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 acts. 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 acts, we observe heterogeneous responses on financial markets to different types of geopolitical risks, we find that acts have greater potency in economies exposed to higher levels of local GPR due to recurring conflicts and geopolitical tensions.

Keywords: Equity Returns, Local Projections, Geopolitical Risk.
JEL: F44, E44

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. acts.
- Global GPR shocks exhibit a stronger impact than local GPR shocks across most countries.
- Acts have greater potency vs. events in countries exposed to persistent and heightened GPR.

1. Introduction

Geopolitical risk (GPR) has emerged as a pivotal factor influencing global financial markets. Defined broadly as the risk arising from political instability, international conflicts, or policy uncertainties among nations, GPR encompasses a spectrum of events that can trigger significant market reactions.

The existing literature reveals that GPR has been shown to have significant effects on financial markets and economic activity. Since 2017, the European Central Bank[1] and the International

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[1]See e.g. the first issue of the ECB's Economic Bulletin in 2024.

Monetary Fund[2] have identified geopolitical tensions and geoeconomic fragmentation as a major risk to macroeconomic and financial stability. Studies such as Baker et al. (2019) and Caldara and Iacoviello (2022) have highlighted the role of geopolitical events in driving market volatility and economic uncertainty. Smales (2021) finds that higher geopolitical risk is associated with positive (negative) oil (S&P 500 Composite Index) returns for the U.S. Salisu et al. (2022) and Yilmazkuday (2024) find that threats are more disruptive than acts. In contrast, Kamal and Wahlstrøm (2023) find that cryptocurrencies react more to GPR acts than to GPR threats. Bouoiyour et al. (2019) find that acts generate a positive and strong impact on the oil price, the effect of threats appears to be moderate or non-significant. Previous research by Salisu et al. (2022) and Yilmazkuday (2024) indicates that GPR can lead to disruptions in market stability, with varying impacts across different economies.

The research by Pastor and Veronesi (2012) explains the mechanisms through which policy uncertainty affects stock prices. Pastor and Veronesi (2012) develop a model showing how uncertainty about government policy can increase risk premiums and lead to higher stock price volatility. This framework is relevant to understanding the impact of changes to government policy which can influence uncertainty (e.g., tariffs, regulatory changes) and thus amplify market turbulence. The study also discusses how uncertainty can lead to delayed investment decisions by firms and risk-averse behavior by investors.

Ginn (2023*a*) demonstrates that periods of high economic policy uncertainty (EPU) correspond to declines in stock market indices. The investigation explores whether EPU leads to a "wait-and-see" approach, where economic agents may delay important decisions until there is greater clarity about the economic outlook, underpinned by real options theory (Bernanke, 1983) and that uncertainty raises the option value of waiting (Bloom, 2009). This cautious behavior, which in turn may be more elevated during non-expansionary states, can translate into reduced investment.

Caldara and Iacoviello (2022) find that geopolitical acts lead to a short-lived increase in uncertainty and produce economically small effects, while heightened geopolitical threats lead to a prolonged rise in uncertainty and a larger decline in real activity. These authors findings support theoretical models where agents form expectations using a worst-case probability (e.g., Ilut and Schneider, 2014, Kozlowski et al., 2019).

This paper examines the dynamic effects of geopolitical risk (GPR) on real equity returns across a broad spectrum of economies. Using a rich dataset spanning from January 1999 to February 2022, we investigate how shocks to GPR influence equity prices in twenty-one economies, representing 82.9% of global output (based on IMF data using 2022 data).

While the existing research is sparse, predominantly focusing on how global GPR affects a country's equity market (Yilmazkuday, 2024), our contribution seeks to enrich the literature in three significant ways. Firstly, we extend the country analysis to a panel model to explore the impact of GPR on equity returns. This analysis decomposes GPR into heterogeneous categories, including local, global, global threats, and global actions, with a focus on analyzing the heterogeneity in how different types of geopolitical risks affect markets. Secondly, our research estimates the separate impacts of both local and global GPR on equity returns. By examining these distinct levels of geopolitical risk, the study provides a broader perspective on the influence of GPR across different geographic contexts. Thirdly, our analysis incorporates control variables for domestic economic

[2]See e.g. the October 2023 edition of the IMF's World Economic Outlook.

conditions (output growth, inflation and interest rates) in both the panel and country analysis. This inclusion enhances the robustness of the findings by accounting for key economic factors that may also impact equity returns. Accordingly, the empirical questions addressed in this study include: How do local and global GPR shocks affect real equity returns? Are there differences in the impact of GPR threats versus GPR acts? How does the influence of GPR vary across different economies?

