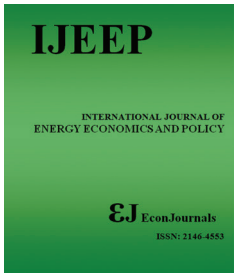

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Geopolitical Risk and Firm Financing Decision: Can ESG Performance Act as a Buffer?

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ABSTRACT

This study aims to examine effects of geopolitical tensions on firms' capital structure behavior and the role of ESG to navigate toward heightened tension between countries. We use 2460 companies across Asian continent ranging from 2016 to 2023, the authors choose Asian as a continent of interest because Asia holds an important place in terms of geographical location as the center of world's economy. The study employes a panel data regression model, followed by two-step generalized method of moment (GMM) to address endogeneity and ensure robustness. This study found that companies will reduce their use of debt when geopolitical conditions arise. Conversely, companies will increase their cash reserves when geopolitical conditions are high. This study also analyzed how the interaction between GPR and ESG performance affects companies' use of leverage and cash reserves. The study found that companies with strong ESG performance will reduce their use of debt as a form of risk mitigation and maintain their corporate reputation. Conversely, companies with strong ESG performance will increase their cash reserves when geopolitical risks are high. This indicates that companies with strong ESG performance are more sensitive to geopolitical risks.

Keywords: Geopolitical Risk, Environment, Social and Governance, Leverage, Cash Holdings, Asia, Two-step System Generalized Method of Moment
JEL Classifications: E70, G320

1. INTRODUCTION

The invisible hand of geopolitical risk grips firms with unpredictable force, capable of disrupting markets, distorting capital flows, and undermining corporate financing decisions. Geopolitical uncertainty undermines investor confidence, escalation such as the Russia-Ukraine war would bring volatility, this market volatility often forcing central banks to adjust monetary policy (Dieckelmann et al., 2024) and the adjustment extends from changes in interest rate to disruptions in businesses supply chain. Geopolitical risk can cause systemic events, they can have a negative effect on the resilience of banks, nonbank financial institution as they lead to higher funding costs (Papavassiliou and Vassilios G, 2025) which affects firms financing decision as the higher cost of debt makes external financing more expensive. In navigating geopolitcal risk, recent studies tell us companies tend to preserve financial flexibility by reducing share repurchase rather cutting cash dividends (Hasan et al., 2022) who often interpret dividend cuts as a red flag. This behaviour highlights the strategic role for a more adaptable tool for managing cash flow volatility during geopolitical instability.

Asia countries are increasingly influenced by the geopolitical tensions and environmental, social, and governance (ESG) considerations, it is characterized by rapid economic growth and diverse political environments, the dual factor of geopolitical risk and ESG are susceptible on corporate financial strategies. This study investigates the effects of geopolitical risks and ESG performance on corporate leverage and cash holdings within Asia countries. It is crucial to understand this relationship as firms navigate the volatility of geopolitical conditions and the demands from investors for a sustainable practice on the firm's business

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activities. This study explores how firms adjust their level of leverage and liquidity in response to external risks. (Caldara and Iacoviello, 2018) highlight how geopolitical risks significantly influence investor sentiment and firm behavior, which often prompts firms to shift in their financial strategies such as increasing cash holding or reducing leverage. On ESG considerations (Friede et al., 2015) emphasizing that ESG viewed as a determinant of firm to overcome long-term financial stability and firm resilience to external risk.

Asia is chosen as the focus of this study due to its strategic geopolitical positioning in the global economy and its unique exposure to sustainability challenges. Asian countries provide a diverse economic conditions and political climates, Asia represent a dynamic region that drive the economic growth and a become a vocal point for geopolitical tensions, on a recent report Asia attracted $621 billion in foreign direct investment (FDI) in 2023 (UNCTAD, n.d.) maintaining its position as the world's largest recipient of FDI, this data reflecting growing exposure, yet also Asia countries exposed to the heightened vulnerability to geopolitical shocks and according to the IMF, Asia as a collective countries has reached $41.02 trillion USD as of 2025 in form of collective GDP, making them as the world's largest continental economy globally (IMF, 2025) makes Asia is vulnerable to geopolitical disruptions which refers to the uncertainties that is associated with interstate tensions that will disrupt the stability of each countries relation to other (Caldara and Iacoviello, 2018) by focusing on Asia region, this study offering a valuable insights into how firms in this emerging market region faced these dual pressures. According to the recent studies (Bouri et al., 2023) divulge the importance of crude oil volatility and GPR in stock pricing on major oil-exporting countries such as Malaysia, Indonesia, Vietnam, and Brunie make it to top 40 list of oil exports based on CEIC 2022 report. This serves as a prime example on the importance of Asia countries on global market.

Leverage and cash holdings, as a key components of a company's capital structure, play a significant role to ease the impact of external factors such as geopolitical risk, to manage these risk firms must strategically manage their leverage and liquidity. During the period of heightened geopolitical risk or economic uncertainty, a recent study (Carney et al., 2024) stated that the higher geopolitical risk will increase the cost of equity capital, on average. (Clemente-Almendros and Sogorb-Mira, 2018) stated companies should explicitly calculate their benefits from leverage, if the cost of using leverage is higher than the benefits, firm should consider decreasing its leverage. This study also assesses the integration of environmental, social, and governance (ESG) principles strategies to act as a buffer against the external geopolitical risks (Freeman and McVea, 2005) company that actively engage with their stakeholders and actively addressing environmental and social concern are better positioned to sustain operations during times of uncertainty. Moreover, (Friede et al., 2015) highlights that ESG performance positively correlates with long term value creation and financial stability, which can be a buffer from the negative effects of geopolitical risks. Given the increasing prominence of ESG in corporate governance, and the opportunity of ESG practices to act as a buffer for companies to mitigate external risk.

The increasing geopolitical risks and growing emphasis on ESG adoption. The findings suggest when firms are exposed to higher geopolitical risks in their home countries, they tend to adopt more conservative financial structures by increasing their cash holdings and reducing their portion of leverage. Furthermore, when the study focuses on firms with higher ESG performance, the results indicate they tend to do the same to take precautionary financial strategies, this structure potentially enhancing their resilience in the face of geopolitical risk shocks. This study makes several contributions to existing literature and problems. First, to extents understanding of how GPR impacts firm financial structures, particularly in Asia region. Second, it also addresses how ESG adoption role in mitigating the negative effects of GPR and firms financial structure decisions.

