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The role of ESG practices in mitigating stock market risk during the Palestinian-Israeli conflict: An event study in China

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Abstract

Aim: This study aimed to investigate the impact of the Palestinian-Israeli conflict on the China A-shares market, and the role of environmental, social and governance (ESG) practices in companies' risk mitigation.

Methodology: An event study methodology was employed to analyse the effect of the conflict on the A-shares market. The analysis was conducted using cumulative average abnormal returns (CAAR) for 5,041 companies across multiple trading days post-event. Additionally, multiple linear regression models were utilised to explore the relationship between cumulative abnormal returns (CAR), companies' financial performance, and their ESG scores.

Results: The empirical results revealed significantly negative CAAR on the 1st, 3rd, 5th, 7th, and 10th trading days post-event, indicating a negative impact of this conflict on the A-shares market. The regression results further demonstrated a negative relationship between CAR and companies' financial performance, while CAR and ESG scores remained consistently positive.

Implications and recommendations: The findings suggest that during geopolitical conflicts the market may experience heightened panic, adversely affecting stock returns, however companies with strong ESG governance tended to exhibit more stable stock returns. These results offer insights for both researchers and practitioners concerning the role of ESG practices in mitigating the adverse effects of geopolitical conflicts on stock returns.

Originality/value: This study provides new evidence on the resilience of companies with strong ESG governance during geopolitical conflicts, contributing to the understanding of the interplay between ESG practices and stock market performance in geopolitical conflicts.

Keywords: event study methodology, Palestinian-Israeli conflict, China A-shares, cumulative abnormal returns, risk mitigation

1. Introduction

On 7 October 2023, Hamas executed a planned and devastating attack in southern Israel, resulting in over 1,200 fatalities and thousands wounded (The Observer, 2023). Geopolitical uncertainty typically hurts the market by creating an unfavourable economic environment, limiting the stock performance (Zhou et al., 2020; Alqahtani et al., 2022; Salisu et al., 2022). The China A-shares market, being the largest retail investor market globally, is particularly sensitive to such geopolitical events. Retail investors, who dominate this market, often exhibit herd behaviour (Yao et al., 2014; Hsieh et al., 2020), leading to heightened volatility during times of uncertainty. However, contrary findings exist from analysing the impact of terrorist attacks on the United States (US) stock market, Cam (2008) found positive cumulative abnormal returns (CAR) in the telecommunication and water sectors. Similarly, Kannadhasan and Das (2020) showed analogous results in Asian emerging stock markets, suggesting that the market response to geopolitical events can vary significantly based on the regional economic context. This observation underlines the complex and multifaceted nature of market reactions to geopolitical conflicts, particularly in a retail-driven market like China.

The Chinese stock market serves as a natural experimental platform for analysing stock market reactions to external shocks. Unlike developed markets where institutional investors dominate, the Chinese market is primarily driven by individual investors. According to Gao and Yang (2018), individual investors account for more than 60% of the Chinese stock market, thus the China A-shares market was selected for several crucial reasons. First, as the world's largest retail-investor-driven market, it exhibits unique trading behaviour and heightened volatility in response to external shocks (Wen et al., 2019; Tan et al., 2024). Compared to markets such as the New York Stock Exchange where institutional

investors play a leading role, China's investor structure leads to distinct reactions to geopolitical risks, as individual investors generally lack professional financial knowledge, struggle to process financial information efficiently, and are prone to herd behaviour (Yao et al., 2014; Gao & Yang, 2018; Tan et al., 2024). Second, despite its geographical distance from the conflict, China has been attempting to mediate this conflict, since its deep economic ties with the Middle East and its role in global supply chains (Raz, 2024; Jia & Hassan, 2025) make it an ideal setting to study the broader financial repercussions of geopolitical instability.

The conventional belief is that companies with strong financial performance typically maintain stable returns (Aldiena & al Hakim, 2019; Sukesti et al., 2021). Moreover, the role of company sustainability and responsibility in mitigating risk during turbulent times is increasingly acknowledged. For instance, based on a network analysis, Cerqueti et al. (2021) contended that institutions with higher Environmental, Social, and Governance (ESG) scores experience lower market capitalisation losses. In the Chinese market, scholars demonstrated that higher ESG scores reduce the risk of stock price crashes for A-shares listed companies (Zhou & Zhou, 2021; Feng et al., 2022; Gao et al., 2022). Nevertheless, empirical evidence directly linking financial performance and sustainability measures to reduce risk in the context of geopolitical strife remains scant.

Addressing these gaps, the authors aimed to investigate how the Palestinian-Israeli conflict influences stock market returns in the China A-shares market, with a particular focus on the moderating role of financial performance and ESG practices in shaping companies' resilience. Specifically, return on assets (ROA) and return on equity (ROE) were employed as measures of financial performance, while ESG scores served as indicators of company sustainability and responsibility. Building on the efficient market hypothesis (EMH), herd behaviour theory, and stakeholder theory, hypotheses were developed regarding these relationships and an event study method combined with multiple linear regression models were employed to test them. This theoretical and empirical integration contributes to the extant literature on market reactions to external shocks and provides practical insights into risk mitigation strategies for investors and policymakers facing geopolitical uncertainties.

While extensive research has explored the relationship between ESG and risk-return characteristics, this study is distinguished by analysing how ESG factors influence market stability during geopolitical crises. The existing literature paid limited attention to the China A-shares market from this perspective, although some studies mention the Chinese market, yet they only measure it with stock indices (Goyal & Soni, 2024; Saad, 2026), which are susceptible to the influence of weighted stocks and thus yield robust results. Hence, this study aimed to explore retail investor behaviour under geopolitical uncertainty and investigate the role of ESG in mitigating stock market volatility. Additionally, by shifting the focus to the emerging individual investor market, it broadens the understanding of how geopolitical events shape financial markets across diverse economic and regulatory environments.

This article makes several important contributions. In terms of theory, it enriches the literature on stock market reactions to geopolitical conflicts by integrating the efficient market hypothesis, herd behaviour, and stakeholder theory, thereby examining how financial performance and ESG jointly influence abnormal returns under extreme uncertainty in a retail-dominated market, while also providing actionable implications. Regulators may design mechanisms to mitigate panic-driven selloffs, while investors can treat ESG-oriented companies as resilient targets during crises, and corporate managers are encouraged to enhance ESG practices not only for reputational purposes but also as a strategic buffer against instability.