By exploring the heterogeneous effects of GPR shocks across multiple economies, this paper contributes to the sparse literature on the economic consequences of geopolitical events and offers novel insights into the interplay between geopolitical risks and financial markets along four dimensions:

- Panel model reveals global and local GPR shocks contemporaneously reduces equity returns.
- Panel models shows global GPR threats elicit a more pronounced negative reaction vs. acts.
- Global GPR shocks exhibit a stronger impact than local GPR shocks across most countries.
- Acts have greater potency vs. events in countries exposed to persistent and heightened GPR.

Overall, the study highlights the significant and varied impact of geopolitical risks on real equity returns, emphasizing the importance of considering both local and global GPR shocks.

The rest of the paper is structured as follows: in Section 2 describes the data. Section 3 discusses the empirical results. Section 4 concludes.

2. Data

We use monthly data that cover January 1999 to February 2022 to include industrial production, consumer price index (CPI), short-term interest rate, equity price and GPR for twenty-one economies[3] representing 82.9%[4] of global output. We include a global financial crisis (GFC) variable[5] and the U.S. Federal Reserve Infectious Diseases Equity Market Volatility Tracker (Baker et al., 2019).[6]

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. The nominal equity price is converted to real terms by dividing the former with the respective domestic CPI. The GPR data is obtained from Matteo Iacoviello's website (Caldara and Iacoviello, 2022).[7]

[3] 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).

[4] 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.

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

[6] 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.

[7] See https://www.matteoiacoviello.com/gpr.htm

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	Share price
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_t^{GFC}	NBER	GFC dummy variable
Infectious Disease	$COVID_t$	FRED	U.S. Infectious diseases equity volatility tracker

We include local and global GPR, where the latter is further decompose aggregate, threats and acts (Figure 1 plots the decomposed global GPR data). While the GPR data do not include a measure for the Euro area, we follow Ginn and Saadaoui (2024) to construct a Euro area GPR index based on sampled economies within the Euro area using a nominal GDP weighted index.[8] We plot the individual economies of the Euro area and the constructed Euro GPR index in Figure A.1.

Figure 1: Global GPR (Decomposed by Total, Threats, Acts)