2. LITERATURE REVIEW

2.1. Geopolitical Risk and Firm Financing Decision

In r geopolitical risk (GPR) is a risk due to changes in government, legislative, foreign policy or military control (Launa and Mudjiyanto, 2022). Geopolitical risk (GPR) is one of the reasons for uncertainty in the global economy. Increased political tensions such as military conflicts, economic pressures, and government instability can disrupt economic stability. One of the impacts of an increase in GPR is a change in people's consumption behavior which leads to a slowdown in economic growth (Su et al., 2023). These changes can lead to reduced demand, which slows down economic growth as well as corporate earnings.

The uncertainty can lower consumer confidence, which will cause consumers to take more cautious steps by adjusting their spending and saving habits in line with the conditions (Ghosh, 2022). High levels of uncertainty can lead to a decline in consumption, especially when consumer confidence is low (Xu, 2020). A decline in consumption levels can also have an impact on companies, as it can reduce the amount of production, leading to a decrease in company revenue. On the other hand, geopolitical risks can also affect the way investors allocate their funds. When political tensions arise, investors tend to avoid extreme risks by diversifying their investments. They usually tend to increase their investments in gold (safe haven asset) in their portfolios as a diversification measure (Triki and Ben Maatoug, 2021). Therefore, geopolitical risks not only cause momentary uncertainty, but can also hinder sustainable economic growth.

There have been many studies conducted that show that geopolitical risk can affect the economy both macro and micro. One of them is a study conducted by (Caldara et al., 2022) entitled "Measuring Geopolitical Risk" published in the American Economic Review journal. Caldara and Iacoviello, in their study, developed a geopolitical risk index based on news frequency. The results of the study show that there is a negative correlation between the increase in geopolitical risk and investment. This means that an increase in geopolitical risk will reduce the level of investment. This study illustrates how geopolitical risk affects the economy at large.

In high uncertainty conditions, firms typically adopt a more conservative strategy (Ge and Zhang, 2025). Firms tend to reduce their investment activities when it comes to high uncertainty Geopolitical uncertainty frequently leads to market disruptions, which are resulting in (Lestari and Meliana, 2018) high volatility in financial markets, falling stock prices and rising bond yields (Ahmed et al., 2023). This uncertainty has caused investors to become more cautious and reduce their exposure to risk (Parihar and Gupta, 2024), leading to a lack of capital flows and a decrease in financial liquidity. Under uncertainty, it's also becoming difficult for the company to obtain external funding because external funding costs have become more expensive (Xu, 2020). In such a situation, many companies choose to rely on internal financing or postpone existing projects to maintain company stability.

In volatile market situations, equity issuance becomes a less attractive option due to the high risk involved. In this situation, companies tend to look for more stable and efficient funding alternatives, one of which is through debt. Sources of funding through debt are the preferred choice, especially for companies that have high profit, larger size, and healthy financial fundamentals (Ra, 2024). Debt instruments can provide greater certainty because interest can be negotiated or fixed, thus reducing volatility in financing costs. This is important in corporate financial planning because it allows companies to predict cash flows more accurately and also better manage risks. The results of research by (Firmansyah et al., 2020) show that earnings volatility has a positive influence on the cost of debt, where companies with fluctuating profit levels tend to face higher debt costs because they are considered to have greater risk by creditors. Therefore, companies that have good and strong financial fundamentals and are able to maintain the stability of their corporate profits tend to get more favorable debt financing terms.

However, in times of high geopolitical risk, financing decisions become more complicated. Even for companies that have a good risk profile, they will experience difficulties in accessing financial markets due to the uncertainty caused by geopolitical tensions, and this can increase the cost of debt. In such a situation, companies will become more cautious in taking on debt to minimize risks. Instead, many companies choose to increase their liquidity through increased cash holdings as a buffer when faced with financial disruptions in a high geopolitical situation (Cho, 2024). By implementing this strategy, it gives the company a chance to survive when facing uncertainty and can maintain the continuity of the company.

2.2. The Effect of ESG on Firm's Performance and Financing

ESG has become an important strategic approach in supporting sustainability and overall company performance. ESG covers three main aspects, namely Environment, Social, and Governance, where these three aspects play a role in helping companies manage non-financial risks and meet stakeholder expectations. Various studies show that effective ESG implementation not only creates positive social and environmental impacts, but also improves operational efficiency, strengthens corporate reputation, and reduces exposure to long-term risks. Research by (Friede et al., 2015) found that the majority of more than 2,000 empirical studies show a positive relationship between ESG performance and corporate financial performance. Good ESG practices have been proven to improve operational efficiency, strengthen reputation, and reduce exposure to long-term risks. This indicates that sustainability is not a sacrifice to profitability, but rather a path to achieving it sustainably. Similar findings were also obtained from a study by (Pulino et al., 2022), which showed that the environmental and social pillars of ESG have a significant influence on company performance. Customers tend to appreciate and respond positively to ESG activities promoted by companies, especially activities that touch on social and environmental aspects. This has a direct impact on increasing revenue and the company's positive image. However, research conducted by (Nareswari et al., 2023) shows that increasing ESG scores will decrease financial performance because they require higher investment costs and opportunities. Furthermore, improvements in a company's ESG rating have also been shown to influence investment outcomes, particularly in the context of cross-border mergers and acquisitions, where companies with good ESG reputations earn positive abnormal returns (Kim et al., 2022).

Companies with good and strong environmental, social and governance (ESG) performance usually show stronger resilience when it comes to external risks, including geopolitical risks (Reyad et al., 2024). The implementation of ESG in a company's policies and operations not only demonstrates the company's adherence to sustainability standards but can also serve as an effective risk mitigation tool for the company. Therefore, (Dsouza et al., 2025) emphasize that companies should integrate ESG strategies to increase resilience to uncertainty and improve competitiveness.

Companies that implement ESG well and consistently in their operations usually have a positive perception in the eyes of investors and creditors, because such companies are considered to have responsibility and good risk management and have good stability, especially companies with a focus on sustainability investments. This can help make it easier for companies to obtain external funding in the form of equity or debt even in uncertain geopolitical conditions. This is in line with what was mentioned by (Jafar et al., 2024) that companies with high ESG disclosure have a benefit in the form of easier access to funding, translating into a lower cost of capital charged by lending institutions.

