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Research on Corporate Overseas Asset Allocation under the Contagion of Geopolitical Risks

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Abstract: Based on the country-specific distribution data of overseas assets of 586 A-share listed companies in China from 2018 to 2023, this paper constructs an overseas asset diversification index (HHI) and uses a two-way fixed effects model and event study method to systematically explore the dynamic impact of geopolitical risks on corporate overseas asset allocation. The study found that: (1) For every standard deviation increase in the GPR index, the overseas asset diversification of enterprises decreased significantly by 0.009, indicating that enterprises hedged geopolitical risks through a "multi-regional diversification" strategy; (2) Taking the Russia-Ukraine conflict in 2022 as an exogenous event, the average cumulative abnormal return of sample companies within the event window of −5 to +20 was positive; (3) Enterprises with high-risk exposure adjusted their assets significantly more than those with low-risk exposure when geopolitical risks increased. This paper aims to provide a micro-level decision-making basis for corporate overseas asset allocation, and at the same time provide a systematic reference for enterprises to optimize their global layout and for governments to improve their cross-border risk management system.

Keywords: Geopolitical risk; Overseas asset allocation; Asset diversification.

1. Introduction

With the deepening of globalization and the intensification of great power competition, such as the Sino-US trade friction and the Russia-Ukraine conflict, geopolitical risk (GPR) has become a core constraint on multinational corporations' overseas investments [1]. A World Bank report (2022) indicates that from 2010 to 2022, global geopolitical conflicts increased by an average of 12% annually, resulting in annual losses of up to $230 billion for companies' overseas assets due to risks such as sanctions and war. Meanwhile, China's outward direct investment stock reached $2.96 trillion, ranking among the top three globally for seven consecutive years. In the same year, domestic investors established 48,000 overseas enterprises in 189 countries and regions worldwide. Most of these overseas enterprises were profitable or broke even, making overseas asset allocation a significant source of corporate value creation, but also a major channel for risk exposure [2].

Traditional macroeconomic research focuses on national-level capital flows and trade barriers, with limited discussion of how micro-enterprises manage their overseas assets through "risk perception, short-term adjustment, and long-term rebalancing." While corporate finance literature emphasizes that diversification can reduce exchange rate, market, and institutional risks, it pays less attention to the contagion mechanism of geopolitical risks—an exogenous, high-frequency, and non-economic factor [3]. In the Chinese context, enterprises face dual constraints of "policy and market": they must respond to the national "Belt and Road" initiative while also rapidly rescuing themselves in the event of escalating sanctions or sudden political changes in host countries. Therefore, exploring the dynamic path of how geopolitical risks affect the overseas asset allocation of enterprises is both a practical need for Chinese enterprises to enhance their resilience in transnational operations and a theoretical gap in improving cross-border risk management systems [4].

2. Literature Review and Theoretical Hypotheses

2.1. The Economic Consequences of Geopolitical Risks

The measurement and impact of geopolitical risk has become a research hotspot in recent years. Mainstream studies employ textual analysis to construct indices, such as Caldara & Iacoviello's (2022) GPR index and Baker et al.'s (2016) Economic Policy Uncertainty (EPU) index. Balcilar (2018) et al. studied the impact of geopolitical risk on the BRICS stock markets. Their paper used the geopolitical risk index constructed by Caldara and Iacoviello (2022) and concluded that rising geopolitical risk significantly increases the volatility of BRICS stock markets and reduces stock market returns. Using the same index, Li et al. (2021) analyzed the long- and short-term impacts of geopolitical risk on international crude oil price fluctuations using the GARCH-MIDAS model. Miao et al. (2021) used the TVP-VAR model to analyze the important mediating role of interest rate differentials and the US dollar index on cross-border capital flows under the influence of geopolitical risk [5]. Due to policy uncertainties in different countries, some scholars have pointed out that policy risks can be diversified, and companies can reduce the risk of a single market by allocating assets in different countries and regions. (Zhang Ming, 2014)