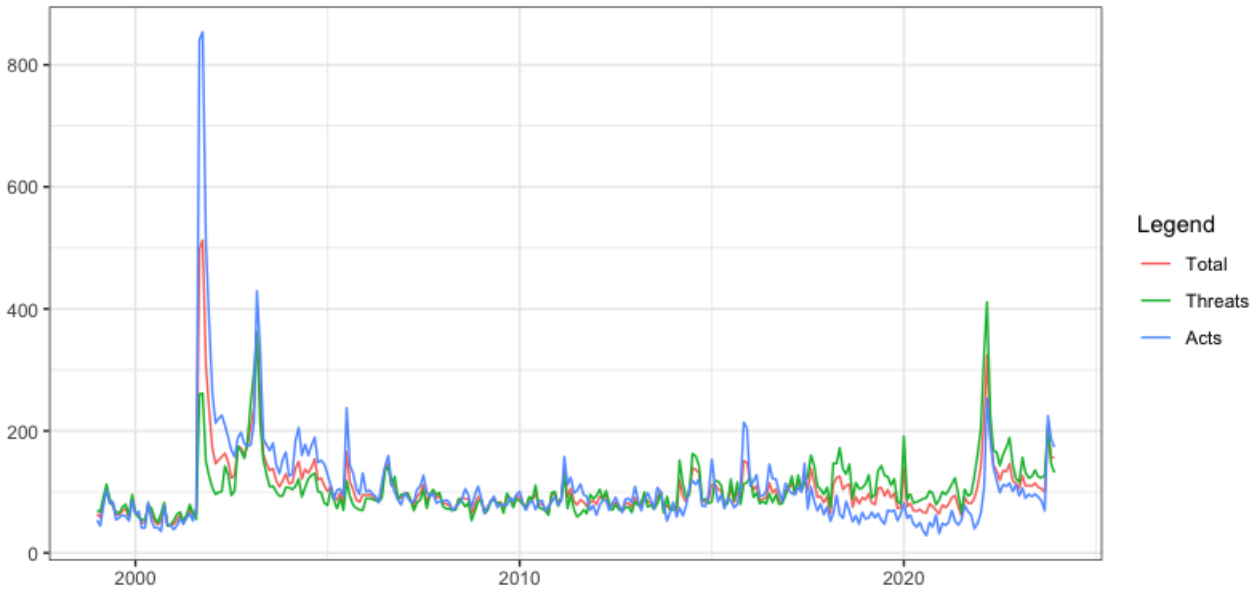


Figure 2 plots the international data used in the empirical analysis. We provide descriptive statistics of the data in the Appendix (see Figure B.2 plots the mean and standard deviation for each of the sampled countries). Lastly, with the exception of the GFC dummy variable, all data is normalized to mean 0 and standard deviation of unity.

[8]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 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 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 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 equity returns for country i at time t as follows:

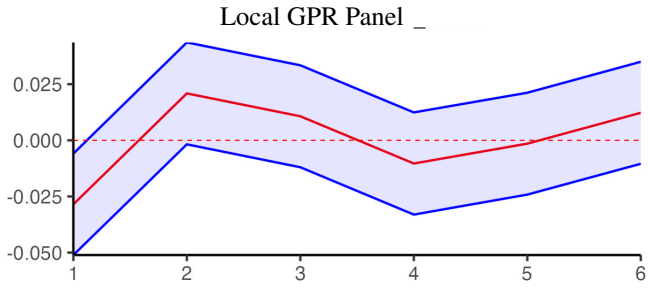
$$\pi^{E}_{i,t+h} = \alpha_i + \gamma_t + \rho_i \pi^{E}_{i,t-1} + \beta_h S_{i,t} + \nu X_{i,t} + \epsilon_{i,t+h} \tag{1}$$

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; $X_{i,t}$ 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.[9] We further lag real equity returns to control for persistency. $\epsilon_{i,t}$ 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 equity returns at the onset of the shock.

Figure 3: Local GPR Effects on Equity Returns (Panel Model)



3.1.2. ***Global Panel LP Model***

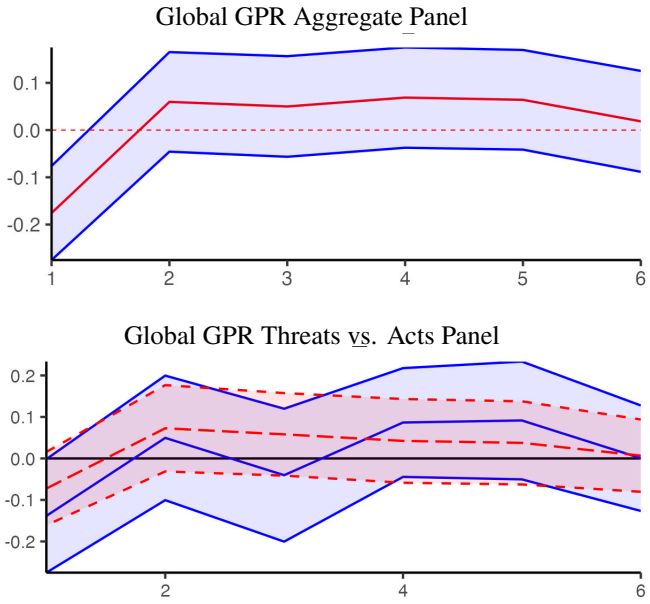
For the second panel type, we estimate the impact of global GPR shocks on real equity returns, where we further decompose global GPR shocks into aggregate, threats and actions of the following form:

$$\pi^{E}_{i,t+h} = \alpha_i + \gamma_t + \rho_i \pi^{E}_{i,t-1} + \beta_h S^{x}_{t} + \nu X_{i,t} + \epsilon_{i,t+h} \tag{2}$$

where we replaced GPR associated by country $S_{i,t}$ in Equation 1 with S^{x}_{t}, for the set $x \in \{GPR_t, GPR^{threat}_t, GPR^{act}_t\}$ relating to global GPR decomposed by total, threats and acts, respectively.

