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Impact of Geopolitical Risks on Equity Returns

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ABSTRACT
This study analyzes the effects of local and global geopolitical risks (GPR) on real equity returns. Using a panel and country-specific local projections (LP) model, we analyze the impact of local and global GPR shocks, where the latter is further decomposed into aggregate risks, threats, and actions. Our findings reveal that both local and global GPR shocks negatively impact real equity returns at the onset, with global shocks generally exerting a stronger influence. While threats tend to have a more pronounced negative effect compared to actions, we observe heterogeneous responses on financial markets to different types of geopolitical risks, we find that actions have greater potency in economies exposed to higher levels of local GPR due to recurring conflicts and geopolitical tensions.

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Highlights

- We assess local and global GPR shocks on equity returns via panel and country LP models.
- Panel model reveals global and local GPR shocks contemporaneously reduce equity returns.
- Panel models shows global GPR threats elicit a more pronounced negative reaction vs. actions.
- Global GPR shocks exhibit a stronger impact than local GPR shocks across most countries.
- While global GPR threats are found to be more harmful on equity returns, actions have greater potency especially in countries exposed to persistent GPR.

1. Introduction

Geopolitical risk (GPR) has again emerged as a pivotal force shaping global financial markets after a period of relative dormancy. Geopolitical risk (GPR) – encompassing political instability, military conflicts, terrorism, and uncertainty about international relations – has become an increasingly central force shaping global financial markets. Events such as trade

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wars, territorial disputes, and heightened diplomatic tensions can disrupt investor confidence, influence capital flows, and depress equity valuations. In this paper, we investigate how different categories of GPR affect real equity returns across twenty-one economies, covering approximately 82.9% of global output (based on 2022 IMF data). Using monthly data from 1999 to 2023, we present new evidence on the dynamic effects of both local and global GPR shocks on equity markets, where we further decompose the latter into threats and actions that affect the response of the equity market.

Our key empirical findings are fourfold:

- Global and local GPR shocks both reduce equity returns contemporaneously, with global shocks generally exerting a stronger effect.
- Threats tend to elicit a more prolonged and negative equity market response than actions.
- The impact of GPR shocks varies across economies, with some countries exhibiting heightened sensitivity to global events due to greater geopolitical exposure.
- In markets persistently exposed to geopolitical tensions, actions can have more potent effects than threats.

These findings contribute to a sparse, albeit burgeoning literature on the economic consequences of geopolitical uncertainty. While existing research confirms that GPR can significantly affect asset prices and macroeconomic indicators, most studies tend to focus narrowly on individual asset classes, single-country settings, or aggregate measures of geopolitical risk. For instance, Salisu et al. (2022) and Bouoiyour et al. (2019) examine the effects of GPR on oil and commodity markets, finding that threats are typically more disruptive than realized actions. Similarly, Kamal and Wahlstrøm (2023) reports that cryptocurrencies exhibit stronger responses to GPR actions than threats, highlighting the asset-specific nature of GPR sensitivity. Smales (2021) observes asymmetric impacts of GPR on the U.S. market, with oil prices rising and the S&P 500 falling during periods of heightened geopolitical tension. Yet much of this literature treats GPR as a global phenomenon, often ignoring the potential heterogeneity between local and global events, or between threats and realized actions.

We aim to bridge this gap through three main innovations. First, we apply a panel data framework to jointly estimate the impact of local and global GPR shocks on real equity returns across a broad cross-section of countries. This allows us to capture both within-country variation and cross-country heterogeneity in market responses. Second, we disaggregate GPR into distinct categories – local GPR, global GPR, global threats, and global actions – enabling a comprehensive analysis of how different types of risk influence financial markets. Third, we use an extensive dataset to control for key macroeconomic conditions (including real output growth, inflation and interest rates) to isolate the effect of GPR shocks in driving equity returns over a long period, including the recent post-pandemic period marked by elevated GPR.

Our framework builds on the existing research linking uncertainty to asset pricing. Pastor and Veronesi (2012) propose that political and regulatory uncertainty increases risk premiums and volatility by altering investors' expectations and delaying investment decisions. Likewise, the real options literature suggests that uncertainty raises the option value of waiting, leading firms and investors to postpone decisions during turbulent periods (Bernanke, 1983; Bloom, 2009). Empirically, Ginn (2023a) finds that elevated economic policy uncertainty (EPU) is associated with declining stock indices, particularly when uncertainty leads economic agents to adopt a 'wait-and-see' stance. These effects may be magnified in non-expansionary economic states.

Recent work by Caldara and Iacoviello (2022) underscores the importance of distinguishing between threats and actions: while geopolitical actions tend to raise uncertainty briefly and modestly, threats generate more persistent uncertainty and induce a larger decline in real activity. Their findings support models in which agents form expectations under ambiguity or worst-case scenarios, as in Ilut and Schneider (2014) and Kozlowski et al. (2019). These insights show that markets may respond more strongly to threats than to actions – investors may perceive threats as signals of escalating conflict or policy shifts with unknown consequences.

Despite growing recognition of GPR's macro-financial relevance by institutions like the ECB and IMF,[1] empirical work remains limited in its cross-national scope. Our paper addresses this gap by providing a unified, comparative framework that accounts for both global and local geopolitical risks and examines their effects across different economies. In doing so, we contribute new evidence on the interaction between geopolitical tensions and financial markets and offer policy-relevant insights for policymakers, investors and informing the general public. The prior research typically focuses on one asset class or region. For instance, Salisu et al. (2022) and Bouoiyour et al. (2019) examine GPR's effects on oil and commodity markets, while Kamal and Wahlstrøm (2023) focuses on response of cryptocurrencies to threats and actions using an event study analysis of the Russia–Ukraine War in 2022. Yilmazkuday (2024) provides a comprehensive analysis at the country level in terms of the reaction to global GPR, GPR threats and GPR acts. Our study integrates these perspectives into a unified, cross-country framework that includes both country-specific models and panel models with a specific focus on how local and global GPR, where the latter is into threats and actions that affect the response of equity returns.

The remainder of the paper is organized as follows. Section 1 describes the data and variable construction. Section 2 presents the empirical methodology and main results. Section 5 concludes.

2. Data

We use monthly data that cover January 1999 to December 2023 to include industrial production, consumer price index (CPI), short-term interest rate, equity price and GPR for

[1] See, for instance, the ECB Economic Bulletin (Issue 1, 2024) and the IMF World Economic Outlook (October 2023), which both cite geopolitical tensions and fragmentation as major threats to stability.

Table 1. Variable selection.

Item	Symbol	Source	Description
Output	$\ln Y_{i,t}$	OECD/FRED	Industrial Production
Aggregate CPI	$\ln P_{i,t}$	OECD	CPI: all items
Equity Price	$\ln P^{E}_{i,t}$	OECD	Real local currency equity price (Baseline)
Interest Rate	$R_{i,t}$	OECD/FRED	Short-term interest rate
Geopolitical Risk	$GPR_{i,t}$	NY Federal Reserve	Geopolitical risk
Global Financial Crisis	δ^{GFC}_{t}	NBER	GFC dummy variable
Infectious Disease	$COVID_t$	FRED	U.S. Infectious diseases equity volatility tracker

twenty-one economies[2] representing 82.9%[3] of global output. We also include a global financial crisis (GFC) variable[4] and the U.S. Federal Reserve Infectious Diseases Equity Market Volatility Tracker (Baker et al., 2019) to capture the persistent effects of COVID-19 and its aftermath.[5]

All variables are converted to logarithm and, where appropriate, seasonally adjusted via ARIMA X-12 algorithm from the U.S. Census Bureau except the interest rate, GFC and pandemic data (see Table 1).

