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Do negative ESG news events trigger abnormal trading activity? Evidence from the Chinese stock market

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Abstract. This paper examines how negative Environmental, Social, and Governance (ESG) news events shape short-run trading dynamics in China's A-share market over 2015–2023. Treating ESG controversies as a distinct category of non-financial risk signal, this research identifies 4,873 firm-level events across six subcategories—environmental violations, industrial accidents, labor disputes, food-safety crises, executive misconduct, and regulatory sanctions—via a BERT-based text classifier. Within the [−1, +3] event window, abnormal turnover averages 2.84 percentage points above benchmark (a 28.3% relative elevation), trading volume expands by roughly 35%, and idiosyncratic volatility rises by 19.6 percentage points. Mediation analysis decomposes the total effect into an investor-attention channel (≈ 41%) and a belief-divergence channel (≈ 33%). Governance controversies generate the strongest reactions; effects are amplified in firms with thin analyst coverage and low institutional ownership. Three identification strategies—instrumental variables, difference-in-differences, and propensity score matching—support a causal interpretation. The findings inform mandatory ESG disclosure policy and institutional investor development in China.

Keywords: ESG controversies, abnormal turnover, investor attention, belief divergence, China A-share market

1. Introduction

The mainstreaming of ESG principles has produced a category of corporate news events that occupies an awkward informational position: salient enough to capture investor attention immediately, yet ambiguous enough to resist rapid valuation. When a listed firm encounters sudden negative ESG exposure—a pollution fine, a labor dispute, or an executive fraud allegation—the event may carry limited near-term cash-flow implications while simultaneously destabilizing investor beliefs about governance quality, regulatory trajectory, and reputational capital. The comprehensive meta-analytic synthesis of Friede et al. established that ESG factors are systematically linked to financial performance, elevating such events from peripheral curiosities to material information shocks [1]. Yet whether that materiality manifests in abnormal trading activity—not merely in abnormal returns—remains underexplored, particularly in the context of emerging markets where the informational infrastructure surrounding ESG is still maturing.

The extant literature has made meaningful progress on the return dimension of ESG event reactions. Capelle-Blancard and Petit provided cross-country evidence that ESG controversies generate statistically meaningful return anomalies [2], while Berg et al. reframed the ESG information environment itself as

inherently contested, documenting that major rating providers disagree on firm scores to a degree far exceeding the divergence observed among credit-rating agencies [3]. Pedersen, Fitzgibbons, and Pomorski confirmed that ESG risk commands an equilibrium price premium in well-functioning markets. Collectively, these contributions establish that ESG-related information is priced. What this literature leaves unaddressed, however, is the trading-level mechanism: how does the interpretive disagreement that surrounds ESG signals propagate into abnormal turnover, volume expansion, and short-run volatility? This gap matters because trading anomalies reveal the microstructure of information processing—whether markets absorb ESG news efficiently or are transiently destabilized by attention and disagreement dynamics [4].

The authors investigate these questions using China's A-share market, a setting where retail-investor dominance, fragmented ESG disclosure norms, and mobile-first financial media collectively amplify both the attention and the belief-divergence channels through which ESG news is expected to affect trading. The theoretical framework integrates the limited-attention model of Da et al. with Hong and Stein's gradual-information-diffusion model to generate a unified [5], testable prediction: negative ESG events attract disproportionate cognitive resources, widen the cross-sectional distribution of investor beliefs [6], and thereby inflate two-sided trading volume in the immediate aftermath of the shock. The authors test these predictions using the event study design of MacKinlay applied to 4,873 negative ESG events identified through machine-learning text classification of 12 million firm-specific news articles [7]. The contributions are threefold: a theoretical integration of attention and divergence mechanisms specific to the ESG context; a methodological advance in ESG event taxonomy through fine-grained six-way subtype classification; and systematic microstructure evidence from the world's second-largest equity market, substantially extending the geographic reach of ESG market reaction research.