[9] The control variables follow the specification by Ginn (2023*a*), which include the contemporaneous and lag of output growth, aggregate inflation and interest rates by economy. For robustness, we varied the model specifications by removing output growth, inflation and the interest rate and examined the consistency of the results.

Figure 4: Global GPR Effects on Equity Returns (Panel Model)



Note: blue (red) area indicates GPR threats (acts).

Figure 4 plots a shock decomposed by GPR aggregate (top-pane) and GPR threats and acts (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 acts at the onset, where the effect vanishes in periods 2 to 6 for acts (the effect is more muted for threats). These results 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 acts.

*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 therefor 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 acts. 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 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 (see Figures C.3-C.4).

We document two main findings. First, the contemporaneous effect of local and global GPR shocks are negative for all countries considered. Second, the empirical findings indicate that for the majority of countries considered in this analysis, we find a near-uniform effect, that global GPR shocks are stronger than local GPR shocks.

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 acts 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 C.5-C.9 plots the IRFs of a shock to GPR on equity returns, decomposed by total, threats and acts.

Countries Confronted with Higher Local GPR

Accordingly, the empirical results show a general tendency that GPR threats (acts) have a stronger (weaker) contemporaneous reaction, yet the lagged impact turns out to be more subdued (positive). However, the empirical analysis by country decomposed by global GPR shocks reveals heterogeneous influences. Examining how local GPR influences equity markets could reveals a pattern not evident in a global analysis. The empirical findings show that there are four economies where GPR acts are relatively more powerful than GPR threats - Israel, South Korea, Russia and Turkey. The magnitude of GPR acts for these economies is greater than GPR events and the impact of GPR acts are statistically significant. These four economies share a common theme; they are frequently confronted with higher levels of local GPR due to recurring conflicts and geopolitical tensions. These countries often face ongoing threats and actions that can significantly impact their financial markets.

These countries face elevated and persistent GPR, making acts more critical to equity returns:

- Israel constantly faces geopolitical threats and periodic acts 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, Hoque and Zaidi, 2020, Böyükaslan et al., 2024).

For these countries, the effects of global GPR acts is inherently higher than threats, leading to unique economic and market dynamics that differ from global trends.

High Local GPR and the Powerful Effects of Actions

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 acts 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., Kim and Park, 2019, Jung et al., 2021). 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[10], and disruptions in global supply chains (e.g., Malakhail et al., 2023, 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., Zhang et al., 2019, Smales, 2021, Bianconi et al., 2021, Wang et al., 2014).

In contrast, in 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 acts 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

[10]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. Özocaklı et al. (2024) find that international grain prices (wheat, maize and barley) spiked during the onset of the ongoing Russia-Ukraine conflict. Ginn (2023*b*) 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.

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.

4. 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 acts, 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 acts, 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 when comparing the effects of threats and acts, with some countries experiencing more pronounced reactions to acts due to their elevated and persistent exposure to GPR.

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.