2.3. Hypothesis Development

Various studies on corporate financing decisions during periods of high geopolitical risk have been conducted, as mentioned above. GPR is a risk that arises due to changes in government, legislation, foreign policy, or military control (Launa and Mudjiyanto, 2022), which is one of the causes of uncertainty. High GPR can have an impact on the economy, both macro and micro, ultimately leading to uncertainty. The uncertainty resulting from GPR can influence corporate financing decisions.

In conditions of high uncertainty, financing decisions become more complex, and companies typically tend to adopt a more conservative approach to risk-taking (Ge and Zhang, 2025). Companies will tend to avoid external financing sources, especially

debt, because in such conditions of uncertainty, debt costs will increase, and this can pose a risk to the company. On the other hand, companies will choose to increase liquidity reserves as a buffer against potential future financial disruptions by increasing the company's cash reserves (Cho, 2024).

Based on this discussion, the following hypothesis can be formulated:

H_1: When GPR increases, firms tend to reduce their debt intake.

H_2: When GPR increases, firms tend to increase their cash holdings.

Companies with strong environmental, social, and governance (ESG) performance generally demonstrate greater resilience to external risks, including geopolitical risks (Reyad et al., 2024). The implementation of ESG in company policies and operations not only reflects a commitment to sustainability standards but also serves as an effective risk mitigation tool. Therefore, (Dsouza et al., 2025) emphasize the importance of integrating ESG strategies to enhance resilience to uncertainty and strengthen competitiveness. Additionally, companies that consistently implement ESG are typically viewed positively by investors and creditors, as they are perceived to have strong accountability, effective risk management, and high stability, particularly for companies focused on sustainable investments. This facilitates companies in obtaining external financing, whether in the form of equity or debt, even amid uncertain geopolitical conditions. As stated by (Jafar et al., 2024), companies with high levels of ESG disclosure tend to have easier access to financing with lower capital costs from lending institutions.

Therefore, ESG can act as a buffer for companies when facing external risks such as geopolitical risks. Firms with stronger CSR engagement tend to experience lower risk because of their enhanced resilience during times of crisis (Benabou and Tirole, 2010). As mentioned earlier that companies with good ESG performance are positively valued by creditors, companies with good ESG performance tend not to experience a drastic decrease in the use of debt in their financing structure even during times of high geopolitical risk because they are trusted more by creditors. ESG creates a perception of risk mitigation that makes creditors more trusting and confident in these companies even during risky uncertainties.

In addition, in times of high and volatile geopolitical conditions, companies will usually tend to hold cash as a precautionary step to deal with uncertainty (Cho, 2024). However, companies with high ESG performance usually have more stable cash flows, so they do not need to hold too much cash. Not only that, good ESG implementation can help increase investor trust in the companies (Pong and Man, 2024) so that companies with high ESG performance gain higher market confidence, so they do not need to worry too much when facing geopolitical uncertainty. Based on this discussion, the following hypothesis can be formulated:

H_3: The negative relationship between geopolitical risk (GPR) and debt levels is weaker for firms with higher ESG performance.

H_4: The negative relationship between geopolitical risk (GPR) and cash holdings is weaker for firms with higher ESG performance.

3. METHODOLOGY

3.1. Data and Sampling

The dataset used in this study consists of country-level GPR index, ESG score, and financial data listed companies in Asia countries and covers the period 2016-2023. The countries included in this research are Australia, China, Hong Kong, India, Indonesia, Israel, Japan, South Korea, Malaysia, Philippines, Taiwan, Thailand, Turkey, and Vietnam. The selection of these countries reflects the diversity of a country's level of economic development, ranging from developed to developing countries, which provides a comprehensive picture of the impact of geopolitical risks on corporate financial structure. All financial statement data and ESG performance scores are taken from Refinitiv data sources. Meanwhile, geopolitical risk is taken from https://www.policyuncertainty.com, which measures the intensity and frequency of geopolitical events such as threats of war, acts of terrorism, and diplomatic conflicts (Caldara et al., n.d.) developed a GPR index that reflects the results of automated text searches of the electronic archives of 10 newspapers. Caldara and Iacoviello calculated the index by counting the number of articles related to adverse geopolitical events in each newspaper for each month. Macroeconomic control variables are taken from the World Bank database. Table 1 shows the distribution of companies in various Asia countries included in this study. This distribution highlights regional differences in company representation in the sample and may reflect differences in economic size, data availability, and market activity among countries.

3.2. Empirical Model

To empirically examine the impact of firm-level geopolitical risk (GPR) and environmental, social, and governance (ESG) performance on corporate capital structure, this study proposes the following regression model:

$$Y_{(i,j,t)} = \beta_0 + \beta_1 GPR_{(j,t)} + \beta_2 HIGHESG_{(i,j,t)} + \beta_3 GPR_{(j,t)} \times HIGHESG_{(i,j,t)} + \beta_4 SIZE_{(i,j,t)} + \beta_5 ROA_{(i,j,t)} + \beta_6 Div_{(i,j,t)} + \beta_7 MB_{(i,j,t)} + \beta_8 CAPEX_{(i,j,t)} + \beta_9 AGE_{(i,j,t)} + \beta_1 0GDP_{(j,t)} + \beta_1 1INFLATION_{(j,t)} + \varepsilon_{(i,j,t)}$$

In this model, $Y_{(i,j,t)}$ represents the dependent variable, which can be either the firm's leverage ratio or cash holdings. To test our hypothesis, we analyse the impact of Geopolitical Risk Index (GPRj, t) and the interaction variable between GPR and High ESG

Table 1: Total number of companies

Country	Number of companies
Australia	234
China	59
Hongkong	161
India	81
Indonesia	33
Israel	10
Japan	359
Malaysia	41
Philippines	18
South Korea	99
Taiwan	111
Thailand	27
Turkey	18