2. Theoretical framework and related literature

2.1. Investor attention and news-driven trading

Kahneman's foundational insight that attention is finite and selectively allocated carries direct asset-pricing implications: when cognitive capacity is scarce, events that are intrinsically salient—negative, unexpected, reputationally charged—command disproportionate cognitive resources at the expense of other information [8]. Da et al. [5] operationalized this by constructing a search-volume-based measure of retail investor attention and demonstrating that abnormal search activity predicts short-term price pressure and subsequent reversals, consistent with attention-driven demand that temporarily distorts equilibrium prices. Barber and Odean identified a behavioral asymmetry central to this mechanism: retail investors face no binding search costs when deciding what to sell from their existing portfolios, but confront a vast choice set when selecting new purchases [9]. Salient negative news resolves this buying-side problem by directing attention toward the affected stock, generating abnormal turnover even in the absence of new private information about fundamental value. Tetlock extended this narrative to media sentiment, documenting that pessimistic language in financial press columns predicts elevated volume and negative price pressure over subsequent trading days [10], an effect that operates partly through sentiment and partly through the attention that negative coverage attracts. Peng and Xiong provided theoretical underpinning: attention-constrained investors prioritize market-wide signals over firm-specific news, producing predictable lags in the incorporation of idiosyncratic information and compensatory volume bursts when firm-level signals eventually break through the attentional barrier. Negative ESG events, which are characteristically firm-specific and reputationally charged, fit precisely this pattern [11].

2.2. Belief divergence, short-sale constraints, and trading volume

A complementary mechanism operates through investor disagreement. Miller demonstrated that when investors hold heterogeneous valuations and short-selling is constrained, the pessimistic cohort is excluded from the market while optimists hold [12], driving prices above the consensus and generating elevated two-sided volume as the two groups transact against one another. Hong and Stein [6] embedded this in a dynamic diffusion framework: private signals spread unevenly across cohorts of 'newswatchers', producing a hump-shaped volume response that peaks shortly after an information event and decays as beliefs gradually converge. The key prediction for the setting is that ambiguous signals—those admitting a wide range of legitimate interpretations—will sustain disagreement longer and thereby generate more persistent abnormal trading than unambiguous ones. Garfinkel operationalized opinion dispersion empirically by decomposing trading volume into inventory rebalancing [13], liquidity demand, and residual disagreement components, confirming that the disagreement residual predicts subsequent return volatility—exactly the volume-volatility co-movement the authors document in the event window. Carpenter, Lu, and Whitelaw established that China's A-share market exhibits structurally elevated turnover driven by retail sentiment [14], and that price discovery is dominated by individual investors whose heterogeneous beliefs equalize slowly in the absence of institutional intermediation. This structural feature predicts that ESG controversies—whose interpretive ambiguity is inherently high—will generate larger and more persistent trading disruptions in China than in institutionally developed markets where informed order flow rapidly absorbs idiosyncratic shocks.

2.3. ESG events and market reactions: gaps in the literature

Kruger demonstrated that negative CSR events impose a significant return penalty in U.S. equity markets, with the magnitude contingent on the pre-event level of CSR engagement—firms with stronger CSR records suffer larger shocks, consistent with investor disappointment updating from a higher prior [15]. Capelle-Blancard and Petit extended this across European markets, finding that environmental controversies carry the largest price penalties and that effects concentrate within a narrow two-day event window. The rating-divergence evidence of Berg et al. adds a further layer [3]: because investors hold heterogeneous ESG priors derived from competing rating providers, each negative ESG event widens the belief distribution mechanically, amplifying the volume and volatility response through the divergence channel. Despite this growing body of return-focused evidence, no study to the knowledge has systematically examined the trading microstructure—turnover, volume dynamics, and idiosyncratic volatility—surrounding negative ESG events in an emerging market context. Closing this gap is the primary empirical objective of the present paper. The authors formalize three testable hypotheses: H1, that negative ESG events raise abnormal turnover significantly above zero; H2, that the trading response is increasing in media coverage breadth; and H3, that governance controversies generate stronger and more persistent trading anomalies than environmental or social events, because their interpretive ambiguity is greatest and their resolution most prolonged per Hong and Stein and Miller .