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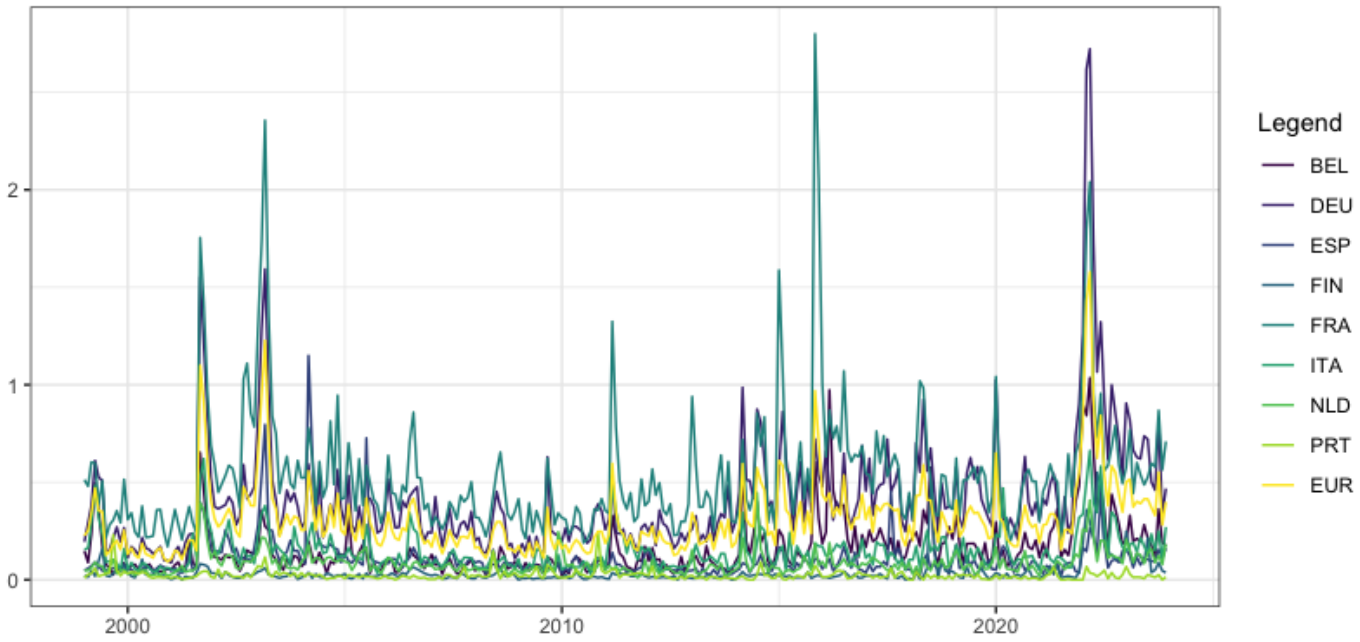
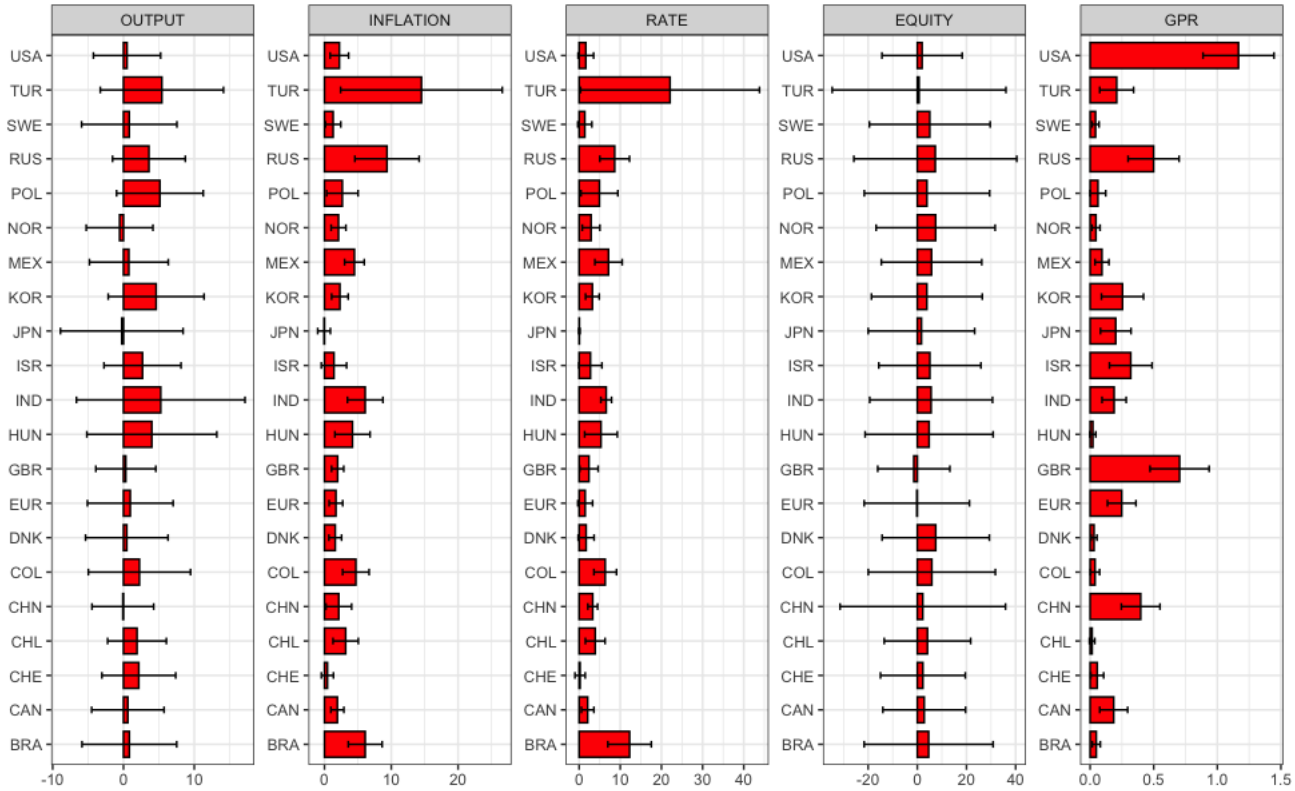
Appendix A. Euro Area GPR Index