Table 2: Variables measurement

Variables	Notations	Operationalization	Source
Firm leverage	$LEV_{(i, j, t)}$	Total debt/TA	Refinitiv
Cash holding	$CASH_{(i, j, t)}$	Cash and Cash Equivalent/TA	Refinitiv
Geopolitical risk index	$GPR_{(j, t)}$	Country's GPR	www.policyuncertainty.com
High ESG firms dummy	$HIGHESG_{(i, j, t)}$	Binary variable, 1 if firms is in the top 30% based on ESG score, 0 otherwise	Refinitiv
Firm's size	$SIZE_{(i, j, t)}$	Natural logarithm of total assets	Refinitiv
Profitability	$ROA_{(i, j, t)}$	Return on assets	Refinitiv
Dividend dummy	$Div_{(i, j, t)}$	Binary variable, 1 if firms pa dividend, 0 otherwise	Refinitiv
Market to book ratio	$MB_{(i, j, t)}$	Market capitalization+total debt/total assets	Refinitiv
Capital expenditures	$CAPEX_{(i, j, t)}$	Capital expenditure/total assets	Refinitiv
Age	$AGE_{(i, j, t)}$	Natural Logarithm of Number of Years a Firm has been Established	Refinitiv
Gross domestic product	$GDP_{(j, t)}$	Annual GDP growth	World Bank
Inflation	$INFLATION_{(j, t)}$	Annual percentage change in consumer price index	World Bank

firm dummy variables (GPRj, t × $HIGHESG_i$, j, t) to both firm's leverage and cash holding, In our empirical model, we also include some control variables, which are firm size ($SIZE_i$, j, t), Return on Assets (ROA_i, j, t), dividend policy (Div_i, j, t), market-to-book ratio (MB_i, j, t), capital expenditure ($CAPEX_i$, j, t), firm age (AGE_i, j, t), and two macroeconomic indicators, namely gross domestic product growth (GDP_j, t), and inflation ($INFLATION_j$, t). All the variables' measurements are shown in Table 2.

4. RESULTS AND DISCUSSION

4.1. Descriptive Statistics

Table 3 presents the variables used in the study. on the average, companies maintain their leverage ratio of 0.231 respectively, while a standard deviation of 0.171 reflecting a diverse level of debt financing among firms ranging from firms with no leverage intake, this broad range underscores the different financing behaviours and risk appetites across the region. Cash holding practices also vary widely, the average firms hold 0.121 disparities on the dataset suggest a wide variation in liquidity position within the firms, this is possibly influenced by the difference in their liquidity management policy, access to capital markets or macroeconomic uncertainty. These two variables provide better understanding with a wide range of variation in their financial structure. Geopolitical Risk score across the dataset stands at 0.374 with a standard deviation of 0.346 reflecting a wide range of GPR environments, implies that firms in the region operate under vastly different geopolitical situation, it suggests can be a powerful explanatory for this study. ESG score demonstrate a significant diversity, ranging from 0.074 to 94.551 with its components - social, governance, and environmental dataset showed indication of firms in the region are moderately active in ESG. Such variation in the dataset is valuable for this study, as it provides an opportunity to explore how differing levels of each variable influence the outcome of this study.

Table 3: Descriptive statistics

Variables	Obs	Mean	Standard deviation	Min	Max
Leverage	18,666	0.231	0.171	0.000	0.703
Cash	18,666	0.128	0.121	0.000	0.657
GPR	18,666	0.374	0.346	0.023	1.176
ESG	18,666	45.288	19.735	0.074	94.551
Social	18,666	44.345	24.001	0.169	98.636
Governance	18,666	49.145	21.876	0.037	98.698
Environmental	18,666	41.99	26.224	0.000	99.287
Size	18,666	21.761	1.705	17.086	25.643
ROA	18,666	0.044	0.085	−0.4	0.292
Divdum	18,666	0.848	0.359	0.000	1
MB	18,666	2.107	2.956	0.254	20.223
Capex	18,666	0.046	0.045	−0.018	0.233
Age	18,666	23.462	18.618	−6	118
GDP	18,666	2.96	3.437	−6.545	11.439
Inflation	18,666	3.515	6.834	−1.139	72.309

Source: Research results

Table 4: Descriptive statistics high ESG firms versus other firms

Variables	High ESG firms	Other firms	Differences	t-test
Leverage	0.243	0.277	−0.0165383	−5.7693***
Cash	0.117	0.132	0.0155015	7.6555***
GPR	0.286	0.404	0.1176616	20.4636***
ESG	70.565	36.662	−33.9034	−1.5e+02***
Social	72.659	34.683	−37.97564	−1.3e+02***
Governance	66.632	43.178	−23.45453	−72.146***
Environmental	70.928	32.116	−38.8121	−1.2e+02***
Size	22.648	21.446	−1.23781	−45.5471***
ROA	0.051	0.042	−0.0093966	−6.562***
Divdum	0.9	0.83	−0.0693501	−11.5298***
MB	1.787	2.216	0.4296047	8.664***
Capex	0.044	0.046	0.0019535	2.5841***
Age	30.51	21.057	−9.453874	−30.9808***
GDP	2.445	3.126	0.6810169	11.2927***
Inflation	4.407	3.229	−1.178068	−9.8159***

***P<0.01, **P<0.05, *P<0.1

4.1.1. High ESG firms versus other firms

Table 4 shows the comparison between high ESG firms and other firms, the finding indicates that ESG-oriented firms exhibit distinct financial and operation characteristics that reflect to more sustainable business practices. One of the findings are high ESG firms tend to maintain lower leverage levels, indicating more conservative financial management and stronger governance structures, this statement aligns with (Cheng et al., 2014), who argue that ESG practices reduce agency costs and improve access to capital. Consequently, these firms may gain better access to external capital due to increase in investor trust and transparency, allowing them to rely less on debt financing. Companies with high ESG also demonstrate higher profitability (ROA) larger size, greater age, and a higher tendency to distribute their dividends,

these also signals financial robustness and a commitment to shareholder returns.

(Dhaliwal et al., 2011) emphasize that the more established firms with higher visibility are more committed to adopt ESG disclosures due to stakeholder demands, and reputational consideration. Interestingly, despite strong fundamental, high ESG firms exhibit lower market book ratio (MB), which may reflect conservative valuations or delayed market recognition of ESG-driven value firms.