3. Data and empirical strategy

3.1. Sample construction and event identification

The sample spans Shanghai and Shenzhen A-share listed firms from January 2015 through December 2023. Daily trading data—turnover rates, volumes, closing prices, and free-float market capitalization—are sourced from the CSMAR database. Firm fundamentals come from Wind, and ESG ratings from two domestic

providers: SynTao Green Finance and the China Securities Index (CSI) ESG rating system, which together offer the broadest cross-sectional coverage among Chinese rating agencies. Event identification draws on a corpus of approximately 12 million firm-specific news articles collected from Juchao Information Network, Sina Finance, and Eastmoney via automated web crawlers. A BERT-based multi-label text classifier, fine-tuned on 50,000 manually annotated articles, assigns each article to one of six negative ESG subcategories: environmental violations, industrial accidents, labor disputes, food-safety crises, executive misconduct, and regulatory sanctions. Out-of-sample classification performance reaches F1 = 0.87 on the binary ESG relevance task and F1 = 0.81 on the six-way subtype task. The event date is defined as the first trading day on which a negative ESG article appears for a given firm in a given quarter. After excluding observations that overlap with earnings announcements, dividend records, equity offerings, or trading suspensions, the final sample comprises 4,873 events spanning 1,259 listed firms across all major industries.

3.2. Event study and regression specification

The authors adopt the canonical event study framework of MacKinlay, using a [−30, −10] estimation window to establish expected normal trading and designating [−1, +3] as the primary event window. Abnormal Turnover for firm i on day t is defined in Equation (1):

$$AT_{i,t} = TO_{i,t} - E(TO_{i,t}|\Omega_i) \tag{1}$$

Note: $AT_{i,t}$ denotes the abnormal turnover of firm i on day t; $TO_{i,t}$ denotes the actual turnover rate of firm i on day t; $E(TO_{i,t}|\Omega_i)$ denotes the expected turnover rate estimated from the estimation window conditional on information set Ω_i; Ω_i denotes the information set available for firm i during the estimation period.

where $E(TO_{i,t})$ is the estimation-window mean adjusted for the industry daily median, which absorbs sector-specific variation in baseline trading intensity. Cumulative abnormal turnover over the main window, CAT(−1,+3), is the primary outcome variable. Two supplementary indicators—the Abnormal Volume ratio (AV, defined as the ratio of event-window daily volume to the estimation-window average) and short-term Idiosyncratic Volatility (IV, the standard deviation of market-model residuals over a rolling five-day window)—are constructed to triangulate the trading response. All three measures are winsorized at the 1st and 99th percentiles. For cross-sectional mechanism testing, the authors estimate the baseline regression model shown in Equation (2):

$$CAT_i(-1,+3) = \alpha + \beta_1 \cdot ESGType_i + \beta_2 \cdot Attention_i + \beta_3 \cdot DivIndex_i + \gamma \cdot X_i + \delta_j + \varepsilon_i \tag{2}$$

Note: $CAT_i(-1,+3)$ denotes cumulative abnormal turnover for firm i over the event window [−1,+3]; α is the intercept term; β_1, β_2 and β_3 are the coefficients of $ESGType$, $Attention$ and $DivIndex$, respectively; $ESGType_i$ denotes ESG event-type dummy variables; $Attention_i$ denotes investor attention; $DivIndex_i$ denotes the belief-divergence index; X_i is the vector of control variables; γ is the coefficient vector associated with X_i; δ_j denotes industry fixed effects for industry j; and ε_i is the error term.

where $ESGType$ is a vector of subtype dummies with governance as the reference category; $Attention$ captures event-date abnormal Baidu search volume following Da et al. [5]; $DivIndex$ is the composite belief-divergence measure; X comprises log market capitalization, book-to-market ratio, prior six-month return, institutional ownership share, and analyst coverage count; and δ_j are industry fixed effects. Standard errors are two-way clustered by firm and calendar week to address both within-firm serial correlation and contemporaneous cross-sectional dependence.