The remainder of the paper is organised as follows. Section 2 develops the research hypothesis based on the literature review and theoretical analysis. Section 3 presents an overview of the methodology and data sources. Section 4 describes the empirical results and provides a corresponding discussion. Finally, Section 5 concludes the paper.

2. Literature review and theoretical analysis

Geopolitical conflicts significantly impact stock market returns, with the effects varying based on the conflict's nature, the countries involved, and the economic context. Agoraki et al. (2022) found that geopolitical risks generally negatively affect stock returns. Their study of 22 countries showed that a one-unit standard deviation increase in geopolitical risks could reduce stock returns by up to 42.14% of the sample mean. In emerging economies, geopolitical uncertainties had a pronounced influence on market returns, with Russia being the most affected and India the least (Balcilar et al., 2018). Advanced economies also showed vulnerability, with threats of geopolitical risks proving more detrimental than actual events (Salisu et al., 2022). However, in some cases, geopolitical events can have a stabilising or even positive effect on stock markets. For instance, geopolitical tensions could lead to increased demand for safe-haven assets like gold, which in turn may boost certain market segments (Triki & Maatoug, 2021). Furthermore, in some emerging markets, some scholars claim that heightened geopolitical uncertainty may positively influence future stock returns, creating potential opportunities for investors (Kannadhasan & Das, 2020; Zaremba et al., 2022).

The recent Russian-Ukrainian conflict has adversely affected the stock markets of several countries (Agyei, 2023; Izzeldin et al., 2023; Zhang & Sun, 2023). Specifically, Tosun and Eshraghi (2022) compared the effects of the conflict on two types of companies, found that Russian ones underperformed relative to those in other countries. Pandey and Kumar (2023) examined the conflict's impact on the global tourism industry and reported that European, Middle Eastern, and African tourism sectors experienced immediate negative effects on the day of the invasion. Similarly, Yousaf et al. (2022) argued that the conflict had a significant negative impact both on the event day and in the days that followed. Country-specific analyses revealed that stock markets in Hungary, Russia, Poland, and Slovakia were the first to react, experiencing negative returns even before the invasion. Meanwhile, stock markets in countries such as Australia, France, Germany, and Turkey suffered losses in the days following the invasion. The Palestinian-Israeli conflict has also triggered significant market reactions. Goyal and Soni (2024) analysed stock market closures in 47 countries and found that emerging markets and global stock indices exhibited a significant negative reaction on the event day.

In contrast, developed markets showed resilience, with no immediate significant impact. Saad (2026) examined indices in nine countries and reported that while the New York Stock Exchange, Nasdaq Composite, and Shenzhen Stock Exchange indices showed no negative impact 40 days after the event, the Shanghai index experienced significant declines. Nonetheless, Yudaruddin et al. (2024), using CARs from 1,881 US companies, reached the opposite conclusion. Meanwhile, Bouattour et al. (2026) focused on Middle Eastern stock markets and found that neighbouring markets suffered negative spillover effects.

Regarding the heterogeneity of geopolitical conflicts, He et al. (2023a) cited the EMH to discuss this phenomenon. EMH posits that capital markets can be categorised into strong-form, semi-strong-form, and weak-form markets (Fama, 1970, 1976). Studies have shown that the Chinese market exhibits characteristics of a semi-strong market (see Ma, 2004; He et al., 2023b), meaning stock prices integrate historical market data and publicly available company information. Consequently, stock prices can fully reflect historical market information and publicly available information about listed companies (Bromiley et al., 1988). However, the extent to which geopolitical conflicts influence stock returns depends on market efficiency, investor sentiment, and the speed at which information is incorporated into asset prices. Given the global economic interconnectivity, external shocks can disrupt investor confidence and trigger substantial market reactions. Based on the EMH, the study proposes:

Hypothesis 1: The returns of companies listed on the China A-shares market are negatively impacted by the Palestinian-Israeli conflict.

The China A-shares market exhibits unique characteristics that may amplify the impact of geopolitical events. Scholars argue that retail investors, who dominate this market, are more susceptible to herd

behaviour compared to institutional investors (Yao et al., 2014; Hsieh et al., 2020). Tan et al. (2024) revealed that Chinese retail investors tend to display stronger behavioural biases, including overreaction to negative news and excessive selling during market downturns. This retail-dominated structure creates a different dynamic compared to institutionally dominated markets such as the New York Stock Exchange, where systematic risk management strategies may moderate extreme reactions (Yao et al., 2014; Hsieh et al., 2020; Gao et al., 2022). Previous studies have examined investor behaviour during market crises. Frydman et al. (2015), Chang et al. (2017), and Torngren and Montgomery (2004) observed that financial performance and stock prices are positively related since investors usually have higher expectations of companies with high financial performance, which leads to elevated stock prices before a crisis. Consequently, these stocks may be more vulnerable to significant declines during market downturns. This phenomenon suggests that businesses with stronger financial performance before a crisis may experience more substantial negative returns during the crisis period. Based on the herd behaviour theory, this study proposes:

Hypothesis 2: Company financial performance is negatively related to CAR during the Palestinian-Israeli conflict.

When market crises occur, companies with high ESG scores tend to be more stable. The stakeholder theory (Freeman et al., 2010) indicates that companies are more successful when they consider the interests of all stakeholders, including shareholders, employees, customers, suppliers, and the community. High ESG scores are often indicative of the company's commitment to stakeholder interests, suggesting that such businesses may be better equipped to maintain stable earnings in the face of market instability (Waddock & Graves, 1997; Eccles et al., 2014), and empirical studies supported this perspective. During the 2008-2009 global financial crisis, Lins et al. (2017) found that non-financial companies with high ESG scores outperformed others financially. Cornett et al. (2016) demonstrated that banks' financial performance was positively associated with ESG scores. Similarly, during the COVID-19 pandemic, Broadstock et al. (2021) applied data from 300 companies in China, establishing that strong ESG performance reduced financial risk. Similarly, in bank stocks, Quang Trinh et al. (2023) also observed that high ESG scores mitigated stock market risk for banking stocks during financial crises and pandemics. Giakoumelou et al. (2022) further argued that superior ESG scores act as insurance and resilience signals, encouraging investor retention during periods of high divestment probability.