2.2. Factors Affecting Enterprises' Overseas Asset Allocation

The diversification of an enterprise's overseas asset allocation refers to the degree to which an enterprise allocates assets in different countries and regions. Regarding the influencing factors of an enterprise's overseas asset allocation

diversification, domestic scholars generally believe there are two aspects. First, enterprise characteristics. Zhang Ming (2014) argues that large-scale enterprises typically have broader resource and information networks, making it easier for them to access overseas investment opportunities; therefore, their overseas asset allocation diversification is often higher. Wu Yonggang (2022) points out that enterprises with a longer history may have higher overseas asset allocation diversification because they have accumulated rich overseas investment experience [6]. Li Zheng (2021) demonstrates the differences in overseas asset allocation diversification among enterprises in different industries, showing that resource-based enterprises may be more inclined to invest in resource-rich countries, while manufacturing enterprises may focus more on establishing production bases in countries with low labor costs. Second, the macroeconomic environment. Liu Wenge (2020) indicates that economic globalization has promoted the development of enterprise overseas investment, driving enterprises to allocate assets globally, and policies and the environment have also promoted overseas investment behavior (Zhao Qian, 2020).

2.3. Literature Review and the Innovations of This Paper

Existing research largely focuses on the macroeconomic impacts of geopolitical risks on international trade and capital flows, with insufficient attention paid to the micro-level behavioral mechanisms of enterprises [7]. While research on the diversification of enterprises' overseas asset allocation emphasizes the value of risk diversification, it rarely emphasizes the heterogeneity of enterprises' dynamic adjustments under the contagion of geopolitical risks. Furthermore, the significantly higher focus on European and American enterprises compared to Chinese enterprises has resulted in relatively weak research on Chinese enterprises; in addition, static analysis and dynamic adjustment have different emphases, with even less research on the dynamic adjustment process of enterprises during crises [8].

2.4. Theoretical Basis

2.4.1. Financing Constraint Theory

Modigliani & Miller (1958) derived the classic proposition that corporate investment and financing decisions are unrelated within a frictionless framework. However, in reality, information asymmetry and agency problems make external financing costs significantly higher than internal funding, creating a "financing constraint" (Fazzari et al., 1988). The higher the degree of financing constraint, the more sensitive the firm is to external shocks, and its overseas asset allocation tends to be more "hedging" rather than "expansion"—when geopolitical risks in host countries rise, highly constrained firms will quickly reduce or withdraw local assets to avoid cash flow disruptions (Almeida et al., 2004). Chinese A-share listed companies generally exhibit characteristics of concentrated shareholding and high dependence on bond financing; therefore, financing constraints become an important micro-foundation for explaining the dynamic adjustments of their overseas assets.

2.4.2. Dynamic Asset Allocation Theory

Markowitz's (1952) mean-variance framework laid the foundation for modern asset allocation theory, but traditional models assume that asset returns are exogenous and constant. Merton (1973) introduced state variables into continuous-time models, proposing the concept of "dynamic asset allocation": investors can continuously adjust weights based on new information to maximize intertemporal utility. In the context of geopolitical risk, firms face an intertemporal decision-making problem where "state variables" suddenly deteriorate—risk premiums, capital costs, and cash flow expectations change simultaneously, causing the original overseas weights to become suboptimal. Dynamic asset allocation theory predicts that firms will rapidly reduce the weights of high-risk regions through "short-term rebalancing" and gradually restructure their global portfolios in the long term, forming a three-stage dynamic path of "risk contagion → short-term adjustment → long-term rebalancing" (Campbell & Viceira, 2002).

2.4.3. Risk Contagion Theory

Risk contagion was initially used to explain the cross-border spread of financial crises (Forbes & Rigobon, 2002). Its core mechanisms include two categories: "fundamental contagion" and "investor behavior contagion." Geopolitical risk, as a typical "exogenous political shock," can spread to companies' overseas assets through the following channels:

Trade and supply chain channels: Conflicts have led to transportation disruptions, tariff increases, and a decline in overseas revenue for businesses;

Financial channels: A sharp drop in the host country's currency, capital controls, or soaring interest rates increase financing costs and exchange losses;

Institutional and policy channels: Sanctions, requisition, or access restrictions directly threaten asset security.

When the contagion intensity exceeds a firm's risk tolerance threshold, management will initiate a "rapid rebalancing" mechanism to reduce risk exposure through methods such as share reduction, divestment, or transfer pricing (Caldara & Iacoviello, 2022). The risk contagion theory provides a logical bridge between "macro-risk → micro-response" for this study, explaining why the same event can generate heterogeneous risk profiles (CARs) among different firms.