The GPR data is obtained from Caldara and Iacoviello (2022). In the analysis, we include local and global GPR, where the latter is further decomposed into aggregate, threats and actions. GPR is a text-based measure that captures the frequency of newspaper articles referencing geopolitical tensions, including threats of war, terrorist acts, and actual military engagements. The index is constructed using automated keyword searches across major international newspapers, and it reflects both the intensity and nature of geopolitical risk in a given month. GPR threats encompass verbal escalations or political signaling that indicate potential conflict but do not involve physical engagement – such as diplomatic ultimatums or military posturing. GPR actions, in contrast, represent realized events, such as armed conflicts, bombings, or troop deployments.

Figure 1 plots the decomposed global GPR data, which were elevated during the September 11 terrorist attacks in 2001, the onset of the Iraq War in 2003, the beginning of the Russian–Ukrainian conflict in 2022 and Israel-Hamas Gaza War starting in 2023. While the GPR data do not include a measure for the Euro area, we follow Ginn and Saadaoui (2025b) to construct a Euro area GPR index based on sampled economies within the Euro area using a nominal GDP weighted index.[6] We plot the individual economies of the Euro

[2] Our choice for selecting the economies is based on maximizing the number of countries based on data availability. The 39 countries include: Brazil (BRA), Switzerland (CHE), Chile (CHL), Canada (CAN), China (CHN), Columbia (COL), Czech Republic (CZE), Euro zone (19 countries; EUR), United Kingdom (GBR), Hungary (HUN), Ireland (IRL), India (IND), Israel (ISR), Japan (JPN), Mexico (MEX), South Korea (KOR), Poland (POL), Russia (RUS), Sweden (SWE), Turkey (TUR) and the United States (USA).

[3] Based on IMF data using 2022 data, see https://www.imf.org/external/datamapper/NGDPD@WEO/EURO/USA/CAN/CHN/CHL/IND/KOR/BRA/WEOWORLD/COL/GBR/JPN/RUS/SWE/ISR/MEX/NOR/POL/TUR/HUN/CHE/DNK.

[4] The GFC dummy variable set to 1 between 2007:Q4 to 2009:Q2, consistent with the NBER recession dates for the U.S.

[5] COVID-19 emerged as a pandemic in December 2019 and quickly spread across the world, with far-reaching consequences including higher deaths, stagnation of economic growth and elevated uncertainty, which resulted in lock-downs and other precautions to reduce the spread of the virus. U.S. Infectious Diseases Equity Market Volatility Tracker is included as a way to capture the prolific and persistent influence that COVID-19 has had on the economic conditions (Dufrénot et al., 2024).

[6] The Euro area GPR indicator includes the GPR indices of Belgium, Finland, France, Germany, Italy, the Netherlands, Portugal, and Spain. The weight of each economy in the index is derived from its economic size (proxied using nominal GDP data). We then apply the weights to each of the respective global indicators in the respective month, considering that the data are monthly.

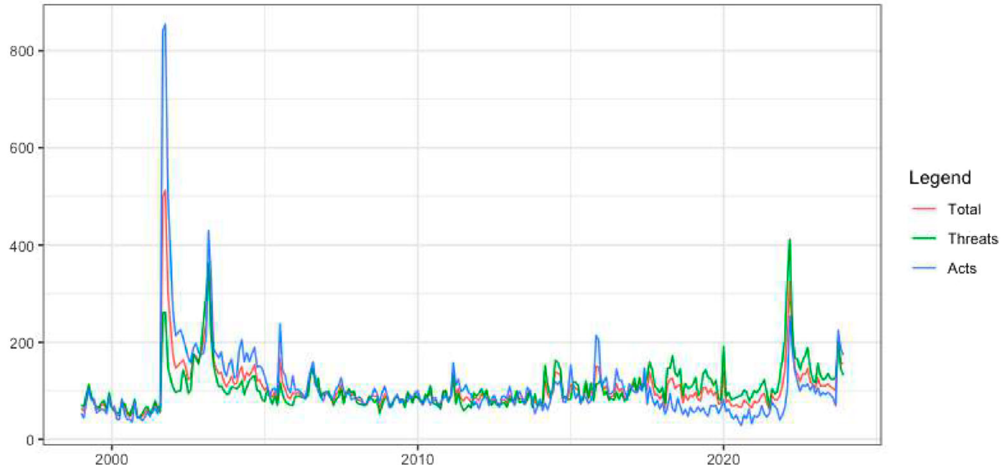


Figure 1. Global GPR (decomposed by total, threats, actions).

area and the constructed Euro GPR index in Figure A.1. To assess the validity of using GPR shocks as exogenous innovations in our empirical analysis, we conduct Ljung-Box tests to examine the presence of serial correlation in both local and global GPR shocks in Section Appendix C in Table C.1. These tests are performed separately by country and by shock type (i.e. global, events, acts). The results indicate that the shocks exhibit statistically significant autocorrelation.

Growth variables are defined as month-on-month. To enrich the empirical analysis, we also consider two additional measures of real local currency equity returns (used in the baseline model) to include nominal local currency equity returns and real international currency (USD) returns.[7] Figure 2 plots the international data. We provide descriptive statistics of the data in the Appendix (Figure B.2 plots the mean and standard deviation for each of the sampled countries). Output growth and equity returns exhibit pronounced volatility during systemic crises, most notably the Global Financial Crisis (2008–2009) and the COVID-19 pandemic (2020), both of which triggered sharp contractions followed by partial recoveries. Inflation remained subdued for much of the sample period, with a notable acceleration in 2021–2022 linked to pandemic-related supply chain disruptions (e.g. Asadollah et al., 2024; Ascari et al., 2024; Diaz et al., 2023; Ginn, 2024; Ginn & Saadaoui, 2025a). GPR display episodic spikes around major global events, with an upward shift in baseline levels in recent years, suggesting heightened global uncertainty in the aftermath of the pandemic and amid increasing geopolitical fragmentation. Lastly, with the exception of the GFC dummy variable, all data is normalized to mean 0 and standard deviation of unity.

[7] The nominal local currency equity prices are first converted to U.S. dollar terms using exchange rate data from the OECD. For additional comparability across economies, we normalize these prices using the U.S. Consumer Price Index (CPI) obtained from the Federal Reserve Economic Data (FRED) to obtain real U.S. dollar equity returns.

