms integrate into international value chains. Positive social media coverage in this context often accompanies periods of active stakeholder negotiation, which involves real operational disruption. The finding is therefore not a refutation of stakeholder theory. It is consistent with the idea that effective stakeholder engagement is a process and not a steady state, and that the process itself involves transitional costs.

Governance signals reduce earnings volatility and the negative G_dev effect is consistent with the mainstream view of governance quality as an earnings-stabilizing mechanism. Board independence, transparency, and executive accountability reduce managerial opportunism and improve internal control, all of which are mechanisms that directly lower earnings variance. This effect is particularly strong for downside risk as measured by semi-deviation, suggesting that governance quality is especially important in preventing severe earnings declines rather than moderating upside variation. This finding has direct practical relevance for Vietnamese corporate governance reform: improvements in board independence and transparency standards have measurable earnings-stabilizing effects beyond their profitability implications. Vietnam's progressive board independence reforms since 2012 provide a plausible institutional mechanism for this effect (Nguyen and Nguyen, 2025) (Nguyen and Nguyen, 2025).

Environmental signals predict higher future earnings risk, and the forward-looking E_dev result, positive and significant for future earnings volatility but insignificant for current volatility, is consistent with the investment interpretation of environmental engagement. Firms receiving favorable environmental media coverage are investing in cleaner production, energy efficiency, or environmental compliance involving upfront capital expenditure and operational change. These investments raise future earnings uncertainty before the efficiency gains are realized and this finding has implications for how investors should interpret environmental ESG signals: rather than treating favorable environmental coverage as an unambiguous risk reduction signal, they should account for the transitional volatility that accompanies genuine environmental investment. This finding has direct relevance for international trade partners and investors assessing Vietnamese firms' environmental credentials; as Vietnamese exporters face increasing pressure from European and North American buyers to demonstrate environmental compliance under supply chain due diligence regulations, firms that invest genuinely in environmental improvement will experience transitional earnings uncertainty that should not be interpreted as financial deterioration. Lee *et al.* (2022) Lee *et al.* (2022) similarly document that environmental ESG signals in media-rich environments carry complex valuation implications that depend on the investment horizon of the observer, a pattern fully consistent with the forward-looking volatility result documented here.

State ownership eliminates ESG-risk linkages and the complete absence of ESG-risk effects among SOEs, replicating the pattern from the companion profitability paper, reinforces the soft budget constraint as a foundational mechanism shaping ESG-financial dynamics in Vietnam. SOEs face attenuated market discipline: their financial performance is shaped primarily by administrative mandates, state credit access, and political objectives rather than competitive market outcomes. In this environment, ESG media signals, whether positive or negative, do not translate into financial pressure because the transmission mechanism from stakeholder reputation to earnings is weak or absent. This finding is relevant beyond Vietnam: in any emerging economy with a significant state enterprise presence, market-based ESG mechanisms are likely to generate financial incentives only in the private corporate segment.

Risk-adjusted performance connects both papers as the conditional profitability analysis provides a unifying result connecting the risk and profitability dimensions of ESG. Environmental signals improve both mean profitability and future earnings stability, while social signals reduce mean profitability and raise near-term earnings volatility, a combination that systematically depresses risk-adjusted performance. The minimal attenuation of ESG profitability coefficients, when earnings volatility is added as a control, confirms that these two channels operate largely independently: ESG dimensions affect both what firms earn and how stably they earn it, through distinct mechanisms that do not fully mediate each other. This finding has direct implications for how ESG investment strategies should weight sub-components in emerging market contexts as environmental signals represent a dimension that creates value through multiple complementary channels, while social signals carry costs that simultaneously compress margins and introduce earnings uncertainty.

6.2 Limitations and future research

Several limitations apply, including the identification strategy relying on lagged fixed-effects specifications rather than quasi-experimental variation, and residual endogeneity from unobserved time-varying firm characteristics cannot be fully excluded. The sample is limited to the 62 firms in the Covalence coverage universe, a selected, internationally visible subset of Vietnamese listed firms, and findings may not generalize to the broader listed population. The relatively short time series limits statistical power for sub-sample analyses and precludes more demanding dynamic panel estimators.

Several avenues for future research emerge directly from these limitations. First, quasi-experimental designs exploiting regulatory shocks to governance standards or exogenous changes in ESG media coverage, such as the introduction of mandatory ESG disclosure requirements or sudden shifts in international media attention, would provide stronger causal identification than the lagged fixed-effects approach used here, particularly for the social dimension where pre-trend evidence limits causal interpretation. Second, extending the sample beyond the Covalence coverage universe by incorporating Vietnamese-language media sources, domestic ESG rating systems, or manually coded firm-level sustainability data would allow the framework to be applied to the broader Vietnamese listed population, testing whether the findings generalize beyond the internationally visible firms studied here. Third, as longer time series become available with Vietnam's maturing capital market, future research could employ dynamic panel estimators, such as the system GMM, which would address both residual endogeneity concerns and the persistence in earnings volatility documented in [Section 5](#), while also increasing statistical power for the ownership and sector sub-sample analyses.

6.3 Conclusion

This paper examines whether ESG media signals affect earnings risk among Vietnamese listed firms. Using panel fixed-effects models on 62 firms from 2012 to 2023, we document three principal findings. Social media signals increase short-term earnings volatility, an effect concentrated in non-SOE firms and attenuating rapidly within two years, consistent with the transitional costs of active stakeholder engagement. Governance signals reduce earnings volatility, with the strongest effect on downside risk, while environmental signals predict higher future earnings volatility, consistent with investment-related transitional uncertainty preceding efficiency gains.

Together with the companion paper's profitability findings, these results present a coherent picture: environmental engagement improves both mean profitability and risk-adjusted returns; social engagement reduces mean profitability and raises short-term volatility, depressing risk-adjusted performance; and governance quality reduces earnings instability.

For policymakers in Vietnam and comparable emerging economies, the results carry three concrete recommendations. First, ESG disclosure mandates and investor engagement mechanisms should be prioritized in the private and mixed-ownership corporate sector,

where market-based reputational transmission is active and measurable. Second, extending ESG accountability to SOEs requires direct regulatory mandates and integration of ESG metrics into state shareholder performance frameworks, rather than reliance on market-based mechanisms that the soft budget constraint renders ineffective. Third, governance reform, specifically board independence and transparency standards, should be recognized not only as a corporate governance objective but as a financial stability tool, given its documented earnings-stabilizing effects in the Vietnamese listed sector. For international investors and trade partners assessing Vietnamese firms, the findings indicate that ESG sub-component analysis is essential, and that environmental and social signals require horizon-specific interpretation: environmental signals warrant concern about near-term transitional volatility rather than long-run risk, while social signals warrant attention to short-term operational disruption that typically resolves within two years.

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