In this study, we found out ESG firms has a tendency to hold slightly less cash, this is due to more efficient capital deployment and reduced need for precautionary liquidity, aligning with the view of (Albuquerque et al., 2019) that ESG face lower downside risk and more transparent, which allows them to maintain their reliance on cash reserves for precautionary or opportunistic reasons. An intriguing fact also described at where they operate, high ESG firms tend to operate in environment with relatively lower GDP growth and higher inflation, often it characterised of more developed economies where institutional pressure for sustainability is stronger.

4.1.2. High GPR firms versus other firms

Based on the result of the comparison that is shown in Table 5, several significant differences were found that reflect the impact of geopolitics on financial characteristics and non-financial characteristics. Firms that operate in the high geopolitical risk environment have a higher leverage level, with the average of 0.24. While the leverage of other firms is 0.23. This shows that firms with high geopolitical risk tend to rely more on debt in their funding structure. From the table, we can also see that firms with high geopolitical risk also have a higher average of cash than other firms that do not have a high geopolitical risk with an average of 0.135 and 0.128, respectively. This shows that firms with high geopolitical risk tend to keep more cash to overcome the risk of liquidation amid uncertainty resulting from geopolitical risks. This result is aligned with a study conducted by (Hasan et al., 2022) that companies with high political risk have a higher tendency to hold cash.

Table 5: Descriptive statistics high GPR firms versus other firms

Variables	High GPR firms	Other firms	Differences	t-test
Leverage	0.241	0.23	−0.113351	−2.6103***
Cash	0.135	0.128	−0.0074939	−2.4414**
GPR	0.704	0.341	−0.3629993	−43.2641***
ESG	37.311	46.087	8.775291	17.6232***
Social	31.735	45.608	13.87329	23.0414***
Governance	47.285	49.331	2.045997	3.6777***
Environmental	33.748	42.816	9.068399	13.6607***
Size	22.648	21.672	−0.97537763	−22.8034***
ROA	0.05	0.043	−0.0062931	−2.9005***
Divdum	0.928	0.84	−0.0877909	−9.6316***
MB	1.911	2.127	0.2153096	2.8634***
Capex	0.048	0.046	−0.0020803	−1.8177**
Age	22.642	23.544	0.9022056	1.9049**
GDP	4.709	2.773	−1.935623	−22.3773***
Inflation	2.184	3.657	1.473462	8.4653***

***P<0.01, **P<0.05, *P<0.1

4.2. Correlation Analysis

Table 6 presents the correlation matrix of geopolitical risk (GPR), ESG performance, leverage, corporate cash holdings, and other variables used in the study for Asian firms. The correlation matrix shows important relationships between geopolitical risk (GPR), ESG performance, leverage, and corporate cash holdings in Asia firms. The correlation between GPR and cash holdings is (0.1515), which indicates that firms hold more cash when geopolitical risk increases. In contrast, the correlation between GPR and leverage (Lev) is negative but statistically insignificant, suggesting that firms may not immediately adjust their debt levels in response to geopolitical tensions. This could be due to the long-term nature of capital structure decisions or constraints in credit access during turbulent periods. ESG score has a significant negative relationship with cash holdings (−0.0900). This suggests that firms with high ESG scores tend to hold less cash. While ESG scores show a weak but significant correlation with leverage (0.0656), this suggests that firms with high ESG scores also tend to use leverage. In addition, ROA is negatively correlated with leverage and cash holdings. Firm size is positively associated with ESG performance and leverage, suggesting larger firms have greater access to credit markets and resources for sustainability reporting. Overall, the matrix indicates the absence of serious multicollinearity, as none of the correlation values are high enough to support the robustness of further analysis.

4.3. Regression analysis

Table 7 shows the regression results related to the influence of geopolitical risk (GPR), environmental, social, and governance (HIGHESG), and the interaction between both on the company's

Table 6: Correlation matrix

	Lev	Cash	GPR	ESG	SZ	ROA	DivDum	MB	CapEx
Lev	1.000								
Cash	−0.3578	1.000							
GPR	−0.0088	0.1515	1.000						
ESG	0.0656	−0.0900	−0.1943	1.000					
SZ	0.2896	−0.1409	0.1897	0.3880	1.000				
ROA	−0.2680	0.0126	0.0441	0.0792	0.0324	1.000			
DivDum	−0.0537	−0.0382	0.2169	0.1158	0.3027	0.3646	1.000		
MB	−0.2189	0.1815	0.0767	−0.0819	−0.3085	0.2484	−0.0193	1.000	
CapEx	0.0462	−0.0571	0.0547	−0.0334	−0.0779	0.0693	−0.0026	0.1263	1.000

Lev: Leverage, Cash, cash holdings, GPR: Geopolitical risk, ESG: Environmental, social, and governance, SZ: Firm size, ROA: Return on asset, DivDum: Dividend, MB: Market to book value, CapEx: Capital expenditures

Table 7: Regression

Variables	(1)		(2)		(3)	
	Leverage	Cash	Leverage	Cash	Leverage	Cash
GPR	−0.025***	0.84***			−0.024***	0.07***
	0.005	0.006			0.005	0.004
HIGHESG			−0.0002**	−0.0003***	−0.0003***	−0.0001
			0.00009	0.00004	0.00008	0.0001
GPR×HIGHESG					−0.0004***	0.0005**
					0.00012	0.0002
Size	0.034***	−0.013***	0.03***	−0.0067***	0.04***	−0.013***
	0.001	0.001	0.0012178	0.0007	0.001	0.001
ROA	−0.518***	0.02	−0.50***	−0.005	−0.5***	0.02***
	0.017	0.03	0.16	0.024	0.02	0.03
DivDum	−0.19***	−0.02***	−0.02***	−0.003	−0.02***	−0.02***
	0.005	0.003	0.0045	0.0029	0.005	0.003
Market Book	−0.004***	0.006***	−0.004***	0.006***	−0.004***	0.006***
	0.0002	0.0002	0.0002	0.0002	0.0003	0.0002
CapEx	0.37***	−0.26***	0.35***	−0.233***	0.4***	−0.3***
	0.013	0.007	0.015	0.011	0.014	0.008
Lnage	−0.01***	−0.002	−0.0071	−0.0073**	−0.01***	−0.002
	0.002	0.001	0.0025	0.003	0.002	0.001
GDP	0.003**	−0.007***	0.002*	−0.005**	0.003**	−0.01***
	0.001	0.002	0.001	0.002	0.001	0.002
Inflation	0.0007	−0.001***	0.0008*	−0.0009***	0.001	−0.001***
	0.0004	0.0002	0.0003	0.001	0.0004	0.0003
Observations	17,360	17,360	17,360	17,360	17,360	17,360
Psuedo R2	0.1869	0.1358	0.1833	0.0869	0.1892	0.1365
Prob > chi2	0.000	0.000	0.000	0.000	0.000	0.000