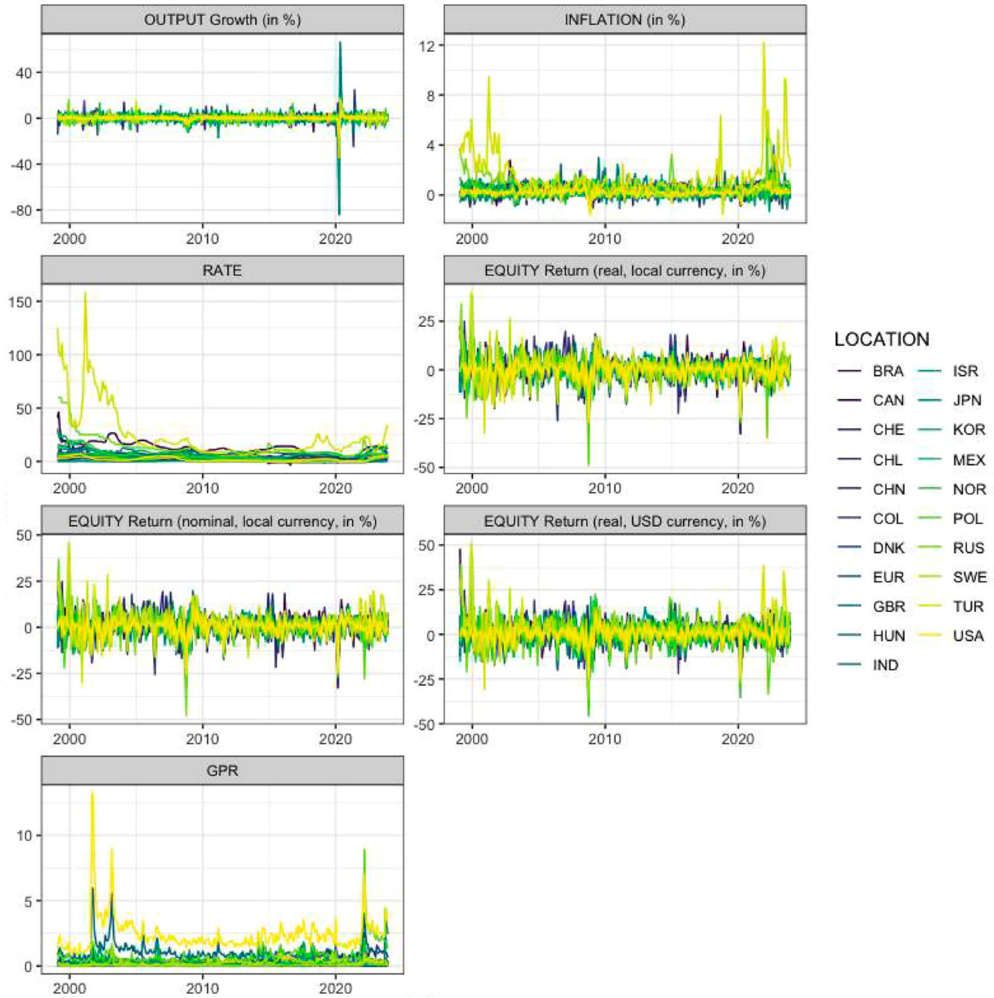


Figure 2. International indicators.

3. Empirical Specification

The LP model, developed by Jordà (2005), is employed to estimate the dynamic responses of a GPR shock have on real local currency equity returns. In our modeling framework, the LP model is cast in a panel and country structure where we estimate the impact of local and global GPR shocks on real equity returns. The rationale of the panel LP model is to establish a baseline model on how GPR shocks affects equity returns in a world marked by interlinked financial markets. We also estimate a LP model for each country to investigate heterogeneous effects of GPR shocks on equity returns.

3.1. Panel LP Model

We estimate two panel LP model types. The first panel type is based on local GPR shocks. The second panel type is based on global GPR shocks, where we further decompose global

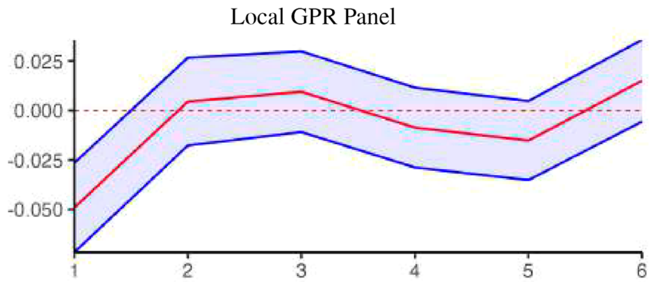


Figure 3. Local GPR effects on real local currency equity returns (panel model).
Note: blue (red) area indicates GPR threats (actions). Response of equity returns to GPR shock (both series standardized to have zero mean and unit standard deviation).

GPR shocks into aggregate, threats and actions. Each panel LP model type is discussed in turn.

3.1.1. Local Panel LP Model

We estimate a panel LP model based on real local currency equity returns for country i at time t as follows:

$$\pi^{E}_{i,t+h} = \alpha_i + \gamma_t + \rho_i \pi^{E}_{i,t-1} + \beta_h S^{Local}_{i,t} + \nu X_{i,t} + \epsilon_{i,t+h} \quad (1)$$

where α_i are country fixed effects to control for unobserved cross-country heterogeneity, γ_t are time fixed effects, ρ_i is an autoregressive term to account for persistence, $S_{i,t}$ is a shock to local GPR ($S^{Local}_{i,t}$); $X_{i,t}$ is a vector of control variables that includes the contemporaneous and lag of output growth, aggregate inflation, interest rates, $COVID_t$ to account for the global pandemic, and GFC_t to control for the GFC period.[8] We further lag the GPR shock variable considering the presence of the serial correlation (see Ljung-Box tests to examine the presence of serial correlation in both local and global GPR shocks in Section Appendix C in Table C.1). $\epsilon_{i,t}$ relates to the error term.

The coefficient β_h in Equation (1) traces the effect of a normalized GPR shock at time t on normalized real equity returns at time $t+h$. As serial correlation is present in error terms, the Newey-West correction is used for standard errors. Impulse response functions (IRF) are presented using a 90% confidence band.

Figure 3 shows that a shock to local GPR corresponds with a negative and statistically significant reaction to real local currency equity returns at the onset of the shock.

To enrich the robustness of the economic analysis, we further include two alternative models:

- **Nominal Local Currency Returns:** we estimate Equation (1) by replacing real local currency equity returns with nominal equity returns (and exclude aggregate inflation from the set of control variables). The IRFs are presented in the Appendix (Figure D.3).
- **International Currency Invoiced Returns:** to evaluate the role of exchange rates, we estimate Equation (1) by replacing real local currency equity returns with international currency (USD) equity returns. The IRFs are reported in the Appendix (Figure D.4).

[8] The control variables follow the specification by Ginn (2023a), which include the contemporaneous and lag of output growth, aggregate inflation and interest rates by economy.

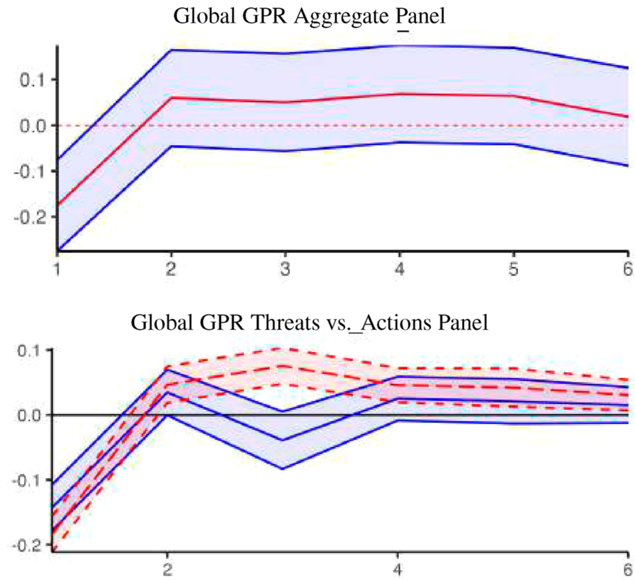


Figure 4. Global GPR effects on real local currency equity returns (panel model).

Note: blue (red) area indicates GPR threats (actions). Response of equity returns to GPR shock (both series standardized to have zero mean and unit standard deviation).

Overall, the findings remain robust, demonstrating the importance of GPR on equity returns.

3.1.2. Global Panel LP Model

For the second panel type, we estimate the impact of global GPR shocks on real local currency equity returns, where we further decompose global GPR shocks into aggregate, threats and actions of the following form:

$$\pi^E_{i,t+h} = \alpha_i + \rho_i \pi^E_{i,t-1} + \beta_h S^x_t + \nu X_{i,t} + \epsilon_{i,t+h} \tag{2}$$

where we replaced GPR associated by country $S^{Local}_{i,t}$ in Equation (1) with S^x_t in Equation (2), for the set $x \in \{Global, Threat, Act\}$ relating to global GPR decomposed by total, threats and actions, respectively.