3.3. Measuring attention and belief divergence

Investor attention is proxied by the abnormal Baidu Index (ΔBaidu)—the log ratio of event-date Baidu search volume for the firm name or ticker to the estimation-window mean—adapting the Google Trends methodology of Da et al. [5] to the Chinese digital environment. Media breadth (NMedia), the count of distinct outlets carrying the event story within two days of the event date, supplements ΔBaidu as a measure of coverage scope rather than search intensity, motivated by Tetlock's finding [10] that the breadth of media dissemination independently drives retail trading behavior. Belief divergence is constructed following Garfinkel's decomposition approach from three observable proxies: the cross-sectional standard deviation of sell-side EPS forecasts issued within 30 days of the event (normalized by the absolute consensus); the intra-window standard deviation of daily turnover rates; and the standard deviation of user-generated post-level sentiment scores on Xueqiu and Eastmoney on the event date. Principal component analysis extracts a single composite DivIndex from these three inputs. Following the diffusion mechanism of Hong and Stein, the authors predict and test that DivIndex is systematically higher in firms with below-median analyst coverage, where the slow equalization of beliefs across investor cohorts is expected to sustain disagreement and prolong abnormal trading.

4. Empirical results

4.1. Baseline: abnormal trading in the event window

Table 1 reports Cumulative Average Abnormal Turnover (CAAT) across nested windows. The main [−1, +3] window yields CAAT of 2.84 percentage points (t = 6.21), representing a 28.3% elevation relative to the pre-event benchmark and confirming H1. Day-by-day decomposition reveals a characteristic asymmetric profile: a modest pre-event elevation on day −1 (0.41 pp, reflecting anticipatory trading by investors with early news access), a sharp spike to 4.12 pp on day 0, and quasi-exponential decay thereafter, reaching statistical insignificance by day +5. This temporal signature closely resembles the attention-shock dynamics documented by Barber and Odean rather than the gradual price incorporation predicted by rational-updating frameworks. The AV ratio peaks at 1.67 on day 0 (implying 67% excess volume relative to the estimation-window baseline) and remains above 1.15 through day +3. Idiosyncratic volatility rises by 19.6 percentage points over [−1, +3], consistent with widening bid-ask spreads as market makers reprice adverse-selection risk in response to heightened uncertainty about the firm's ESG exposure. Results are robust to extending the estimation window to [−50, −10], adopting market-adjusted benchmarks instead of the market model, and excluding observations on price-limit days, consistent with the robustness criteria of MacKinlay.

Table 1. Cumulative Average Abnormal Turnover (CAAT), Abnormal Volume (AV) ratio, and Idiosyncratic Volatility (IV) across event windows

Window	CAAT (pp)	t-stat	Rel. Elev.	AV Ratio	IV (pp)
Day −1	0.41	2.18*	+4.1%	1.09	3.2
Day 0	4.12	8.94***	+41.0%	1.67	11.8
Day +1	2.63	5.47***	+26.2%	1.38	8.4
Day +2	1.74	4.03***	+17.4%	1.27	6.1
Day +3	1.08	2.76**	+10.8%	1.15	4.3
Day +4	0.52	1.38	+5.2%	1.06	2.1

Table 1. Continued

Day +5	0.29	0.91	+2.9%	1.02	1.3
[−1, +3]	2.84	6.21***	+28.3%	1.37 (avg)	19.6 (sum)
[0, +1]	3.38	7.12***	+33.7%	1.53 (avg)	14.5 (sum)
[−1, +5]	2.11	5.34***	+21.1%	1.24 (avg)	22.8 (sum)

Note: N = 4,873 negative ESG events in China A-share market (2015–2023). Estimation window is [−30, −10]. t-statistics in parentheses are based on two-way clustering by firm and calendar week. *p < 0.05, **p < 0.01, ***p < 0.001.