(1) In this model we only incorporate GPR as the main interest variable, (2) In this model we only incorporate HIGH ESG dummy as the main interest variable, (3) In this model we incorporate GPR, HIGH ESG Dummy and interaction variable as the main interest variables

financing decisions (leverage and cash holding). Model 1 shows that GPR has a significant and negative influence on firms leverage at the 1% level. This shows that when GPR is high, firms tend to reduce their use of debt in its capital structure. Otherwise, GPR has significant and positive influence on firm's cash holdings at 1% level. This result indicates that firms tend to increase their cash holdings to anticipate high GPR. It seems that firms tend to be cautious when dealing with uncertainty, like geopolitical risks. Companies will tend to reduce their exposure to risk by reducing their use of debt when uncertainty arises. Relying on debt in their capital structure can cause financial pressure, especially if there are disruptions in the capital market and rising interest rates due to political crises. Therefore, companies will take conservative measures by increasing cash holdings in their financial strategies to maintain financial flexibility and avoid liquidity problems in the future. This shows the same results as the study of (Cho, 2024) that stated GPR leads to higher level of corporate cash holdings. In this case, cash can act as a buffer or support when a company faces operational disruptions or external risks because cash has a high level of liquidity. By having sufficient cash, a company can continue to operate, meet its short-term obligations, and even take advantage of strategic opportunities that arise.

Based on Model 2 results, HIGHESG as an independent show a statistically significant relationship with both Leverage (Lev) and Cash Holding. This suggests that firms with stronger ESG performance tend to be more conservative in their financing choices and prefer higher liquidity buffers. Interestingly HIGHESG also shows a negative and significant relationship with the leverage, this may be caused by reflection of high ESG firms benefitting from enhanced market confidence which as a result, they tend to have a greater access towards equity financing and less reliance on debt. as (Albuquerque et al., 2019) argues that ESG-oriented firms tend to be more resilient and gain greater trust from their stakeholders, this resulted in more flexibility in managing their capital structure. Firms with ESG focus are more likely to have efficient internal control and have a long-term strategic objective; to achieve it, they need financial flexibility. Lower leverage and higher cash holding, this is not a sign of inefficiency but as a strategic buffer to support future investments opportunities or to faced economic uncertainty. Therefore, ESG performance influences capital structure of company not only through risk mitigation but to the extent of strategic decision for a long-term value creation.

On Model 3, the regression result shows a significant and negative relationship of the interaction variables between GPR and HIGHESG (GPR × HIGHESG) on firm's financing decision. GPR × HIGHESG which evaluates the third and fourth hypothesis, reveals the findings of a significant interaction between the effect of leverage intake on the relationship between companies with higher GPR and ESG. This implies that firms with a strong ESG profile tends to decrease debt intake more than their peers during periods of high geopolitical tension (Alnafrah, 2024). Uniquely firms with high ESG scores, have a positive and significant relationship on firms cash holding indicates firm with focus on ESG tend to retain cash as a buffer to avoid costly external financing when uncertainty spikes this statement is align with (Zhang and Liu, 2022) statement, the result is also align with real option theory, which firms take a precautionary step to conserve cash and delay investment. (Aksoy-Hazır and Tan, 2023) also stated firms that expose to uncertainty prefer to hoard cash. This behavior indicates that the company is implementing a preventive

Table 8: Two-step system GMM

Variable	(1)	(2)	Variable	(3)	(4)
	Leverage	Leverage		Cash	Cash
L.Lev	0.8609***	0.8579***	L. Cash	0.7075***	0.7055***
	−0.029	−0.0293		−0.0722	−0.072
GPR	−0.0073***	−0.0005	GPR	0.0281***	0.0197***
	−0.0019	−0.0044		−0.0058	−0.0067
ESG		0.0001	ESG		0.000
		−0.0001			−0.0001
gpr×esg		−0.0002*	gpr×esg		0.0002**
		−0.0001			−0.0001
Size	0.0051***	0.0052***	Size	−0.0049***	−0.005***
	−0.0011	−0.0012		−0.001	−0.001
ROA	−0.2276***	−0.229***	ROA	0.0325**	0.0324**
	−0.017	−0.0169		−0.0141	−0.0141
Divdum	0.0147***	0.0144***	Divdum	−0.0094***	−0.0091***
	−0.0025	−0.0025		−0.0024	−0.0024
Market Book	0.0002	0.0002	Market Book	0.0019***	0.0019***
	−0.0003	−0.0003		−0.0005	−0.0005
Capex	0.198***	0.2004***	Capex	−0.1781***	−0.1802***
	−0.0182	−0.0184		−0.0179	−0.018
Lnage	−0.0054***	−0.0054***	Lnage	0.0009	0.0009
	−0.0008	−0.0008		−0.0008	−0.0008
Cons	−0.0719***	−0.0755***	Cons	0.1478***	0.1537***
	−0.016	−0.0174		−0.0297	−0.0308
Observations	13797	13797	Observations	13797	13797
AR (1) P-value	0.000	0.000	AR (1) P-value	0.000	0.000
AR (2) P-value	0.867	0.857	AR (2) P-value	0.888	0.888
Hansen test P-value	0.182	0.197	Hansen test P-value	0.820	0.936

Robust standard errors are in parentheses Robust standard errors are in parentheses. ***P<0.01, **P<0.05, *P<0.1 ***P<0.01, **P<0.05, *P<0.1

attitude to anticipate the impact of uncertainty that will occur in the future also supported. In addition, companies with a strong ESG profile usually prioritize the stability and sustainability of their company (Yuan et al., 2025) which can be indicated through the company's financial performance. So, companies tend to avoid risk in response to macroeconomic uncertainty or risk.