Regarding geopolitical risks, Chun and Moon (2024) found that 5,799 South Korean companies strategically increased their ESG activities during significant geopolitical crises to enhance their reputation and build moral capital. Ahad et al. (2024) identified the ESG Index as a potential safe haven for investors seeking to minimise portfolio losses during the Russian-Ukrainian conflict. Similarly, Kovacs et al. (2024) showed that companies with high ESG scores experienced stronger positive abnormal returns, which aligns with broader research indicating that companies with higher ESG scores tend to exhibit lower stock return volatility, as they are perceived as less risky by investors (Zhou & Zhou, 2021; Feng et al., 2022; Gao et al., 2022). Based on the stakeholder theory, the study proposes:

Hypothesis 3: Company ESG performance is positively related to CAR during the Palestinian-Israeli conflict.

3. Methodology and data

This study relied on secondary data from the *China Stock Market & Accounting Research* database. Company-level financial information was drawn from the 2022 annual reports of listed companies, which were released in the first half of 2023. These accounting values represent the most recent and publicly available measures of company performance at the time of the Palestinian-Israeli conflict in October 2023, and thus serve as contemporaneous proxies for their financial strength as perceived by investors during the event window. The market data included three benchmark indices (Shanghai,

Shenzhen, and Beijing stock indices) with daily securities returns. In addition, ESG scores were obtained from the *Huazheng ESG evaluation system*, a widely used rating provider in China.

Following the methodology of He et al. (2023b), the estimation period was defined as 160 days before the event (February 9, 2023 to September 14, 2023). The first trading day post-event (October 9, 2023) was considered the event day, and the event window of 10 days before and after the event day (September 15, 2023 to October 23, 2023). After excluding 305 companies with missing data during the estimation period or event window, daily return data for 5,041 companies on three stock exchanges over 181 trading days were collected. The definitions and descriptive statistics of all the variables are presented in Table 1.

To ensure robustness, the market model (MM) and the Fama-French three-factor model (TFM) were employed to estimate abnormal returns (AR), given by:

$$R_{it} = \alpha_{1i} + \beta_{1i} R_{m(i)t} + \varepsilon_{it}, \tag{1}$$

$$R_{it} - R_{ft} = \alpha_{2i} + \beta_{2i}\left(R_{m(i)t} - R_{ft}\right) + \beta_{3i}\mathrm{SMB}_{m(i)t} + \beta_{4i}\mathrm{HML}_{m(i)t} + \varepsilon_{it}, \tag{2}$$

where α_{1i}, β_{1i}, α_{2i}, β_{2i}, β_{3i}, and β_{4i} are model parameters to be estimated, $R_{m(i)t}$, $\mathrm{SMB}_{m(i)t}$ and $\mathrm{HML}_{m(i)t}$ are the returns based on the $m(i)$-th stock exchange index[1] ($m(i) = 1,2,3$) at day t, the difference between stock market returns of small and large companies based on the $m(i)$-th stock exchange index at day t, and the difference between stock returns of companies with a high and low book-to-market ratio based on the $m(i)$-th stock exchange index at day t, respectively, R_{ft} is the risk--free rate of return at day t, proxied by the daily yield on the China 10-Year Government Bond, and ε_{it} denotes the error term for company i at day t.

The abnormal returns based on the MM and TFM are then computed as

$$\mathrm{AR}_{it} = R_{it} - \left(\hat{\alpha}_{1i} + \hat{\beta}_{1i} R_{m(i)t}\right), \tag{3}$$

$$\mathrm{AR}_{it} = R_{it} - \left[R_{ft} + \hat{\alpha}_{2i} + \hat{\beta}_{2i}\left(R_{m(i)t} - R_{ft}\right) + \hat{\beta}_{3i}\mathrm{SMB}_{m(i)t} + \hat{\beta}_{4i}\mathrm{HML}_{m(i)t}\right], \tag{4}$$

where $\hat{\alpha}_{1i}$, $\hat{\beta}_{1i}$, $\hat{\alpha}_{2i}$, $\hat{\beta}_{2i}$, $\hat{\beta}_{3i}$, and $\hat{\beta}_{4i}$ are the parameter estimates.

The authors used cumulative average abnormal returns (CAAR) to assess the total average impact of an event on stock returns across a sample of stocks over a specified event window. The average abnormal returns (AAR) at day t, and CAAR at period t_1 to t_2 are presented as follows:

$$\mathrm{AAR}_t = \frac{1}{N}\sum_{i=1}^{N} \mathrm{AR}_{it}, \tag{5}$$

$$\mathrm{CAAR}\ [t_1,\ t_2] = \sum_{t=t_1}^{t_2} \mathrm{AAR}_t, \tag{6}$$

where $N = 5{,}041$ is the total number of sample companies, t_1 and t_2 denote the starting and ending days of the event window, respectively, with $t_1 \leq t_2$ and both are chosen from the interval $[-10,\ -9, \cdots, 10]$.

The relationship of the cumulative abnormal returns (CAR) with the company performance (measured by ROA or ROE) and company sustainability (measured by ESG scores) through the linear regression models, given by:

[1] In this study, company i is listed on the Shanghai Stock Exchange ($m(i) = 1$), the Shenzhen Stock Exchange ($m(i) = 2$), or the Beijing Stock Exchange ($m(i) = 3$).

$$\mathrm{CAR}_i\,[t_1,\,t_2] = \vartheta_0 + \vartheta_1 \mathrm{ROA}_i + \sum_{k=1}^{21} \vartheta_{2,k} \mathrm{Industry}_{ik} + u_i, \quad (7)$$

$$\mathrm{CAR}_i\,[t_1,\,t_2] = \pi_0 + \pi_1 \mathrm{ROE}_i + \sum_{k=1}^{21} \pi_{2,k} \mathrm{Industry}_{ik} + u_i, \quad (8)$$

$$\mathrm{CAR}_i\,[t_1,\,t_2] = \varphi_0 + \varphi_1 \mathrm{ESG}_i + \sum_{k=1}^{21} \varphi_{2,k} \mathrm{Industry}_{ik} + u_i, \quad (9)$$

$$\mathrm{CAR}_i\,[t_1,\,t_2] = \gamma_0 + \gamma_1 \mathrm{ROA}_i + \sum_{g=1}^{8} \gamma_{2,g} \mathrm{Control}_{ig} + \sum_{k=1}^{21} \gamma_{3,k} \mathrm{Industry}_{ik} + u_i, \quad (10)$$

$$\mathrm{CAR}_i\,[t_1,\,t_2] = \omega_0 + \omega_1 \mathrm{ROE}_i + \sum_{g=1}^{8} \omega_{2,g} \mathrm{Control}_{ig} + \sum_{k=1}^{21} \omega_{3,k} \mathrm{Industry}_{ik} + u_i, \quad (11)$$