Figure 4 plots a shock decomposed by GPR aggregate (top-pane) and GPR threats and actions (bottom-pane) for the panel LP model. We find that a shock to each of the three types of global GPR corresponds with a negative reaction to real equity returns at the onset of the shock. We observe the effect is relatively more negative for threats than for actions at the onset, where the effect vanishes in periods 2 to 6 for actions (the effect is more muted for threats). The results for the panel model are consistent with the empirical findings in Smales (2021) for the U.S., Salisu et al. (2022) for the G7 economies and Switzerland and Yilmazkuday (2024) for the majority of twenty-nine economies sampled, where threats are more disruptive than actions.

Robustness checks using nominal local currency[9] and USD-invoiced returns[10] (reported in the Appendix) confirm the main findings.

3.2. Country LP Model

In the previous section (Section 3.1), we estimate a panel LP model and find that a shock to GPR corresponds with lower real equity returns (see Figure 3 and top-pane in Figure 4), which is negative and statistically significant on impact. Yet Salisu et al. (2022) and Yilmazkuday (2024) observe heterogeneity such that the impact on equity returns can be positive or negative for different markets.

We therefore augment the empirical analysis by estimating two LP model types for each country. The first country model type is based on comparing the effects of local and global GPR shocks. The second country model type is based on global GPR shocks, where we further decompose global GPR shocks into aggregate, threats and actions. As the Ljung-Box tests reveal evidence of serial correlation for GPR, we apply a pre-whitening procedure to all country-specific LP models prior to estimation. Each country model type is discussed in turn.

3.2.1. Country LP Model: Local Versus Global GPR Effects

We estimate a country LP model based on real local currency equity returns for country i at time t for each of the twenty-one economies as follows:

$$\pi^E_{t+h} = \alpha + \beta_h S_{i,t} + \nu X_t + \phi_j \sum_{j=1}^{k} \pi^E_{t-j-1} + \epsilon_{t+h} \tag{3}$$

where k is the lag term (we include up to 12 lags of the target variable based on the Bayesian information criterion). The IRFs for the twenty-one economies are provided in the Appendix (Figures D.7–D.8).

We document two main findings. First, the contemporaneous effect of local and global GPR shocks are negative for most countries considered. Second, the empirical findings indicate that global GPR shocks are stronger than local GPR shocks for the majority of countries considered in this analysis. Robustness checks using nominal local currency and USD-invoiced returns (reported in the Appendix) confirm the main findings.[11]

[9] We estimate Equation (2) by replacing real local currency equity returns with nominal equity returns (and exclude aggregate inflation from the set of control variables). The IRFs are presented in the Appendix (Figure D.5).

[10] We estimate Equation (2) by replacing real local currency equity returns with international currency (USD) equity returns. The IRFs are reported in the Appendix (Figure D.6).

[11] We estimate Equation (3) by replacing real local currency equity returns with nominal equity returns (and exclude aggregate inflation from the set of control variables). The IRFs are presented in the Figures D.9–D.10. We estimate Equation (3) by replacing real local currency equity returns with international currency (USD) equity returns. The IRFs are reported in the Figures D.11–D.12.

Table 2. Contemporaneous impulse responses of real local currency equity returns.

	Total			Threats			Actions		
Country	Estimate	Upper	Lower	Estimate	Upper	Lower	Estimate	Upper	Lower
BRA	−0.113	−0.276	0.049	−0.006	−0.161	0.150	**−0.170***	−0.288	−0.052
CAN	−0.093	−0.192	0.006	−0.048	−0.178	0.083	**−0.125***	−0.190	−0.061
CHE	**−0.278***	−0.368	−0.188	**−0.300***	−0.442	−0.158	**−0.250***	−0.328	−0.171
CHL	−0.077	−0.195	0.041	−0.012	−0.134	0.110	**−0.103***	−0.185	−0.021
COL	**−0.083***	−0.152	−0.014	**−0.114***	−0.211	−0.016	−0.046	−0.106	0.015
CHN	0.001	−0.117	0.118	0.044	−0.069	0.157	−0.028	−0.125	0.068
DNK	**−0.186***	−0.310	−0.062	**−0.154***	−0.290	−0.019	**−0.187***	−0.302	−0.072
EUR	**−0.271***	−0.356	−0.185	**−0.325***	−0.453	−0.197	**−0.216***	−0.314	−0.118
GBR	**−0.208***	−0.304	−0.112	**−0.205***	−0.336	−0.075	**−0.193***	−0.288	−0.099
HUN	**−0.109***	−0.199	−0.019	**−0.180***	−0.286	−0.074	−0.064	−0.133	0.005
IND	**−0.157***	−0.236	−0.078	−0.118	−0.236	0.000	**−0.175***	−0.228	−0.122
ISR	**−0.198***	−0.283	−0.114	**−0.173***	−0.292	−0.054	**−0.208***	−0.280	−0.137
JPN	**−0.140***	−0.235	−0.046	**−0.138***	−0.248	−0.029	**−0.127***	−0.228	−0.027
KOR	**−0.234***	−0.332	−0.136	**−0.209***	−0.353	−0.065	**−0.237***	−0.316	−0.157
MEX	−0.050	−0.197	0.098	0.006	−0.118	0.130	−0.084	−0.212	0.044
NOR	−0.113	−0.232	0.005	−0.084	−0.208	0.040	**−0.116***	−0.230	−0.003
POL	−0.061	−0.148	0.025	**−0.118***	−0.225	−0.010	−0.028	−0.085	0.029
RUS	−0.079	−0.176	0.017	−0.069	−0.183	0.044	**−0.092***	−0.168	−0.016
SWE	**−0.119***	−0.228	−0.010	**−0.152***	−0.279	−0.025	−0.093	−0.214	0.028
TUR	**−0.120***	−0.221	−0.019	−0.089	−0.210	0.031	**−0.113***	−0.212	−0.015
USA	**−0.160***	−0.224	−0.097	**−0.196***	−0.298	−0.094	**−0.138***	−0.196	−0.080

Response of equity returns to GPR shock (both standardized to have zero mean and unit standard deviation). '∗' Represents significance of the estimate (based on 90 percent significance level).

3.2.2. Country LP Model: Global GPR Effects (Decomposed)

For the second country model type, we estimate the impact of global GPR shocks, where we decompose global GPR shocks into aggregate, threats and actions of the following form:

$$\pi^E_{t+h} = \alpha + \beta_h S^x_t + \nu X_t + \phi_j \sum_{j=1}^{k} \pi^E_{t-j-1} + \epsilon_{t+h} \tag{4}$$

Figures 5–9 plot the IRFs of a shock to GPR on real local currency equity returns, decomposed by total, threats and actions. Accordingly, the empirical results show a general tendency that GPR threats (actions) have a stronger (weaker) contemporaneous reaction. However, the empirical analysis by country decomposed by global GPR shocks reveals heterogeneous influences. Examining how local GPR influences equity markets could reveal a pattern not evident in a global analysis. Robustness checks using nominal local currency (reported in the Appendix) confirm the main findings and USD-invoiced returns[12]

The IRFs in Figures 5–9 demonstrate that most of the statistically significant effects occur in the first period, indicating that equity markets react swiftly to rising global tensions. Therefore, we focus on the contemporaneous impulse responses of real local currency equity returns to GPR shocks, reported in Table 2.

Accordingly, the empirical results in Table 2, disaggregated GPR total, tzhreats and actions, reveal important heterogeneous responses.

[12] We estimate Equation (4) by replacing real local currency equity returns with nominal equity returns (and exclude aggregate inflation from the set of control variables). The IRFs are presented in the Figures D.13–D.17. We estimate Equation (4) by replacing real local currency equity returns with international currency (USD) equity returns. The IRFs are reported in the Figures D.18–D.22.