4.4. Robustness Checks

To overcome potential endogeneity that may arise from the bidirectional relationship between ESG and corporate financial performance, generalised method of moments (GMM) approach was used, which is an estimation technique developed by (Hansen, 1982) to overcome endogeneity and heteroscedasticity problems in regression models. The results shown in Table 8. This method is widely used in dynamic panel data models, especially when there are lagged dependent variables as predictors. In this study, a two-step system GMM as developed by (Blundell and Bond, 1998) is used, which combines information from difference and level models to improve estimation efficiency. GMM works by using an internal instrumental variable, namely the lag of the endogenous variable, which allows the estimation to remain consistent despite the correlation between the independent variable and the error term. The Hansen and Arellano-Bond (AR[2]) tests are then used to assess the validity of the instruments and test for possible autocorrelation. The results support that the model is free from over-identification and second-order autocorrelation issues.

On Table 8, the two-step system GMM estimation results show that geopolitical risk (GPR) has a significant impact on capital structure decisions and cash holdings of the firm. These results are robust with our main regression results reported in Table 7. Companies are indeed adjusting their debt intake and cash holding due to higher GPR (Column [1] and [3]). From the "GPR × HIGHESG" results, companies with high ESG scores are more aggressive in decreasing (increasing) their leverage (cash reserves) when facing geopolitical risks (Column [2] and [4]). These results supporting our hypothesis that companies with strong ESG commitments tend to be more cautious and have greater capacity to efficiently collect and store cash. (Jayakody et al., 2023) stated that firms located in countries with higher levels of corruption increase cash holdings more in response to increased political risk.

5. CONCLUSION

Our study examines how geopolitical risk and ESG performance influence corporate financial strategies, particularly in terms of leverage and cash reserves, using company data from 14 Asian countries for the period of 2016-2023. The findings of this study confirm that companies will adjust their financing decision in response to increased geopolitical risk. More specifically, this study found that geopolitical risk cause companies to reduce their use of debt as a form of risk management. Meanwhile, geopolitical risk trigger firms to hold more cash or increase their liquidity as a preventive measure in geopolitical conditions. Furthermore, we also find that ESG performance plays an important role. In this study, we utilize interaction variables between GPR and ESG to determine how the interaction between the two affects a company's financial strategy. The results indicate that companies with high ESG performance tend to reduce their debt levels and increase

more cash holding when facing high geopolitical conditions. This shows that companies with stronger ESG practices are more sensitive and responsive to geopolitical shocks.

Although this study provides a number of valuable findings, it still has several limitations that could be opportunities for further research. First, this study only used samples from 14 countries in Asia, so the results may not fully reflect conditions in other regions. Further research is recommended to expand the geographical coverage to other regions such as Africa, America, Europe, or the Middle East. Second, although this study covers various industrial sectors, the specific characteristics of each industry likely play a significant role in determining how companies respond to geopolitical risks. Therefore, future research could focus on analyzing specific industrial sectors to gain a deeper understanding of how these sectors respond to external influences.

Overall, this study makes several important contributions, both academically and practically. First, it provides a better understanding of how geopolitical risk can affect corporate financial strategies, particularly in terms of capital structure and cash reserves, using evidence from 14 Asian countries during the period 2016-2023. Second, this study also provides a deeper understanding of how ESG performance can influence corporate financial strategy management, with results showing that companies with strong ESG performance are more responsive to geopolitical risk conditions. Third, this study uses a two-step system GMM methodological approach that can provide better estimates and overcome endogeneity issues. Finally, the results of this study can provide insight for company managers and policymakers regarding the importance of ESG integration in financial decision-making amid geopolitical uncertainty.

For governments and regulators, the results of this study emphasize the importance of maintaining geopolitical stability and the importance of policies that encourage the implementation of ESG for companies to survive in the face of uncertainty. Strong and clear support from the government can help companies become more resilient and stronger in facing uncertainty. In addition, from a managerial perspective, the results of this study emphasize the importance of integrating ESG into corporate financial strategies. Managers need to recognize that ESG is important for the sustainability of the company, not simply as a requirement that must be complied with. ESG can serve as a strategy to mitigate and manage external risks while maintaining the company's financial stability amid uncertainty.

REFERENCES

Ahmed, S., Hasan, M.M., Kamal, M.R. (2023), Russia-Ukraine crisis: The effects on the European stock market. European Financial Management, 29(4), 1078-1118.

Aksoy-Hazır, Ç., Tan, O.F. (2023), The impact of geopolitical risk on cash holdings policy: Evidence from an emerging market. Managerial Finance, 49(9), 1400-1419.

Albuquerque, R., Koskinen, Y., Zhang, C. (2019), Corporate social responsibility and firm risk: Theory and empirical evidence. Management Science, 65(10), 4451-4469.

Alnafrah, I. (2024), ESG practices mitigating geopolitical risks: Implications for sustainable environmental management. Journal of Environmental Management, 358, 120923.

Benabou, R., Tirole, J. (2010), Individual and corporate social responsibility. Economica, 77(305), 1-19.

Blundell, R., Bond, S. (1998), Initial conditions and moment restrictions in dynamic panel data models. Journal of Econometrics, 87(1), 115-143.

Bouri, E., Hammoud, R., Kassm, C.A. (2023), The effect of oil implied volatility and geopolitical risk on GCC stock sectors under various market conditions. Energy Economics, 120, 106617.

Caldara, D., Iacoviello, M. (2018), Measuring geopolitical risk. International Finance Discussion Paper, 2018(1222), 1-66.

Caldara, D., Iacoviello, M., Kane, A., Cole-Smith, B., Singer, C., Markiewitz, E., Choudhary, F., Herman, J., Husted, L., Penn, M., Molligo, P., Conlisk, S., Dhin, T. (2022), Measuring geopolitical risk. American Economic Review, 2022(4), 1194-1225.

Carney, R.W., El Ghoul, S., Guedhami, O., Wang, H. (Helen), (2024), Geopolitical risk and the cost of capital in emerging economies. Emerging Markets Review, 61, 101149.

Cheng, B., Ioannou, I., Serafeim, G. (2014), Corporate social responsibility and access to finance. Strategic Management Journal, 35(1), 1-23.

Cho, J.H. (2024), The effect of geopolitical risk on corporate cash holdings: Evidence from Korea. Applied Economics Letters, 31(13), 1159-1165.

Clemente-Almendros, J.A., Sogorb-Mira, F. (2018), Costs of debt, tax benefits and a new measure of non-debt tax shields: Examining debt conservatism in Spanish listed firms. Revista de Contabilidad, 21(2), 162-175.