$$\mathrm{CAR}_i\,[t_1,\,t_2] = \eta_0 + \eta_1 \mathrm{ESG}_i + \sum_{g=1}^{8} \eta_{2,g} \mathrm{Control}_{ig} + \sum_{k=1}^{21} \eta_{3,k} \mathrm{Industry}_{ik} + u_i\,, \quad (12)$$

where $\mathrm{CAR}_i\,[t_1,\,t_2] = \sum_{t=t_1}^{t_2} \mathrm{AR}_{it}$, t_1 and t_2 denote the starting and ending days of the event window, $\mathrm{Control}_{ig}$ indicates the g-th control variable for company i, $\vartheta_0, \vartheta_1,\ \vartheta_{2,k},\ \pi_0,\ \pi_1,\ \pi_{2,k},\ \varphi_0, \varphi_1, \varphi_{2,k},$ $\gamma_0, \gamma_1, \gamma_{2,g}, \gamma_{3,k}, \omega_0,\ \omega_{10},\ \omega_{2,g}, \omega_{3,k}, \eta_0, \eta_1, \eta_{2,g}$, and $\eta_{3,k}$ are model parameters to be estimated, and u_i is the error term.

Table 1. Variable definitions and descriptive statistics

Variable	Definition	Mean	Maximum	Minimum	SD[1]
Dependent Variables					
CAR [0, 1]	CARs from the event date to the first trading day after the event, calculated by the MM.	-0.004	0.402	-0.194	0.036
CAR [0, 5]	CARs from the event date to the fifth trading day after the event, calculated by the MM.	-0.006	0.907	-0.237	0.064
CAR [0, 10]	CARs from the event date to the tenth trading day after the event, calculated by the MM.	-0.019	1.151	-0.430	0.084
TCAR [0, 1]	CARs from the event date to the first trading day after the event, calculated by the TFM.	-0.003	0.402	-0.191	0.034
TCAR [0, 5]	CARs from the event date to the fifth trading day after the event, calculated by the TFM.	-0.003	0.900	-0.260	0.062
TCAR [0, 10]	CARs from the event date to the tenth trading day after the event, calculated by the TFM.	-0.009	1.187	-0.419	0.083
Independent Variables					
ROA	Return on Assets, $\mathrm{ROA} = \frac{\text{Net Income}}{\text{Average Total Assets}}$.	0.021	0.520	-2.623	0.060
ROE	Return on Equity, $\mathrm{ROE} = \frac{\text{Net Income}}{\text{Average Shareholders' Equity}}$.	0.028	0.495	-1.607	0.120
ESG[2]	Normalised Environmental, Social and Governance (ESG) scores issued by the *Huazheng* ESG evaluation system.	-0.014	0.967	-0.612	0.412
Control Variables					
ROI	Return on Investment, $\mathrm{ROI} = \frac{\text{Net Profit}}{\text{Cost of Investment}}$.	-0.001	3.642	-12.165	0.197
REC	Net Accounts Receivable Ratio, $\mathrm{REC} = \frac{\text{Net Accounts Receivable}}{\text{Total Assets}}$.	0.126	0.713	-0.048	0.104
INV	Inventory Ratio, $\mathrm{INV} = \frac{\text{Inventory Balance}}{\text{Total Assets}}$.	0.126	0.939	0.000	0.108
FIXED	Fixed Assets Index, $\mathrm{FIXED} = \frac{\text{Fixed Assets}}{\text{Total Assets}}$.	0.182	0.907	0.000	0.145
OG	Operating Profit Growth Rate, $\mathrm{OG} = \frac{\text{Current Period Operating Profit} - \text{Previous Period Operating Profit}}{\text{Previous Period Operating Profit}}$.	0.074	17.466	-1.566	0.386
MSHARE	Management shareholding ratio: Percentage of shares held by the management of listed firms.	0.156	0.836	0.000	0.196
SIZE[2]	Normalised total assets at year-end.	-0.020	1.000	-0.035	0.081
AGE[2]	Normalised age of the company to 2022.	-0.001	0.998	-0.870	0.414

Notes: [1] SD denotes the standard deviation; [2] Approach for normalisation of data using double sigmoid function, refers to Ansari and Mussida (2013); The ESG scores can be found in full detail in *Huazheng ESG evaluation system,* which can be downloaded from https://chindices.com/esg-ratings.html, the methodology is available at https://chindices.com/files/Sino-Securities+Index+ESG+Ratings+Methodology+V2.1.pdf

Source: prepared by authors.

4. Results

Table 2 presents the CAARs for the 5,041 companies in the post-event period on the 1st, 3rd, 5th, 7th, and 10th trading days after the event day, indicating negative values across all periods. These values were further tested via the parametric test Student-t and the non-parametric Generalised-Sign (GS) (see Cowan, 1992) tests.

Table 2. CAARs in event window periods

Period	MM			TFM		
	CAAR	t-test	GS-test	CAAR	t-test	GS-test
[0, 1]	-0.0037	-7.7247***	-12.4569***	-0.0032	-6.9879***	-12.0079***
[0, 3]	-0.0056	-8.3017***	-10.8468***	-0.0034	-5.1118***	-7.9398***
[0, 5]	-0.0059	-7.0864***	-12.6264***	-0.0033	-4.0697***	-8.4483***
[0, 7]	-0.0150	-15.6919***	-22.8240***	-0.0063	-6.7505***	-12.4317***
[0, 10]	-0.0192	-17.0703***	-24.8014***	-0.0085	-7.8201***	-12.3469***

Note: *** indicates significance at the 1% level.

Source: prepared by authors.