4.2. Mechanism decomposition: attention and divergence channels

Table 2 presents the cross-sectional regression and mediation estimates. Among attention proxies, ΔBaidu enters with β = 0.318 (SE = 0.047, p < 0.001), and NMedia loads at β = 0.184 (SE = 0.031), both supporting H2 and consistent with Tetlock's evidence [10] that the scope of media dissemination amplifies investor trading responses. DivIndex is positive and significant (β = 0.247, SE = 0.062, p < 0.001), consistent with Miller's two-sided trading prediction [12]: a one-standard-deviation increase in the divergence index corresponds to 0.25 pp higher CAAT. The effect concentrates in low-analyst-coverage firms, precisely the condition under which Hong and Stein predict that information diffuses most slowly and disagreement persists longest. Institutional ownership enters negatively (β = −0.156, SE = 0.049), indicating that a 10-percentage-point higher institutional share is associated with 0.16 pp lower CAAT, consistent with institutional investors' superior information-processing capacity moderating disagreement-amplified turnover.

Formal mediation analysis using the product-of-coefficients method with 5,000 bootstrap replications attributes 41.2% of the total effect to the attention channel and 32.7% to the belief-divergence channel, jointly accounting for 73.9% of the reduced-form CAAT estimate. The residual 26.1% plausibly reflects precautionary position liquidation by risk-sensitive holders responding to the ESG risk premium documented by Pedersen et al. [4]. The decomposition supports a sequential causal narrative: a negative ESG event captures investor attention following Da et al. [5]; heterogeneous attentional responses widen the belief distribution as indexed by Garfinkel [13]; and widened beliefs motivate two-sided transacting per Millerthat inflates both turnover and volume.

Table 2. Cross-sectional regression of CAAT [−1,+3] on attention and divergence channels, with mediation decomposition

Variable	Coef.	SE	p-value	Std. β
Panel A: Main Regression				
ΔBaidu (attention)	0.318	0.047	< 0.001	0.29
NMedia (media breadth)	0.184	0.031	< 0.001	0.21
DivIndex (divergence)	0.247	0.062	< 0.001	0.19
Institutional ownership	−0.156	0.049	0.002	−0.13
Log(market cap)	−0.087	0.033	0.008	−0.11
Book-to-market ratio	0.061	0.028	0.029	0.07
Prior 6-month return	−0.043	0.024	0.074	−0.05
Analyst coverage count	−0.112	0.041	0.006	−0.09
Industry FE	Yes	—	—	—

Table 2. Continued

Observations	4,873	—	—	—
Adjusted R^2	0.347	—	—	—
Panel B: Mediation Decomposition	Share (%)	—	—	95% Conf. Interval
Attention channel	41.2%	—	—	[36.1%, 46.3%]
Belief-divergence channel	32.7%	—	—	[27.4%, 38.0%]
Residual (risk liquidation etc.)	26.1%	—	—	—
Total explained	73.9%	—	—	—

Note: Dependent variable is Cumulative Average Abnormal Turnover over [−1, +3]. Standard errors are two-way clustered by firm and calendar week. Bootstrap replications $N = 5{,}000$ for Panel B.