Figure A.1: Euro Area GPR Indexes



Appendix B. Descriptive Statistics

Figure B.2: Mean and Standard Deviation of International Indicators

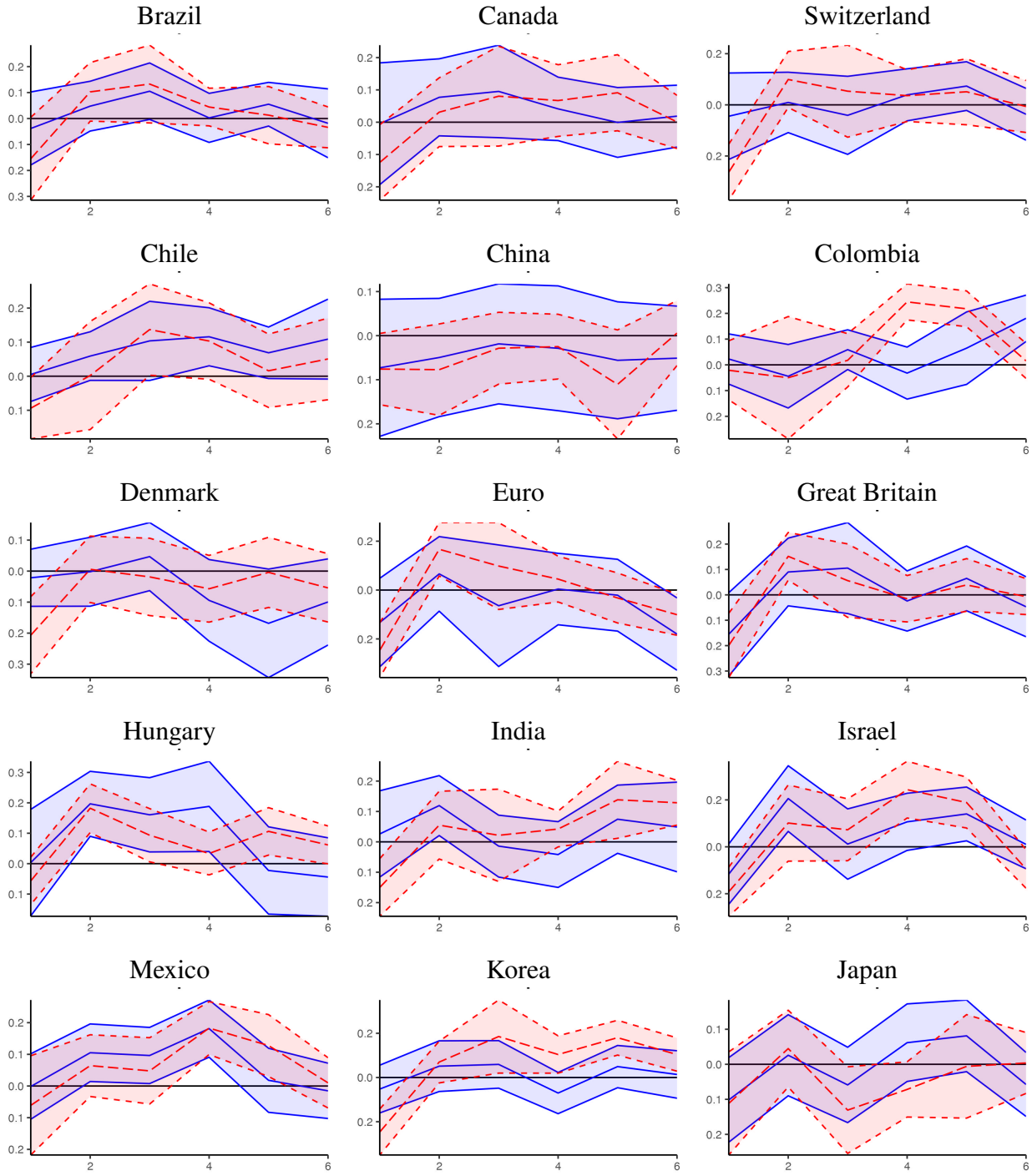


Note: the "red" shaded area indicates the mean overlaid with an error bar which indicates one standard deviation away from the mean.

Appendix C. LP Model IRFs