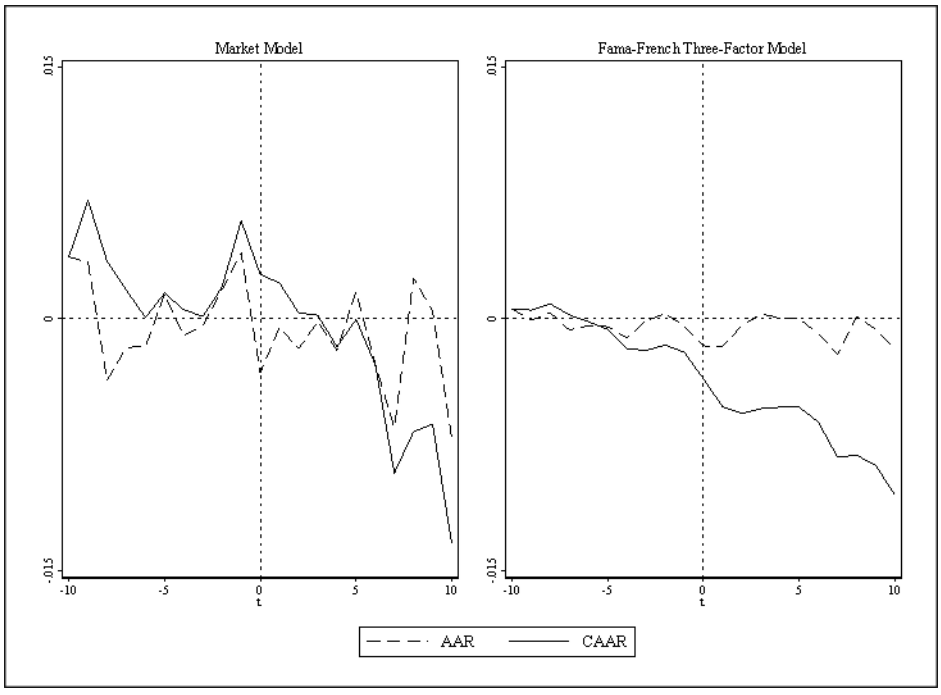


Fig. 1. The Trend of CAARs and AARs in event window periods based on the MM and TFM

Source: prepared by authors.

According to the results reported in Table 2, under the MM, the CAAR for the 5,041 stocks was –0.0037 on the first trading day, –0.0059 on the fifth day, and –0.0192 on the tenth day following the Palestinian-Israeli conflict. The TFM produced similar findings. Both the parametric and non-parametric tests confirmed significance at the 1% level, indicating a pronounced negative impact of the conflict on China A-shares returns during the observation windows. In light of these significant negative impacts, the results support Hypothesis 1. This result is consistent with Zhou et al. (2020), Alqahtani et al. (2022), and Salisu et al. (2022), stating that geopolitical conflicts have adverse effects on the stock market. Additionally, the results reaffirm that the China A-shares market is characterised by semi-strong efficiency. The trends of AAR and CAAR after the event are more intuitively illustrated in Figure 1.

The linear regression analysis was conducted to explore the relationship between the dependent variable CAR based on MM within different time periods, and the independent variables ROA, ROE, ESG scores, and other control variables. The F-statistics were significant as shown in Tables 3 to 5, which suggests that all models built were reasonable. Although the adjusted R-squared values were relatively low, Wooldridge (2010) argued that this typically reflects unobserved heterogeneity in company-level cross-sectional data and does not invalidate the econometric inference. Furthermore, the results indicated a significant negative relationship between CAR and company performance indicators, suggesting that businesses with stronger financial performance tend to experience lower CARs. Conversely, the results indicated a significant positive relationship between CAR and ESG scores, demonstrating that companies with higher ESG ratings tended to perform better in terms of CARs. Hence, the results support Hypotheses 2 and 3.

Possible explanations were provided by Torngren and Montgomery (2004) and Frydman et al. (2015), who suggested that investors often hold elevated expectations for businesses with strong financial performance, leading to persistently high stock prices. Consequently, during periods of uncertainty or crisis, these companies may experience more pronounced negative adjustments as investor sentiment shifts. This finding aligns with the behavioural finance perspective, which suggests that overvaluation driven by prior strong performance could lead to sharper corrections when market disruptions occur.

In the case of the China A-shares market, where retail investors play a dominant role, these psychological biases become even more influential. Yao et al. (2014) and Hsieh et al. (2020) argued that during crises, market panic escalates as individual investors react impulsively, which contributes to downward price pressure. Additionally, Tan et al. (2024) considered that Chinese retail investors are more prone to excessive selling and negative news amplification, exacerbating market volatility. Unlike institutional investors who often employ systematic risk management strategies to stabilise their portfolios, retail investors are more likely to engage in herd behaviour, further amplifying price declines. This could explain why financially stronger companies experience steeper declines in CAR, as their stocks are more widely held and thus subject to higher selloff risks.

Furthermore, as pointed by Yao et al. (2014) and Hsieh et al. (2020), financial crises or external shocks can trigger widespread market panic, intensifying herd behaviour among investors. Companies with high financial performance tend to attract optimistic investor sentiment, which leads to higher stock prices before crises (Chang et al., 2017), however this pre-crisis optimism makes these prices more susceptible to corrections when external shocks emerge. The observed negative relationship between CAR and financial performance supports this view, indicating that investors' prior confidence in high--performing companies leads to a larger magnitude of stock price declines during turbulent periods.

Table 3. Regression results by regressing the CAR [0, 1] on ROA, ROE, or ESG scores

Model	(1)	(2)	(3)	(4)	(5)	(6)
CAR $[t_1, t_2]$	[0, 1]	[0, 1]	[0, 1]	[0, 1]	[0, 1]	[0, 1]
ROA	-0.0671***	-0.0615***				
	(0.0173)	(0.0160)				
ROE			-0.0269***	-0.0256***		
			(0.0043)	(0.0044)		
ESG					0.0047***	0.0090***
					(0.0013)	(0.0013)
ROI		0.0882		0.0791		0.1355
		(0.0852)		(0.0832)		(0.0845)
REC		0.0463***		0.0470***		0.0484***
		(0.0068)		(0.0068)		(0.0070)
INV		-0.0064		-0.0054		-0.0058
		(0.0043)		(0.0042)		(0.0043)
FIXED		0.0001		-0.0002		0.0025

Model	(1)	(2)	(3)	(4)	(5)	(6)
		(0.0033)		(0.0032)		(0.0034)
OG		-0.0013		-0.0017		-0.0045***
		(0.0013)		(0.0012)		(0.0013)
MSHARE		-0.0000		-0.0005		-0.0044*
		(0.0024)		(0.0024)		(0.0024)
SIZE		0.0003		0.0028		-0.0086**
		(0.0040)		(0.0041)		(0.0037)
AGE		-0.0024		-0.0024		-0.0015
		(0.0016)		(0.0016)		(0.0016)
Constant	-0.0023**	-0.0074***	-0.0029***	-0.0080***	-0.0037***	-0.0088***
	(0.0009)	(0.0014)	(0.0007)	(0.0014)	(0.0007)	(0.0014)
Observations	5,041	5,041	5,041	5,041	5,041	5,041
Industry FE	YES	YES	YES	YES	YES	YES
Adjusted R-squared	0.0985	0.0313	0.0943	0.0284	0.0890	0.0304
F-statistic	15.0452***	7.9730***	38.7776***	14.3986***	12.8932***	10.7384***
Largest VIF	–	1.1514	–	1.1506	–	1.1700

Notes: Largest VIF is the largest variance inflation factor; ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively; Standard errors clustered at the city level in parentheses.