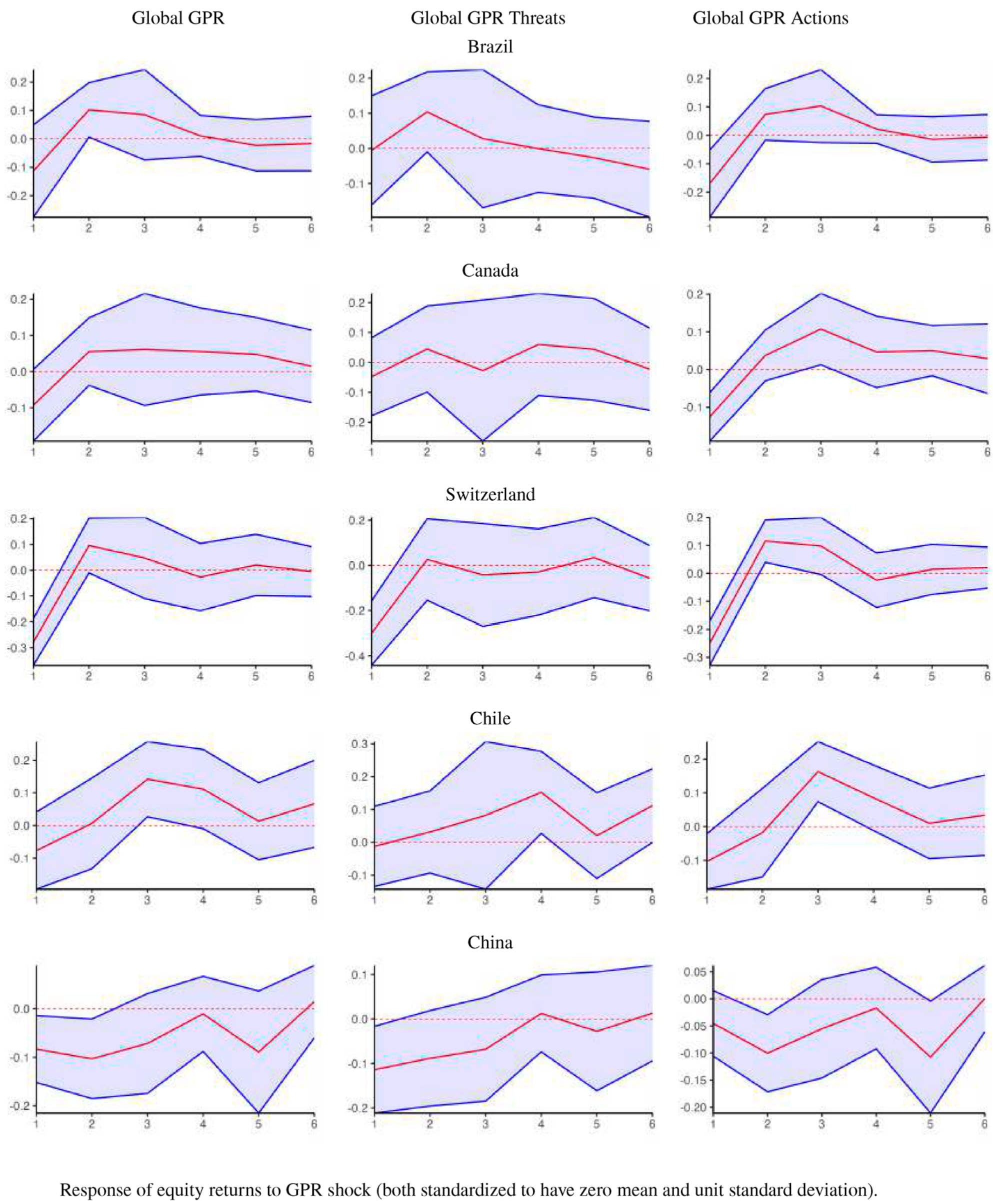
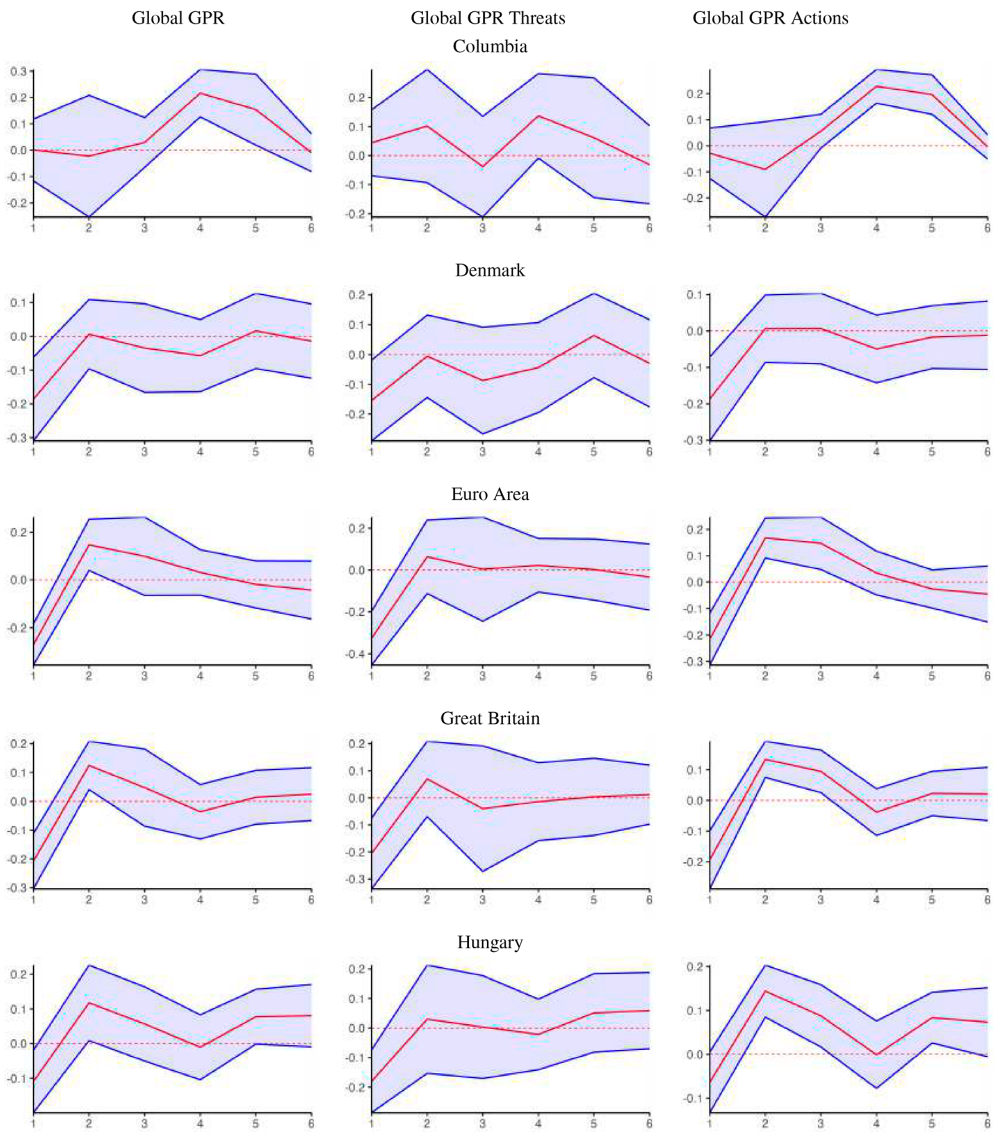


Figure 5. Global GPR (total, threats and actions) on real local currency equity returns.
Response of equity returns to GPR shock (both standardized to have zero mean and unit standard deviation).