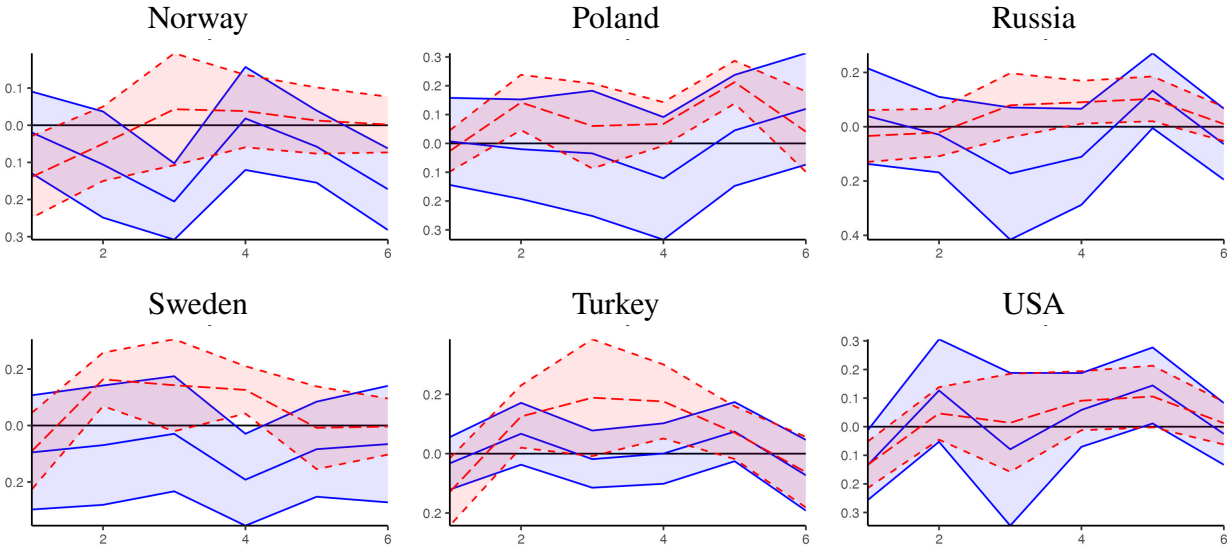
Appendix C.1. Country LP Regression Model Results: Local vs. Global GPR Shocks

Figure C.3: Local and Global GPR on Equity Returns



Note: blue (red) area indicates local (global) GPR.

Figure C.4: Local and Global GPR on Equity Returns



Note: blue (red) area indicates local (global) GPR.