4.3. Heterogeneity by event type, firm characteristics, and identification

Table 3 reports CAAT disaggregated by ESG subtype. Governance events produce the highest CAAT at 3.76 pp, followed by social events at 3.07 pp and environmental events at 2.31 pp; all pairwise differences are statistically significant at the 5% level or better. This ranking supports H3 and is consistent with the evidence in Kruger that governance-type failures generate larger and more persistent market penalties: a pollution fine admits a reasonably bounded remediation cost estimate, whereas an executive fraud allegation reopens uncertainty across virtually the entire income statement and management team, maximizing interpretive ambiguity and, via Hong and Stein, prolonging disagreement. Firm-characteristic subgroups confirm the theoretical predictions: low institutional-ownership firms record CAAT 1.7 times that of high-ownership peers (3.71 vs. 2.19 pp); firms with fewer than three analyst followers exhibit CAAT of 3.92 pp versus 2.28 pp for heavily covered counterparts; and firms with below-median domestic ESG ratings show CAAT 32% above better-rated peers, consistent with a Bayesian learning interpretation in which signals carry greater weight when priors are diffuse, as emphasized by Kahneman.

Three identification strategies address potential endogeneity. An instrumental variable constructed from the interaction of firm proximity to rivers with quarterly rainfall anomalies provides exogenous variation in the probability of pollution-related ESG events, with a first-stage F-statistic exceeding 18 across specifications. IV estimates of the attention and divergence coefficients are larger in magnitude than their OLS counterparts, consistent with attenuation bias from measurement error in the attention proxy rather than confounding from unobserved firm quality. A difference-in-differences design exploiting the staggered provincial rollout of the Ministry of Ecology's annual environmental inspection campaigns yields a treated-province effect of 0.93 pp higher CAAT with a statistically flat pre-trend, supporting the parallel trends assumption. Finally, propensity-score-matched analysis on firm size, leverage, prior return, and institutional ownership produces an average treatment effect of 2.71 pp, close to the unmatched estimate, ruling out selection on observable pre-event trading characteristics as the driver of the main findings.

Table 3. CAAT disaggregated by ESG event subtype, firm characteristics, and identification robustness

Subgroup / Category	CAAT (pp)	t-stat	*N* events	Diff. vs. Ref.
Panel A: By ESG Event Subtype				
Governance (misconduct/sanctions)	3.76	7.84***	1,024	reference
Social (labor/food safety)	3.07	6.12***	1,318	−0.69 pp**
Environmental (violations/accidents)	2.31	5.09***	2,531	−1.45 pp***

Table 3. Continued

Panel B: By Institutional Ownership				
Low ownership (below median)	3.71	6.93***	2,437	+1.52 pp***
High ownership (above median)	2.19	4.87***	2,436	Reference
Panel C: By Analyst Coverage				
Low coverage (< 3 analysts)	3.92	7.21***	1,689	+1.64 pp***
High coverage (≥ 3 analysts)	2.28	5.16***	3,184	Reference
Panel D: By ESG Rating Level				
Below-median ESG rating	3.19	6.47***	2,441	+0.74 pp**
Above-median ESG rating	2.42	5.23***	2,432	Reference
Panel E: Identification Robustness				
IV estimate (Rainfall × Proximity)	3.24	—	—	First-stage F > 18
DiD (Provincial inspections)	+0.93	4.11***	—	Flat pre-trend ✓
PSM average treatment effect	2.71	5.88***	4,873	Selection ruled out

Note: All CAAT values are computed over the [−1, +3] window. Significance of pairwise differences is based on two-sample t-tests. *$p < 0.05$, **p < 0.01, ***$p < 0.001$.

5. Discussion

The trading disruptions the authors document—a 28% abnormal turnover elevation and a 67% peak volume spike—substantially exceed median estimates from comparable ESG event studies in U.S. and European markets. The authors attribute this to three institutional features specific to China. First, the retail-investor dominance documented by Carpenter et al.[14] means the fraction of marginal traders susceptible to attention-driven behavior is far higher than in developed markets, amplifying the Barber and Odean mechanism [9]. Second, mobile-first financial platforms disseminate controversies to millions of retail holders within hours of publication, compressing the window over which divergent interpretations circulate and front-loading trading volume into the event date. Third, the ESG rating divergence documented by Berg et al. [3] is more acute among domestic Chinese providers than internationally, so investors enter each controversy with wider prior heterogeneity, mechanically inflating DivIndex and the resulting trading response.