- **Total GPR:** a broad set of countries exhibit significantly negative contemporaneous responses to total GPR shocks. Among the most affected are Switzerland (CHE), the Euro Area (EUR), and the United Kingdom (GBR), all of which display the largest and most statistically significant declines, reflecting the heightened sensitivity of their financial markets to overall geopolitical risk. Other advanced economies showing significant total effects include Denmark (DNK), Israel (ISR), Japan (JPN), South Korea (KOR),



Response of equity returns to GPR shock (both standardized to have zero mean and unit standard deviation).

Figure 6. Global GPR (total, threats and actions) on real local currency equity returns.
Response of equity returns to GPR shock (both standardized to have zero mean and unit standard deviation).

and the United States (USA). Several emerging markets also respond strongly: Colombia (COL), Hungary (HUN), India (IND), and Turkey (TUR) all report significantly negative total impacts.

- **GPR Threats:** significant negative responses are concentrated in advanced economies such as Switzerland (CHE), the Euro Area (EUR), the United Kingdom (GBR), Denmark (DNK), South Korea (KOR), the United States (USA), Israel (ISR), and Japan (JPN). Hungary (HUN), Colombia (COL), Poland (POL), and Sweden (SWE) are

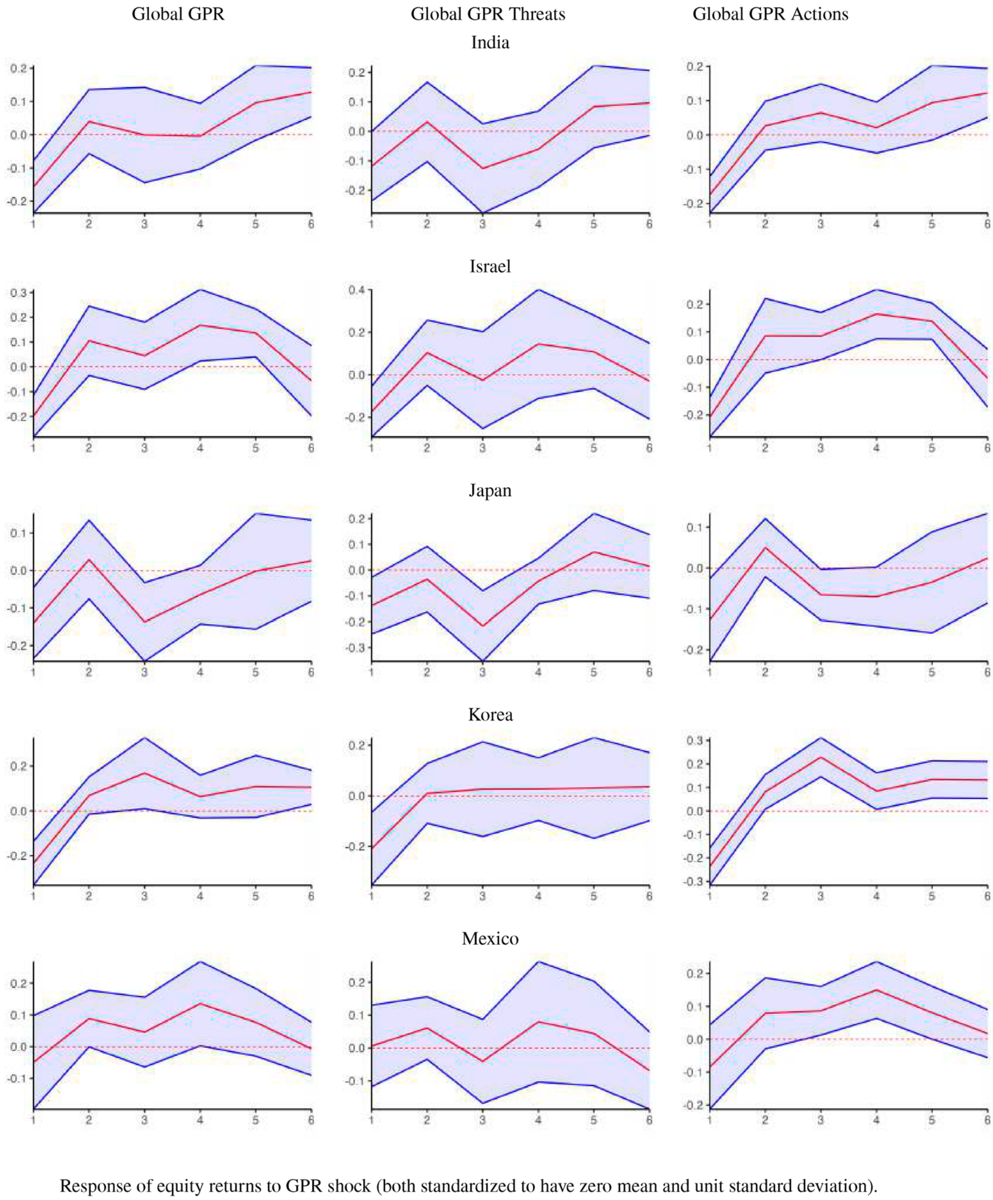


Figure 7. Global GPR (total, threats and actions) on real local currency equity returns.
Response of equity returns to GPR shock (both standardized to have zero mean and unit standard deviation).

among the emerging markets that also exhibit significant sensitivity to geopolitical threats. These findings underscore the importance of perceived risk in shaping equity returns. The results further highlight that market reactions to threats can be just as impactful as responses to realized policy moves.

- **GPR Actions:** significant market responses are found in a diverse group of countries. Switzerland (CHE), the Euro Area (EUR), and the United Kingdom (GBR) again