Source: prepared by authors.

In contrast, a consistently positive relationship between CAR and ESG scores was identified throughout the conflict period. The stakeholder theory explanation is that investors are more willing to hold shares of companies with higher ESG scores, as they may believe that these businesses consider various interests and exhibit superior risk management capabilities (Friede et al., 2015).This finding aligns with Zhou and Zhou (2021), Feng et al. (2022), and Gao et al. (2022), suggesting that high ESG scores can mitigate the risk of share price declines during crises. Specifically, Feng et al. (2022) posited that strong ESG performance reflects superior social responsibility and more transparent information disclosure, potentially reducing the accumulation of negative news surprises. Additionally, Gao et al. (2022) proposed the investor perspective, suggesting that superior ESG performance reflects a company's sustainable operational capacity, attracting more investor attention and potentially reducing the likelihood of stock price plunges.

Table 4. Regression results by regressing the CAR [0, 5] on ROA, ROE, or ESG scores

Model	(7)	(8)	(9)	(10)	(11)	(12)
CAR $[t_1, t_2]$	[0, 5]	[0, 5]	[0, 5]	[0, 5]	[0, 5]	[0, 5]
ROA	-0.1208***	-0.1011***				
	(0.0446)	(0.0374)				
ROE			-0.0588***	-0.0507***		
			(0.0099)	(0.0093)		
ESG					0.0091***	0.0129***
					(0.0025)	(0.0022)
ROI		0.1933		0.1702		0.2641*
		(0.1445)		(0.1425)		(0.1478)
REC		0.0500***		0.0509***		0.0532***
		(0.0129)		(0.0128)		(0.0133)
INV		-0.0227***		-0.0208***		-0.0220***
		(0.0076)		(0.0075)		(0.0075)
FIXED		0.0209***		0.0205***		0.0241***

Model	(7)	(8)	(9)	(10)	(11)	(12)
		(0.0061)		(0.0062)		(0.0060)
OG		-0.0025		-0.0025		-0.0076**
		(0.0024)		(0.0022)		(0.0031)
MSHARE		-0.0075		-0.0077		-0.0141**
		(0.0051)		(0.0051)		(0.0055)
SIZE		0.0159***		0.0204***		0.0036
		(0.0049)		(0.0044)		(0.0063)
AGE		-0.0056*		-0.0056*		-0.0044
		(0.0029)		(0.0029)		(0.0028)
Constant	-0.0033*	-0.0095***	-0.0042***	-0.0103***	-0.0059***	-0.0116***
	(0.0019)	(0.0025)	(0.0015)	(0.0024)	(0.0013)	(0.0023)
Observations	5,041	5,041	5,041	5,041	5,041	5,041
Industry FE	YES	YES	YES	YES	YES	YES
Adjusted R-squared	0.0503	0.0205	0.0498	0.0206	0.0409	0.0180
F-statistic	7.3462***	9.0452***	35.5261***	10.6517***	13.4224***	11.6622***

Notes: ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively; Standard errors clustered at the city level in parentheses.

Source: prepared by authors.

From a geopolitical risk perspective, ESG performance appeared to function as a strategic asset that enhances company's resilience. Chun and Moon (2024) observed that South Korean companies significantly increased their ESG activities during geopolitical crises, suggesting that they actively leverage ESG strategies to maintain investor confidence and build moral capital. Ahad et al. (2024) identified the ESG index as a potential safe haven during the Russian-Ukrainian conflict, highlighting the growing tendency of investors to shift toward ESG-conscious companies in times of geopolitical instability. Similarly, Kovacs et al. (2024) found that businesses with high ESG scores experienced stronger positive abnormal returns, further supporting the point that ESG performance serves as a buffer against stock price declines during crisis periods.

This is in line with previous research indicating that companies with higher ESG scores tend to exhibit lower stock return volatility, as they are perceived as less risky by investors (Zhou & Zhou, 2021; Feng et al., 2022; Gao et al., 2022). Specifically, Feng et al. (2022) argued that strong ESG performance reflects a company's superior social responsibility and more transparent information disclosure, potentially reducing the accumulation of negative news surprises. During the crisis, transparency and social responsibility can enhance investor trust, limiting panic-driven selloffs and stabilising stock prices. Hence, scholars considered that ESG performance is viewed not only as an ethical consideration but also as a critical determinant of financial resilience and risk mitigation (Zhou & Zhou, 2021; Feng et al., 2022; Gao et al., 2022; Ahad et al., 2024).

Table 5. Regression results by regressing the CAR [0, 10] on ROA, ROE, or ESG Scores

Model	(13)	(14)	(15)	(16)	(17)	(18)
CAR [t_1, t_2]	[0, 10]	[0, 10]	[0, 10]	[0, 10]	[0, 10]	[0, 10]
ROA	-0.1063**	-0.0922**				
	(0.0437)	(0.0401)				
ROE			-0.0599***	-0.0560***		
			(0.0124)	(0.0114)		
ESG					0.0060*	0.0130***
					(0.0034)	(0.0030)

Model	(13)	(14)	(15)	(16)	(17)	(18)
ROI		0.4151**		0.3847**		0.4842***
		(0.1848)		(0.1810)		(0.1798)
REC		0.0684***		0.0690***		0.0714***
		(0.0150)		(0.0148)		(0.0151)
INV		0.0040		0.0063		0.0048
		(0.0110)		(0.0109)		(0.0111)
FIXED		0.0007		0.0005		0.0041
		(0.0074)		(0.0075)		(0.0073)
OG		-0.0026		-0.0019		-0.0074**
		(0.0036)		(0.0034)		(0.0036)
MSHARE		-0.0091		-0.0088		-0.0154**
		(0.0061)		(0.0059)		(0.0061)
SIZE		0.0496***		0.0540***		0.0369***
		(0.0060)		(0.0056)		(0.0063)
AGE		-0.0059*		-0.0059*		-0.0046
		(0.0034)		(0.0034)		(0.0035)
Constant	-0.0169***	-0.0243***	-0.0175***	-0.0250***	-0.0192***	-0.0263***
	(0.0022)	(0.0030)	(0.0019)	(0.0030)	(0.0017)	(0.0030)
Observations	5,041	5,041	5,041	5,041	5,041	5,041
Industry FE	YES	YES	YES	YES	YES	YES
Adjusted R-squared	0.0430	0.0148	0.0446	0.0167	0.0382	0.0142
F-statistic	5.9199**	28.8504***	23.4103***	29.5985***	3.1667*	29.4602***

Notes: ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively; Standard errors clustered at the city level in parentheses.