Dhaliwal, D.S., Li, O.Z., Tsang, A., Yang, Y.G. (2011), Voluntary nonfinancial disclosure and the cost of equity capital: The initiation of corporate social responsibility reporting. The Accounting Review, 86(1), 59-100.

Dieckelmann, D., Kaufmann, C., Larkou, C., McQuade, P., Pancaro, C., Rößler, D. (2024), Turbulent times: Geopolitical risk and its impact on euro area financial stability. Available from: https://www.ecb.europa.eu/press/financial-stability-publications/fsr/special/html/ecb.fsrart202405_01~4e4e30f01f.el.html?utm_source=chatgpt.com [Last accessed on 2025 Jun 29].

Dsouza, S., Krishnamoorthy, K., Kayani, U., Nawaz, F., Hasan, F. (2025), Sustainable investing: ESG effectiveness and market value in OECD regions. Cogent Economics and Finance, 13(1), 2445147.

Firmansyah, A., Fauzi, I., Rizal Yuniar, M. (2020), Biaya utang dari sudut pandang kebijakan dividen, volatilitas laba, dan kualitas akrual. Akurasi: Jurnal Studi Akuntansi Dan Keuangan, 3(2), 109-129.

Freeman, R.E.E., McVea, J. (2005), A stakeholder approach to strategic management. SSRN Electronic Journal. doi: 10.2139/SSRN.263511

Friede, G., Busch, T., Bassen, A. (2015), ESG and financial performance: Aggregated evidence from more than 2000 empirical studies. Journal of Sustainable Finance and Investment, 5(4), 210-233.

Ge, H.H., Zhang, X.X. (2025), From uncertainty to sustainability: How climate policy uncertainty shapes corporate ESG? International Review of Economics and Finance, 98, 104011.

Ghosh, S. (2022), The impact of economic uncertainty and financial stress on consumer confidence: The case of Japan. Journal of Asian Business and Economic Studies, 29(1), 50-65.

Hansen, L.P. (1982), Large sample properties of generalized method of moments estimators. Econometrica, 50(4), 1029.

Hasan, S.B., Alam, M.S., Paramati, S.R., Islam, M.S. (2022), Does firm-level political risk affect cash holdings? Review of Quantitative Finance and Accounting, 59(1), 311-337.

IMF. (2025), World Economic Outlook - Real GDP Growth. Available from: https://www.imf.org/external/datamapper/ngdp_rpch@weo/oemdc/advec/weoworld

Jafar, R., Basuki, Windijarto, Setiawan, R., Prabaswara, A. (2024), Does

environmental, social, and governance (ESG) disclosure matter for creditor? Empirical evidence from Indonesia. International Journal of Sustainable Development and Planning, 19(11), 4377-4387.

Jayakody, S., Morelli, D., Oberoi, J. (2023), Political uncertainty, corruption, and corporate cash holdings. Journal of Corporate Finance, 82, 102447.

Kim, B.J., Jung, J.Y., Cho, S.W. (2022), Can ESG mitigate the diversification discount in cross-border M&A? Borsa Istanbul Review, 22(3), 607-615.

Launa, L., Mudjiyanto, B. (2022), Membincang Risiko Dan Ketidakpastian (Sebuah Penjajakan Konseptual Studi Risiko Politik). Available from: https://pdfs.semanticscholar.org/c41e/2aee98e8455cc7b78618c35a099607ae4a54.pdf

Lestari, D., Meliana, V. (2018), Growth opportunities and leverage. Optimum: Jurnal Ekonomi Dan Pembangunan, 8(2), 159-174.

Nareswari, N., Tarczynska-Luniewska, M., Al Hashfi, R.U. (2023), Analysis of environmental, social, and governance performance in Indonesia: Role of ESG on corporate performance. Procedia Computer Science, 225, 1748-1756.

Papavassiliou, V.G. (2025), On the relationship between geopolitical risks and euro area sovereign bond yields. Finance Research Letters, 75, 106877.

Parihar, A.S., Gupta, G.C. (2024), Examine how Political and Economic Uncertainty Influences Stock Market Volatility and Investor Behaviour. Available from: https://www.researchgate.net/publication/381045586_Examine_how_political_and_economic_uncertainty_influences_stock_market_volatility_and_investor_behaviour [Last accessed on 2025 Jun 09].

Pong, H.K., Man, F.L.C. (2024), The influence of environmental, social, and governance (ESG) perception on investor trust and brand relationship quality: A study among retail investors in Hong Kong. Journal of Risk and Financial Management, 17(10), 455.

Pulino, S.C., Ciaburri, M., Magnanelli, B.S., Nasta, L. (2022), Does ESG disclosure influence firm performance? Sustainability, 14(13), 7595.

Ra, Y. (2024), Why companies have low debt? An empirical evidence in Korea. Heliyon, 10(13), e32956.

Reyad, H.M., Ayesha, M., Iqbal, M.M., Zariyawati, M.A. (2024), The role of ESG in enhancing firm resilience to geopolitical risks: An eastern European perspective. Business Strategy and Development, 7(4), e70027.

Su, C.W., Wang, D., Mirza, N., Zhong, Y., Umar, M. (2023), The impact of consumer confidence on oil prices. Energy Economics, 124, 106820.

Triki, M.B., Ben Maatoug, A. (2021), The GOLD market as a safe haven against the stock market uncertainty: Evidence from geopolitical risk. Resources Policy, 70, 101872.

UNCTAD. (n.d.), Developing Asia: Large Jump in Greenfield Investment in 2023. UN Trade and Development (UNCTAD). Available from: https://unctad.org/press-material/developing-asia-large-jump-greenfield-investment-2023?utm [Last accessed on 2025 Jun 09].

Xu, Z. (2020), Economic policy uncertainty, cost of capital, and corporate innovation. Journal of Banking and Finance, 111, 105698.

Yuan, L., Nor, M.N.M., Kadir, D.A. (2025), Green cash flow: How ESG performance shapes corporate cash holding strategies. Frontiers in Sustainability, 6, 1531206.

Zhang, D., Liu, L. (2022), Does ESG performance enhance financial flexibility? Evidence from China. Sustainability, 14(18), 1324.