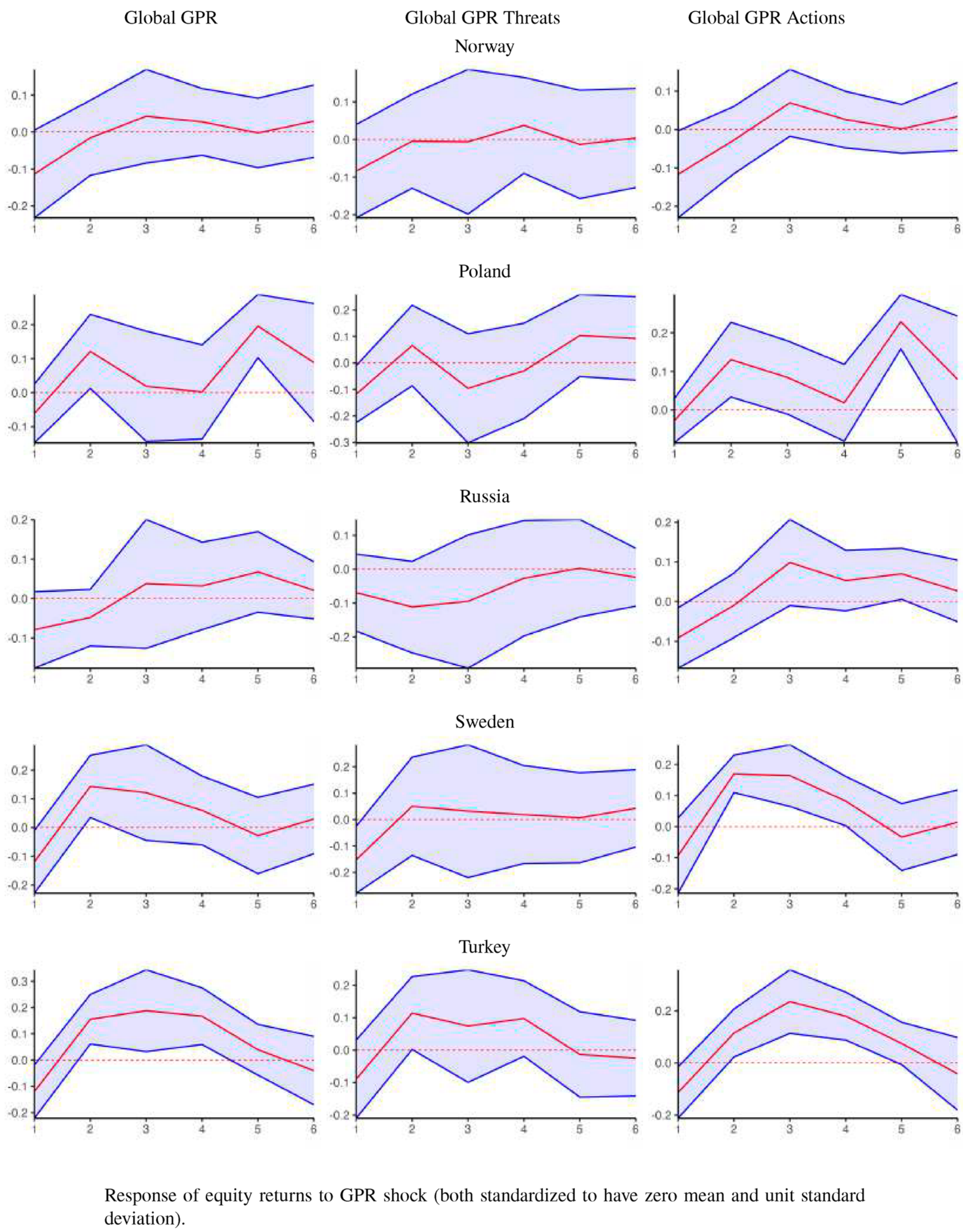
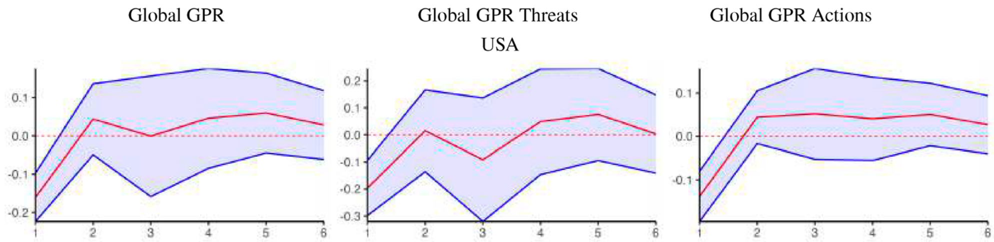


Figure 8. Global GPR (total, threats and actions) on real local currency equity returns.
Response of equity returns to GPR shock (both standardized to have zero mean and unit standard deviation).

show large and statistically significant negative reactions, confirming that concrete policy escalations carry substantial weight in these financial systems. Other advanced economies – including Denmark (DNK), South Korea (KOR), Israel (ISR), and India (IND) – also experience marked declines following action-based shocks. Notably, several countries with otherwise muted total or threat-based effects – such as Brazil



Response of equity returns to GPR shock (both standardized to have zero mean and unit standard deviation).

Figure 9. Global GPR (total, threats and actions) on real local currency equity returns.

(BRA), Canada (CAN), Chile (CHL), Turkey (TUR), Norway (NOR), and Russia (RUS) – exhibit significant negative responses to GPR actions. This suggests that in some contexts, it is the realization of geopolitical developments rather than their anticipation that drives equity returns.

The analysis identifies four economies – Israel, South Korea, Russia, and Turkey – where GPR actions exert a stronger influence than threats. For these countries, the magnitude of GPR actions is greater than that of threats, and the impact of these actions is statistically significant. These economies share a common trait: they frequently experience heightened levels of local GPR due to ongoing conflicts and geopolitical tensions. Consequently, their financial markets are highly sensitive to concrete geopolitical actions.

In contrast, another group of countries – Brazil, Canada, Chile, and India – demonstrates a different dynamic. Here, GPR actions play a more critical role than threats in shaping equity market outcomes. These countries are not epicenters of geopolitical conflicts but are heavily integrated into global markets, particularly through commodity exports, making them vulnerable to external geopolitical shocks. We therefore refer to these groups as 'epicenter' and 'non-epicenter' countries, respectively.

4. Non-Epicenter Countries

These countries are heavily integrated into global markets, particularly in commodity exports such as oil, metals, and agricultural goods. Brazil is highly sensitive to global geopolitical risks due to its reliance on commodities, making it vulnerable to market instability when global tensions rise (Barros Jr et al., 2023). Similarly, Canada, as an oil exporter, experiences significant volatility in its financial markets when geopolitical events affect oil prices. Y. Zhang et al. (2023) show that equity markets in oil exporting countries are more vulnerable to GPR. Yuen and Yuen (2022) find that GPR is associated with lower oil prices in Canada and Russia. Chile, another major exporter of natural resources, also sees its market performance swayed by international geopolitical disruptions. India, facing various geopolitical threats including tensions with China and the ongoing Russia-Ukraine conflict, is more influenced by concrete geopolitical actions, such as military conflicts or sanctions (Gupta, 2023). Gupta (2023) finds that GPR increases investment-cash flow sensitivity while reducing firm investment, where GPR acts has a stronger impact than threats. In these countries, the significance of GPR actions can be attributed to their exposure to international trade and geopolitically sensitive commodities, making them particularly vulnerable to external shocks.

5. Epicenter Countries

These countries are characterized by elevated and persistent geopolitical risks, making GPR actions more impactful than threats. In these countries, the continuous state of geopolitical tension – whether through regional conflicts, military provocations, or sanctions – creates a high-alert environment where financial markets have adapted to a certain level of uncertainty. These countries face elevated and persistent GPR, making actions more critical to equity returns:

- Israel constantly faces geopolitical threats and periodic actions of conflict with neighboring territories. According to Eissa et al. (2024),Escalation of war does not show a consistent pattern, possibly indicating that the market has partially priced in ongoing conflicts, reflecting a degree of adaptation to the continuous regional tensions. This adaptation can be attributed to Israel's history of dealing with prolonged geopolitical conflicts, underscoring the market's resilience and the complex calculus investors engage in a region marked by frequent turmoil.The core of these tensions remains the Israeli-Palestinian conflict, with ongoing disputes over land, sovereignty, and the rights of Palestinians. Periodic escalations in violence, such as those in Gaza, exacerbate the situation and draw international condemnation and intervention attempts. Additionally, Israel's relationships with its neighboring Arab countries have historically been fraught, although recent normalization agreements with some Arab states have shifted some dynamics. Iran's influence in the region and its support for anti-Israel militant groups like Hezbollah and Hamas further heighten tensions, particularly with the backdrop of Iran's controversial nuclear program, which Israel perceives as an existential threat. The broader geopolitical landscape, including the involvement of major powers like the USA, Russia, and European countries, also plays a significant role. The USA's strong support for Israel often contrasts with the positions of other international actors, contributing to a complex and volatile geopolitical environment. These multifaceted issues, intertwined with deep-seated historical contentions and current strategic interests, are likely to sustain the high level of geopolitical tensions surrounding Israel.
- South Korea has faced high geopolitical tensions over the last couple of decades primarily due to its complex relationship with North Korea and the broader strategic dynamics of the Asia-Pacific region. The Korean Peninsula remains technically at war since the Korean War armistice in 1953, with intermittent provocations and military confrontations from the North, including nuclear tests and missile launches, which heighten security concerns in South Korea. South Korea's alliance with the USA further complicates regional tensions, as it draws ire from North Korea and sometimes China, both of which view the US military presence as a threat.
- Russia: over the past couple of decades, Russia has experienced elevated geopolitical tensions due to a combination of historical legacies, strategic interests and responses to international developments. Following the dissolution of the Soviet Union in 1991, Russia faced a significant loss of influence and control over its former Soviet states. Efforts to reclaim or maintain influence in these areas, particularly in Ukraine and

Georgia, have led to conflicts and annexations, such as Crimea in 2014, which in turn have drawn international condemnation and sanctions. Additionally, Russia's strategic interests often clash with those of Western powers, especially NATO and the European Union, leading to a renewed rivalry. Russia's involvement in Syria and its alleged interference in Western elections have further strained relations with the USA and its allies.