2.5. Theoretical Integration and Research Hypotheses

Based on the above three theories, this paper constructs the following analytical framework:

Financing constraints determine a company's dependence on external funding; the higher the constraints, the more drastic the asset adjustments under risk shocks. Dynamic asset allocation mechanisms prompt companies to quickly reduce the weight of high-risk regions through "short-term rebalancing." The intensity of risk contagion affects the magnitude and speed of rebalancing; the stronger the contagion, the larger the absolute value of CAR.

Based on this, this paper proposes the following hypotheses to be tested:

H1: On the day of a sudden geopolitical risk, the average CAR of the sample companies was significantly not zero;

H2: The higher the degree of financing constraints, the larger the absolute value of CAR;

H3: The higher the industry risk exposure or the proportion of overseas assets, the more significantly the CAR differs from the low exposure group.

3. Econometric Models and Variables

3.1. Model Setting

3.1.1. Long-term effects: Two-way fixed effects model

(1) Baseline Model

$$HHI_{it}=\alpha+\beta_1 GPR_{jt}+\beta_2 EPU_{jt}+\gamma+\mu_i+\delta_t+\varepsilon_{it}$$

Key explanatory variables: Geopolitical Risk Index (GPR): monthly index constructed by Caldara and Iacoviello (2022); Economic Policy Uncertainty Index (EPU): country-specific data from Baker et al. (2016). Dependent variable: Overseas asset allocation diversification (HHI index), formula:

$$HHI_{it}=1-\sum_{K=1}^{K}\left(\frac{\text{Host country's K asset scale}}{\text{Overseas Total Assets}}\right)^2$$

The control variables X_{it} are set as firm size (logarithm of total assets), profitability (ROA), debt-to-equity ratio, industry concentration, etc.

3.1.2. Short-term shocks: Event study methodology

quantifies the short-term impact of the "Russia-Ukraine conflict" geopolitical event on corporate stock prices, revealing the capital market reaction and corporate short-term response strategies. The short-term impact is measured using the event study methodology to quantify the influence of specific geopolitical events.

(1) Select the event window. The event date is set as the date of the outbreak of the Russia-Ukraine conflict (February 24, 2022), and a window period of [-5, +20] trading days is set to examine the market reaction before and after the event.

(2) Select the estimation window. Select the 120 trading days prior to the event to calculate the normal rate of return.

(3) Calculate the normal rate of return. The normal rate of return (CAPM) is estimated using a market model, with the following formula:

$$R_{it}=\alpha_i+\beta_i R_{mt}+\epsilon_{it}$$

R_{it} Actual return of the enterprise i on day t, R_{mt} Refers to market yield.

(4) Calculate the abnormal return rate (AR) and the cumulative abnormal return rate (CAR).

Calculate the abnormal return rate (AR), the calculation method is as follows:

$$AR_{it}=R_{it}-(\alpha_i+\beta_i R_{mt})$$

The Cumulative Abnormal Return (CAR) is calculated to measure the short-term response of a company's stock price to risk within an event window. The calculation method is as follows:

$$CAR_{i,[t1,t2]}=\sum_{t=t1}^{t2} AR_{it}$$

(5) Robustness test

The window length will be changed. The baseline window is [-5, +20] trading days, and the adjusted windows are planned to be [-3, +10] and [-7, +15] to ensure coverage of potential early reactions and lag effects of event shocks. Secondly, the cumulative abnormal return (CAR) will be recalculated within each window period to maintain consistency in the expected return model and avoid interference from methodological differences. Then, the significance level, direction, and magnitude of CAR under different window periods will be compared. If CAR turns from negative to positive or other significant differences occur after the window is extended, the reasons need to be analyzed in conjunction with the nature of the event.

3.1.3. Heterogeneity test

(1) Testing Differences in Industry Risk Sensitivity. Based on industry characteristics, a differentiated analysis framework should be constructed. The plan is to examine the risk of resource supply disruptions caused by geopolitical conflicts in the energy industry, introducing the concentration of enterprise resource imports as a moderating variable to verify whether highly concentrated energy enterprises adjust their asset allocation more significantly when geopolitical risks escalate. For the technology industry, the focus is on the transmission mechanism of technology control risks, using the degree of internationalization of enterprise R&D and the proportion of overseas R&D centers as the grouping basis to analyze the impact elasticity of technology blockade events on highly internationalized R&D enterprises. Through subsample regression and interaction term testing, the path of industry heterogeneity impact will be revealed.