Source: prepared by authors.

Table 6 presents the results of robustness checks from the replacement of the CAR with the TFM-calculated CAR (TCAR), demonstrating the consistency of these findings with the results based on the CAR calculated using the MM. The signs for coefficients on ROA, ROE and ESG in Models 19 to 27 remain consistent with those given by Models 1 to 18. To mitigate the concern that the research results may be dependent on a specific ESG rating provider, the authors additionally employed Bloomberg's ESG ratings for the 615 companies in the sample for 2022, as reported in Table 7. The results consistently indicate that the relationship between ESG scores and CARs over the selected event window remains significantly positive.

Table 6. Robustness check I: Dependent Variables Alternative

Model	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)
TCAR [t_1, t_2]	[0, 1]	[0, 1]	[0, 1]	[0, 5]	[0, 5]	[0, 5]	[0, 10]	[0, 10]	[0, 10]
ROA	-0.0562***			-0.0562***			-0.0562***		
	(0.0161)			(0.0161)			(0.0161)		
ROE		-0.0257***			-0.0257***			-0.0257***	
		(0.0040)			(0.0040)			(0.0040)	
ESG			0.0072***			0.0072***			0.0072***
			(0.0013)			(0.0013)			(0.0013)
Constant	-0.0020	-0.0027*	-0.0036**	-0.0020	-0.0027*	-0.0036**	-0.0020	-0.0027*	-0.0036**
	(0.0016)	(0.0015)	(0.0015)	(0.0016)	(0.0015)	(0.0015)	(0.0016)	(0.0015)	(0.0015)

Model	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)
Observations	5,041	5,041	5,041	5,041	5,041	5,041	5,041	5,041	5,041
Control Variables	YES	YES	YES	YES	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Adjusted R-squared	0.0540	0.0527	0.0513	0.0540	0.0527	0.0513	0.0540	0.0527	0.0513
F-statistic	7.3354***	12.1431***	11.0025***	7.3354***	12.1431***	11.0025***	7.3354***	12.1431***	11.0025***

Notes: ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively; Standard errors clustered at the city level in parentheses.

Source: prepared by authors.

Table 7. Robustness check II: Independent Variables Alternative

Model	(28)	(29)	(30)	(31)	(32)	(33)
CAR $[t_1, t_2]$	[0, 1]	[0, 5]	[0, 10]	[0, 1]	[0, 5]	[0, 10]
ESG (Bloomberg)[2]	0.0003***	0.0010***	0.0009***	0.0003***	0.0009***	0.0010***
	(0.0001)	(0.0002)	(0.0003)	(0.0001)	(0.0002)	(0.0003)
Constant	-0.0179***	-0.0482***	-0.0578***	-0.0117***	-0.0415***	-0.0464***
	(0.0037)	(0.0077)	(0.0130)	(0.0041)	(0.0091)	(0.0154)
Observations	615	615	615	615	615	615
Control Variables	NO	NO	NO	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES	YES
Adjusted R-squared	0.1133	0.1120	0.0661	0.1138	0.1093	0.0634
F-statistic	9.6383***	27.6054***	8.8315***	1.3527	3.6766***	2.9489***

Notes: ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively; Standard errors clustered at the city level in parentheses; The smaller sample size is due to limited availability of Bloomberg ESG scores.

Source: prepared by authors.

To address potential dependencies of ROA, ROE or ESG on error terms, the authors use the approach of Ling et al. (2024) to construct instrumental variables (IVs), and calculated the mean value of the independent variable for each independent variable for different regions in the same year as the first IVs (IV1). Meanwhile, to assess the robustness of tests, the mean of the independent variables for different industries in the same year as second IVs (IV2) was also computed. The estimation was conducted using two-stage least squares regression, and the results are reported in Table 8. The validity of these IVs was confirmed by several statistical tests across Models 34 to 45. The Kleibergen--Paap rk LM test for Models 35, 36, 37, 39, 40, 41, 43, 44, and 45, consistently rejected the null hypothesis of under-identification, indicating that the instruments were relevant.

Furthermore, the Kleibergen-Paap rk Wald F, Anderson-Rubin Wald, and Stock-Wright LM S tests were all significant at the 10% level, rejecting the weak IV hypothesis. The *p*-values of the Hansen J statistic exceed 0.1, suggesting that the IVs satisfy the exogeneity condition. Although the adjusted R-squared values were relatively low in Tables 3 to 5, Wooldridge (2010) considered that this is common in company-level cross-sectional data, and does not undermine inference validity. The IV two-stage least squares estimation further enhanced the robustness of the findings by mitigating potential endogeneity, and confirming that the independent variables were not systematically correlated with the error term.

[2] The Bloomberg ESG scores were source from *Bloomberg's ESG Classification System*, the methodology is available at https://hr.bloombergadria.com/data/files/Pitanja%20i%20odgovori%20o%20Bloomberg%20ESG%20Scoreu.pdf

Table 8. Robustness check III: Results for regressing CARs on ROA, ROE, or ESG Scores by Instrumental Variables Two-Stage Least Squares Estimation