- Turkey: Dealing with internal and external conflicts, including tensions with Kurdish groups and involvement in regional disputes. Böyükaslan et al. (2024): Turkey 'has had its fair share of geopolitical risks due to its geographical location which makes it particularly prone to GPRs.' According to Afşar et al. (2022), 'Turkey is a transcontinental country connecting Western Asia and Southeastern Europe. Turkey has faced continuous problems near its borders due to its location.' The Turkish stock market is sensitive to geopolitical tensions (Aksoy, 2014; Böyükaslan et al., 2024; Hoque & Zaidi, 2020).

For these epicenter countries, the effects of global GPR actions is inherently higher than threats, leading to unique economic and market dynamics. We posit that when economies experience elevated and persistent GPR, as observed in countries like Israel, Russia, Korea and Turkey, the impact of GPR actions can be more powerful. High local GPR implies a heightened state of alertness and sensitivity to geopolitical developments. Actions such as military strikes, invasions, or sanctions can have immediate and adverse effects on financial markets. The higher baseline level of GPR amplifies the impact of these actions, leading to more significant market reactions and economic disruptions. Persistent geopolitical threats in these economies can create a prolonged atmosphere of uncertainty. High-risk environments require significant efforts in risk assessment and mitigation, which can be more challenging than dealing with a single event.

Markets not accustomed to persistent GPR may lack the mechanisms and experience to handle sudden geopolitical threats effectively. When a GPR event occurs, the immediate effects become clearer, reducing uncertainty, allowing for more concrete responses. Once a threat materializes into an action, uncertainty is often resolved to some extent. Although the action itself may be damaging, the realization of the event leads to more knowledge and clarity about the specifics which can sometimes mitigate the impact. Investors can then assess and respond to the concrete situation rather than speculating on various potential outcomes.

While actions generally have an immediate impact compared to threats (i.e. there is a concrete result), threats can create sustained periods of unresolved uncertainty and volatility, which can have a prolonged impact. Hence, geopolitical threats may prolong the degree of uncertainty as the potential outcome is unknown, possibly leading to speculation on possible scenarios. For example, North Korea's missile tests in 2017 caused short-term market volatility due to concerns over potential military conflict (e.g. Jung et al., 2021; Kim & Park, 2019). Similarly, US-Iran tensions have periodically led to temporary spikes in oil prices and market uncertainty (e.g. Alqahtani et al., 2022).

Geopolitical actions provide clarity on the situation, though the outcomes can be disruptive. Actions such as invasions, sanctions, or terrorist attacks lead to immediate and significant market reactions, as seen with Russia's invasion of Ukraine in 2022, which caused a sharp drop in global stock markets, spikes in oil and food prices,[13] and disruptions in global supply chains (e.g. Ginn & Saadaoui, 2024, 2025a; Malakhail et al., 2023; Y. Zhong et al., 2024). The US-China trade war also led to significant market volatility and affected companies with exposure to both economies (e.g. Bianconi et al., 2021; Smales, 2021; Wang et al., 2014; D. Zhang et al., 2019).

In contrast, in epicenter countries with persistent GPR, actions may not lead to concrete outcomes. In these environments, markets may become somewhat desensitized to the constant threat environment. The impact of GPR actions might appear more powerful because the market participants are already operating under a heightened state of alert and have adapted to a degree of instability. When an action occurs, it pierces through this adaptation, causing a significant reaction. Conversely, in environments not accustomed to high GPR, the mere threat can cause significant disruption as agents may be less prepared for instability. Economies with persistent GPR are characterized by a heightened state of alertness, desensitization to threats, and significant market reactions when actions occur. In contrast, economies not accustomed to persistent GPR may experience more severe initial shocks but can adjust once the uncertainty is resolved. Persistent threats lead to prolonged uncertainty and economic disruptions, while concrete actions, although disruptive, provide clarity that can help markets stabilize more quickly.

6. Conclusion

This paper analyzes the effects of local and global GPR on real equity returns using a balanced panel of twenty one economies. This research emphasizes the critical role of geopolitical risk in shaping financial market dynamics in an increasingly interconnected global economy. By employing local projections (LP) models in both panel and country-specific contexts, we offer novel insights into how GPR shocks – both local and global – impact financial markets.

Our findings indicate that global GPR shocks are more impactful on financial markets than local GPR. This reaction is consistently observed across all the twenty-one economies analyzed (the contemporaneous impact is negative), emphasizing the broad and immediate impact of geopolitical events on financial markets. Furthermore, our analysis using a panel models of global GPR shocks, including their decomposition into aggregate risks, threats, and actions, reveals that these shocks generally have a stronger and more immediate negative impact on equity returns compared to local shocks. Notably, threats tend to have a more pronounced negative effect than actions, highlighting the sustained uncertainty and market volatility that threats can generate.

The country-specific LP models uncover heterogeneous effects of GPR across different economies underscores the complexity of geopolitical risks and their varying implications for financial markets. Our country-specific analysis reveals that while the overall tendency is for GPR shocks to negatively impact equity returns, the degree and nature of this impact can differ significantly from one economy to another. This variability is particularly evident

[13] Q. Zhang et al. (2023) find that the Russia- Ukraine conflict, which began in February 2022 and is ongoing at the time of this writing, led to an increase crude oil prices and volatility. Özocakli et al. (2024) find that international grain prices (wheat, maize and barley) spiked during the onset of the ongoing Russia-Ukraine conflict. Ginn (2023b) shows that while energy and food inflation can create a 'second round' effect on headline inflation, agriculture inflation has the most significant impact on aggregate inflation.

when comparing the effects of threats and actions, with some countries experiencing more pronounced reactions to actions due to their elevated and persistent exposure to GPR. The results suggest that in countries with high, persistent GPR, such as Israel, South Korea, Russia, and Turkey, geopolitical actions have a more substantial impact than threats. These nations operate under a heightened state of alert, and financial markets respond more dramatically when concrete geopolitical actions occur. On the other hand, in non-epicenter countries like Brazil, Canada, Chile, and India, GPR actions also play a critical role due to their integration into global commodity markets, though the dynamics differ from those observed in epicenter countries.

Our study contributes to the growing body of literature on the economic consequences of geopolitical events by highlighting the importance of considering both local and global dimensions of GPR. The significant and varied impact of GPR on real equity returns underscores the need for policymakers and market participants to closely monitor geopolitical developments and incorporate these risks into their decision-making processes.

The insights gained from this study can inform strategies for managing and mitigating the adverse effects of GPR, ultimately contributing to greater financial stability and resilience in the face of geopolitical uncertainties. Policymakers need to be vigilant about developments in global financial markets, as shocks originating at home or abroad can quickly spill over to domestic institutions, affecting overall financial stability. Policymakers should be cognizant of the potential spillover effects of GPR on financial stability and economic growth. Effective policy responses may include enhancing transparency in geopolitical risk assessments, fostering international cooperation to mitigate global risks, and bolstering financial resilience to withstand market volatility triggered by geopolitical events.

Disclosure Statement

No potential conflict of interest was reported by the author(s).

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