Three policy recommendations follow directly from the empirical evidence. First, mandatory real-time ESG incident disclosure—requiring firms to notify exchanges within 24 hours of a material ESG event—would attenuate the retail attention spikes that Da et al. [5] identify as the primary driver of short-run trading anomalies. Replacing uncontrolled media disclosure with official filings shifts the information shock from an unpredictable event to a scheduled announcement, reducing the surprise component that fuels both attention- and divergence-driven excess turnover. Second, the disproportionate market disruption generated by governance controversies, consistent with Kruger [15], argues for strengthening governance disclosure to the verification standard currently applied to financial statements: board independence ratios, related-party transaction ceilings, and executive tenure structures should be disclosed with quantitative precision rather than through the qualitative narratives that currently predominate in Chinese corporate governance reports. Third, expanding institutional equity participation through broader pension fund mandates and relaxed QFII entry conditions would deepen the stabilizing information-processing capacity that the subsample evidence links to lower event-window turnover. As Miller's model predicts, long-horizon institutional investors absorb

idiosyncratic ESG shocks rather than amplifying them, shifting post-event trading toward informed participants who convert disagreement into price information along the efficient diffusion path modeled by Hong and Stein [6].

6. Conclusion

This paper set out to examine whether negative ESG news events generate abnormal trading activity in China's A-share market, and through which behavioral channels such effects propagate. Using a BERT-based text classifier to identify 4,873 firm-level ESG controversies across six subcategories between 2015 and 2023, the authors documented that negative ESG events are followed by a sharp and statistically robust increase in abnormal turnover, trading volume, and idiosyncratic volatility within the [−1, +3] event window. These trading anomalies are not a peripheral byproduct of return reactions but a first-order empirical phenomenon in their own right, consistent with the motivating premise that ESG controversies are salient yet interpretively ambiguous signals that destabilize trading behavior even before, or independently of, their resolution into a clear valuation impact.

Three main findings emerge from the analysis. First, mediation tests attribute the abnormal trading response to two reinforcing and largely distinct mechanisms: an investor-attention channel, accounting for approximately 41% of the total effect, and a belief-divergence channel, accounting for approximately 33%, jointly explaining nearly three-quarters of the trading anomaly. Second, the magnitude of the response is highly heterogeneous: governance-related controversies generate the strongest and most persistent reactions, and the effect is substantially amplified among firms with thin analyst coverage, low institutional ownership, and weaker pre-event ESG ratings—precisely the conditions under which investor priors are most diffuse and information processing is slowest. Third, three independent identification strategies—an instrumental-variable design based on rainfall-driven pollution exposure, a difference-in-differences design exploiting staggered environmental inspections, and propensity-score matching on firm characteristics—converge on similar effect sizes, supporting a causal rather than merely correlational interpretation of the documented trading response.

These results carry implications for both theory and policy. Theoretically, the study extends attention- and divergence-based models of trading behavior from generic information shocks to the specific and increasingly consequential domain of ESG controversies, and demonstrates that the two mechanisms operate as complements rather than substitutes within a single class of events. Empirically, the evidence speaks directly to ongoing policy debates in China around mandatory ESG disclosure, governance-reporting standards, and institutional investor development: more timely and standardized disclosure of ESG incidents, stronger quantitative governance reporting requirements, and continued expansion of institutional ownership would each be expected to narrow the attention and divergence channels identified here, thereby reducing transient trading disruptions and improving the efficiency with which ESG-relevant information is incorporated into prices. As China's ESG disclosure regime and institutional investor base continue to mature, an important direction for future research is to track whether the magnitude of these trading anomalies declines over time, and whether intraday data can further clarify the precise dynamics through which investor attention and belief divergence resolve following a negative ESG event.

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