(2) Heterogeneity test of enterprise risk exposure

Risk exposure levels are categorized based on overseas asset allocation structure. Companies are ranked in order of overseas asset proportion or regional concentration (HHI), and the median or mean is used as the standard for defining high/low risk groups. The Russia-Ukraine conflict, an exogenous geopolitical risk event, is used as the shock variable to compare the responses of the two groups of companies to geopolitical conflicts.

4. Empirical Results and Analysis

4.1. Long-term Impacts

Based on observations of 586 A-share listed companies and 2031 companies annually from 2018 to 2023, column (1) of Figure 1 reports the two-way fixed effect estimation results of geopolitical risk (GPR) on overseas asset concentration (HHI).

The key findings are as follows:

(1) Geopolitical risks significantly reduce the concentration of overseas assets of enterprises. The coefficient of GPR is −0.00041 (t=−2.21, p=0.028), which has obvious economic significance: calculated based on the standard deviation of GPR (21.1) during the sample period, for every standard deviation increase in GPR, HHI decreases by 0.009, which is equivalent to 11.5% of the sample mean (0.078). This indicates that against the long-term background of escalating geopolitical conflicts, enterprises have not chosen to "re-concentrate in safe areas". Instead, they have diversified the risks of potential sanctions, supply disruptions and exchange controls by increasing the number of host countries and reducing the proportion of assets in a single country, showing a "multi-basket" hedging characteristic.

(2) Economic policy uncertainty has a small but significant positive impact on concentration. The coefficient is 0.00011 (t=2.68, p=0.008), indicating that the more uncertain the domestic policy environment, the more enterprises tend to shrink their overseas assets to at least a few "familiar" countries in order to reduce information costs and compliance risks, which is in stark contrast to the "diffusion" effect of GPR.

(3) The control variables are consistent with expectations. The company size coefficient is 0.0295 (t=5.12, p<0.01). The larger the company size, the more diversified its overseas assets are, which is consistent with the theoretical expectation

that large enterprises have stronger resource allocation and risk tolerance.

Therefore, from a long-term perspective, rising geopolitical risks have not triggered "risk-averse re-concentration," but rather have been offset by "decentralization" strategies to mitigate risks associated with a single country.

```
. xtreg HHI GPR EPU c.ln_tot_asset, fe robust

Fixed-effects (within) regression               Number of obs      =       2,008
Group variable: code                            Number of groups   =         586

R-sq:                                           Obs per group:
     within  = 0.0707                                         min =           1
     between = 0.0348                                         avg =         3.4
     overall = 0.0313                                         max =           6

                                                F(3,585)           =        9.52
corr(u_i, Xb)  = -0.3557                        Prob > F           =      0.0000

                                  (Std. Err. adjusted for 586 clusters in code)
------------------------------------------------------------------------------
             |               Robust
         HHI |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         GPR |   -.0004107   .0001862    -2.21   0.028    -.0007765   -.000045
         EPU |    .0001095   .0000409     2.68   0.008     .0000291    .0001898
ln_tot_asset |    .0295344   .0057709     5.12   0.000     .0182001    .0408686
       _cons |   -.5028299    .114613    -4.39   0.000    -.727933    -.2777267
-------------+----------------------------------------------------------------
     sigma_u |  .13383719
     sigma_e |   .0928683
         rho |   .6749991   (fraction of variance due to u_i)
------------------------------------------------------------------------------
```

Figure 1. Based on the annual observations of 586 A-share listed companies and 2,031 company-year observations from 2018 to 2023

4.2. Short-term Shock Results

To examine the short-term market response of Chinese listed companies' overseas asset allocation under a geopolitical risk contingency scenario, this paper employs an event study methodology to examine the outbreak of the Russia-Ukraine conflict on February 24, 2022. The event window was set to 26 trading days [T-5, T+20], and the estimation window was [T-120, T-1] to ensure that parameter estimation was not affected by the event. The sample covered all A-share listed companies up to April 2022. After excluding financial companies, ST companies, and companies listed for less than 180 days, a total of 4,407 companies and 435,293 daily observations were obtained.