Model	(34)	(35)	(36)	(37)	(38)	(39)	(40)	(41)	(42)	(43)	(44)	(45)
Stage	I	II	II	II	I	II	II	II	I	II	II	II
Dependent Variable	ROA	CAR [0, 1]	CAR [0, 5]	CAR [0, 10]	ROE	CAR [0, 1]	CAR [0, 5]	CAR [0, 10]	ESG	CAR [0, 1]	CAR [0, 5]	CAR [0, 10]
IV1 (ROA)	0.1364***											
	(0.0066)											
IV2 (ROA)	0.0603***											
	(0.0043)											
IV1 (ROE)					0.2394***							
					(0.0134)							
IV2 (ROE)					0.0988***							
					(0.0086)							
IV1 (ESG)									0.2553***			
									(0.0039)			
IV2 (ESG)									0.0775***			
									(0.0033)			
ROA		-0.0964***	-0.2196***	-0.1941***								
		(0.0194)	(0.0352)	(0.0479)								
ROE						-0.0408***	-0.0937***	-0.1087***				
						(0.0084)	(0.0176)	(0.0225)				
ESG										0.0075***	0.0121***	0.0104**
										(0.0015)	(0.0030)	(0.0046)
Constant	0.0158***	-0.0092	-0.0027	-0.0306	0.0062	-0.0105*	-0.0057	-0.0341	-23.5481***	-0.0077	-0.0002	-0.0285
	(0.0050)	(0.0060)	(0.0206)	(0.0231)	(0.0074)	(0.0059)	(0.0205)	(0.0229)	(0.2184)	(0.0060)	(0.0210)	(0.0235)
Observations	5,040	5,040	5,040	5,040	5,040	5,040	5,040	5,040	5,040	5,040	5,040	5,040
Control Variables	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Kleibergen-Paap rk LM statistic		36.8093***	36.8093***	36.8093***		37.9889***	37.9889***	37.9889***		33.4146***	33.4146***	33.4146***
		[0.0000]	[0.0000]	[0.0000]		[0.0000]	[0.0000]	[0.0000]		[0.0000]	[0.0000]	[0.0000]
Kleibergen-Paap rk Wald F statistic		229.72***	229.72***	229.72***		176.83***	176.83***	176.83***		5869.18***	5869.18***	5869.18***
		[0.0000]	[0.0000]	[0.0000]		[0.0000]	[0.0000]	[0.0000]		[0.0000]	[0.0000]	[0.0000]
Hansen J statistic		0.0144	0.0167	0.0170		0.2087	1.7695	0.3431		0.5789	0.0195	1.4325
		[0.9043]	[0.8973]	[0.8963]		[0.6478]	[0.1834]	[0.5580]		[0.4467]	[0.8891]	[0.2314]
Anderson-Rubin Wald statistic		26.9129***	40.2710***	17.1846***		22.5723***	24.8175***	19.9738***		24.8371***	17.1048***	5.5818*
		[0.0000]	[0.0000]	[0.0002]		[0.0000]	[0.0000]	[0.0000]		[0.0000]	[0.0002]	[0.0614]
Stock-Wright LM S statistic		25.1284***	46.4652***	21.7353***		27.4404***	30.4740***	22.0710***		31.6519***	28.4517***	14.2030***
		[0.0000]	[0.0000]	[0.0000]		[0.0000]	[0.0000]	[0.0000]		[0.0000]	[0.0000]	[0.0008]

Notes: I and II are the first and second stages for instrumental variables two-stage least squares regression estimation approach; ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively; Standard errors clustered at the city level in parentheses; and *p*-values in square brackets; The original sample contains 5,041 observations. One observation was excluded from the IV-2SLS estimation because it formed a singleton category and resulted in a rank-deficient covariance matrix of the moment conditions. The final estimation sample therefore consists of 5,040 observations, ensuring the validity of the robust standard errors and model specification tests.

Source: prepared by authors.

5. Conclusion

To investigate the effect of the Palestinian-Israeli conflict on the returns of China A-shares, the authors use the event study method on 5,041 listed companies. The estimation period spanned 160 days, and both the MM and the TFM were used for the analysis. The results revealed a negative CAAR on the 1st, 3rd, 5th, 7th, and 10th trading days following the event, with both the parametric and non-parametric tests confirming significance at the 1% level. This provided evidence that geopolitical conflicts exert adverse effects on the Chinese stock market, while also reaffirming that the A-shares market exhibits characteristics of semi-strong form efficiency. Furthermore, consistent with herd behaviour theory, multiple linear regression analysis demonstrated that financial performance was significantly negatively associated with CARs, suggesting that investor overvaluation prior to the conflict led to sharper downward corrections during the crisis. Conversely, in line with stakeholder theory, the relationship between CAR and ESG performance was significantly positive, indicating that company with stronger sustainability and responsibility profiles exhibit greater stability and resilience amidst geopolitical turmoil.

These findings are in line with prior studies showing that geopolitical risks generally depress stock markets. Zhou et al. (2020) reported negative effects of geopolitical risk on China's rare metal stocks, while Alqahtani et al. (2022) found persistent adverse spillovers from Saudi-related risks to GCC markets. Similarly, Salisu et al. (2022) showed that threats of geopolitical risk hurt advanced economies more than the actual events. Regarding evidence from the Israel-Hamas conflict in the Middle East and North Africa markets, Cui and Maghyereh (2024) and Yudaruddin et al. (2024) also revealed a significant decline and volatility. Despite China's geographical distance, these findings are consistent with this study, which indicates the role of information dissemination and retail market herd behaviour in amplifying market signals (Yao et al., 2014; Hsieh et al., 2020). Moreover, the evidence complements other behavioural studies such as Yao et al. (2014), which document that herding behaviour amplifies downturns in the Chinese A-shares market. Thus, while these findings confirm the broader negative link between geopolitical risk and stock returns, they also contribute new evidence that ESG performance can buffer such effects in a retail-driven market context.

This article provides a reference to market participants and regulators of the China A-shares market regarding geopolitical events, and addresses gaps in the literature by linking financial performance, sustainability measures, and market responses in a retail-dominated market. Thus, from a regulatory perspective, authorities should consider adjusting trading restrictions during periods of extreme market fluctuations, for example, temporarily modifying daily price limits and expanding block trading windows, to mitigate panic-driven selloffs. Simultaneously, regulators should encourage listed companies to enhance their ESG standards. For investors, increasing the proportion of long-term investment can help reduce volatility caused by short-term geopolitical shocks. Investors should also prioritise sustainability indicators rather than focusing solely on financial metrics. Meanwhile, companies should proactively disclose crucial ESG data to enhance transparency, attract long-term institutional investors, and improve market recognition. In times of heightened uncertainty, companies should also optimise their capital structure by reducing short-term high-leverage financing and strengthening financial resilience. Potential limitations included the inability of the event study methodology to completely isolate the effects of concurrent events on the market during the sample period. Despite selecting a narrower sample period to mitigate these influences, the method may introduce slight biases in the estimates. Additionally, due to the unique characteristics of the A-shares market, the generalisability of the research results to other markets may be constrained. Furthermore, the analysis did not explicitly consider broader economic transmission mechanisms, such as commodity price shocks and sectoral dependencies, which may also shape stock market reactions and interact with company-level ESG performance. Future research could extend these conclusions by employing diverse methodologies, incorporating such channels, and drawing on data from a broader array of markets.

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