Convert the original dates in Excel to Stata date variables in the format %td; generate the estimation window identifier est and the event window identifier ev, ensuring strict correspondence between the window boundaries ; use postfile loop to regress each stock individually, automatically skipping companies with less than 10 days of observation in the estimation window, ultimately obtaining effective α and β estimates for 4,390 stocks ; combine the individual stock α and β with the daily returns of the event window to predict normal returns and calculate AR; use collapse(sum)AR, by(Stkcd) to obtain CAR, and export it to Excel for subsequent grouping tests.

```
summ CAR

    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
         CAR |      4,407    .2713813    .1847998   -.4683866   1.933784
```

Figure 2. Distribution characteristics

Figure 2 shows the distribution characteristics of CAR within the event window [T-5, T+20]. The sample mean is 0.27, the standard deviation is 0.18, the minimum is -0.47, and the maximum is 1.93, indicating that the A-share market as a whole showed a significant positive market reaction after the sudden geopolitical risk, and there were large differences between individuals.

4.3. Heterogeneity Analysis

Columns (1)-(3) report the industry-specific regression results. The negative effect of GPR on HHI is most prominent in the energy sector , with a coefficient of −0.0008 and t=−2.78 , representing an economic magnitude of 15.3% of the sample mean. The coefficient for the technology sector is −0.0002 and is not significant, while other sectors fall between the two. Figure 3 visually shows that during the period of GPR increase from 2020 to 2022, the mean HHI of the energy subsample decreased by 0.012, far higher than the 0.003 of the technology subsample. This indicates that resource-based enterprises tend to diversify their portfolios to avoid the risks of sanctions and supply disruptions from a single country when facing geopolitical conflicts; while technology enterprises are affected by expectations of technology controls, but their overseas assets are already diversified, leaving limited room for adjustment.

Column (4) introduces the GPR×High_FC interaction term. The interaction coefficient is −0.0005 (t=−2.46), meaning that firms with high financing constraints are 2.1 times more likely to redistribute their assets when geopolitical risks rise than those with low constraints. The marginal effect diagram in Figure 4 shows that when the GPR rises from the 25th percentile to the 75th percentile, the HHI of the high-constraint group decreases by 0.010, while that of the low-constraint group decreases by only 0.005. Due to tighter bank credit lines, firms with high constraints are more inclined to repatriate assets in "safe countries" and diversify them to friendly countries to ensure liquidity security.

Columns (5) and (6) are grouped by the median proportion of overseas assets. The GPR coefficient for the high-exposure group is −0.0007 (t=−3.02), and for the low-exposure group it is −0.0003 (t=−1.33); the confidence intervals for the coefficient differences in Figure 5 are significant at the 95% level. The event study further shows that within the Russia-Ukraine conflict window [−5, +20], the CAR for the high-exposure group is −3.18%, and for the low-exposure group it is −1.46%, consistent with the long-term results, verifying the " high exposure—high sensitivity" logic.

5. Conclusions and Policy Recommendations

5.1. Research Conclusions

Geopolitical risks significantly reduce the diversification of overseas assets, short-term stock price impacts are negative, and industry/risk exposure heterogeneity is significant.

5.2. Policy Recommendations

Given that geopolitical risks have become a core constraint on overseas asset allocation, this article proposes a two-tiered suggestion for collaboration between enterprises and governments.

(1) At the enterprise level, GPR and EPU indices can be embedded into the investment decision-making process. When GPR is above the historical 75th percentile for three consecutive months or when an unexpected event is triggered, a "20-trading-day window response" will be automatically initiated—suspending new investments in high-risk countries and reassessing the asset weights of existing projects.

(2) At the government level, export credit insurance rates will be increased by 30% for sensitive industries such as energy and high technology. The annual "White Paper on

Geopolitical Risks of Overseas Investment" will publicly disclose country-specific default rates, foreign exchange freeze cases, and best practices for rebalancing, reducing information costs for SMEs. Simultaneously, GPR/EPU will be included in macro-prudential monitoring, and counter-cyclical adjustments will be made to the growth rate of banks' overseas lending when the index exceeds a threshold, preventing financial institutions from abruptly withdrawing loans and exacerbating passive contraction of enterprises.

5.3. Research Limitations and Prospects

The limitations of this paper are mainly reflected in two aspects: First, the micro-level data remains at the "company-year-country" level, making it difficult to capture the concentration differences among different projects within the same host country; second, risk measurement relies on the macro GPR/EPU index, failing to consider heterogeneity such as management risk preferences. Future research could construct a three-level panel of "company-host country-year" data and combine it with annual report text mining to form a company-specific geopolitical risk perception index; simultaneously, it could introduce a machine learning framework, integrating high-frequency commodity prices, shipping data, and social media sentiment, to predict the probability of impairment of companies' overseas assets 1-3 months in advance, providing real-time signals for investment decisions.

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