Figure C.5: Global GPR (Total, Threats and Actions) on Equity Returns

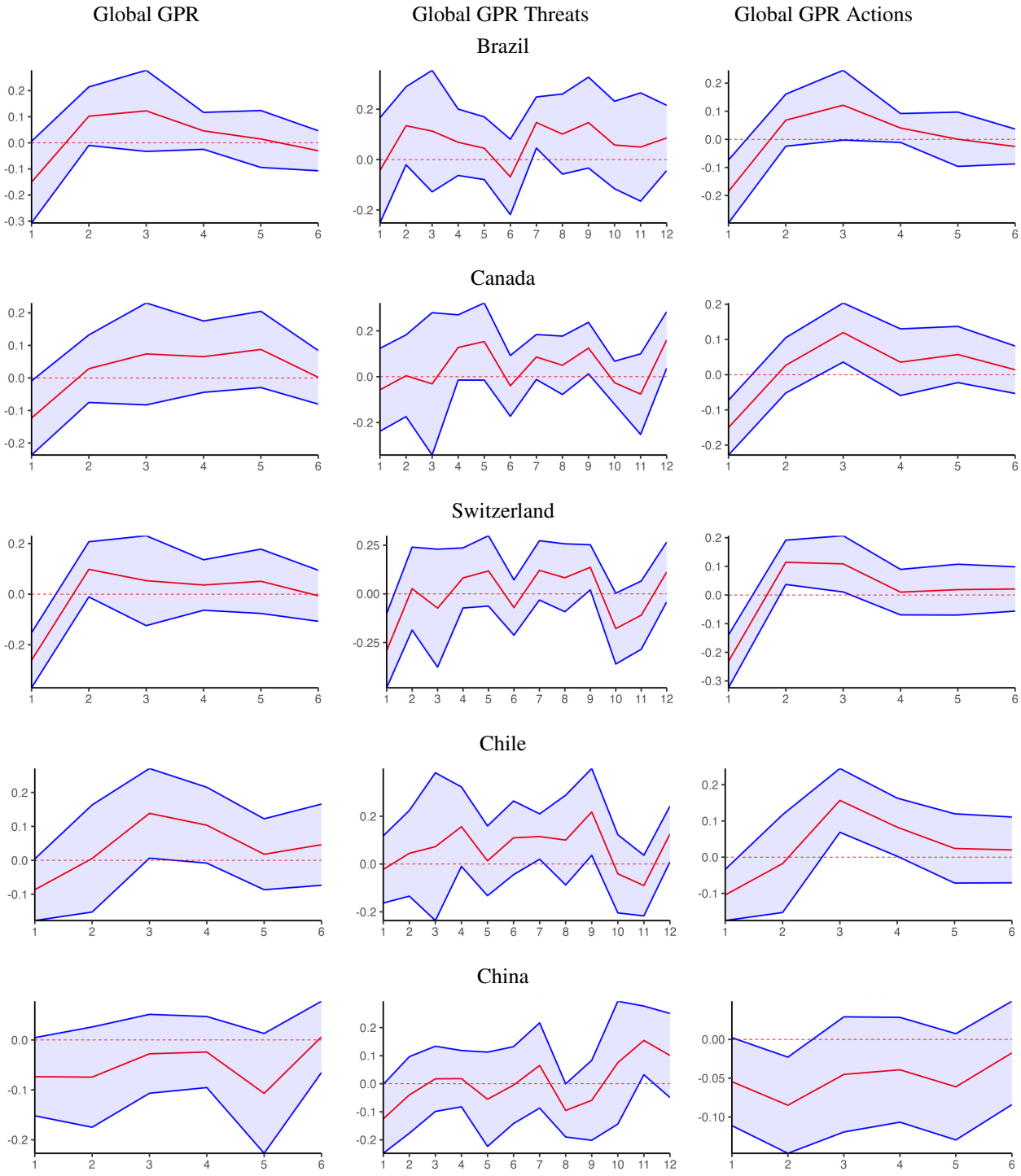


Figure C.6: Global GPR (Total, Threats and Actions) on Equity Returns

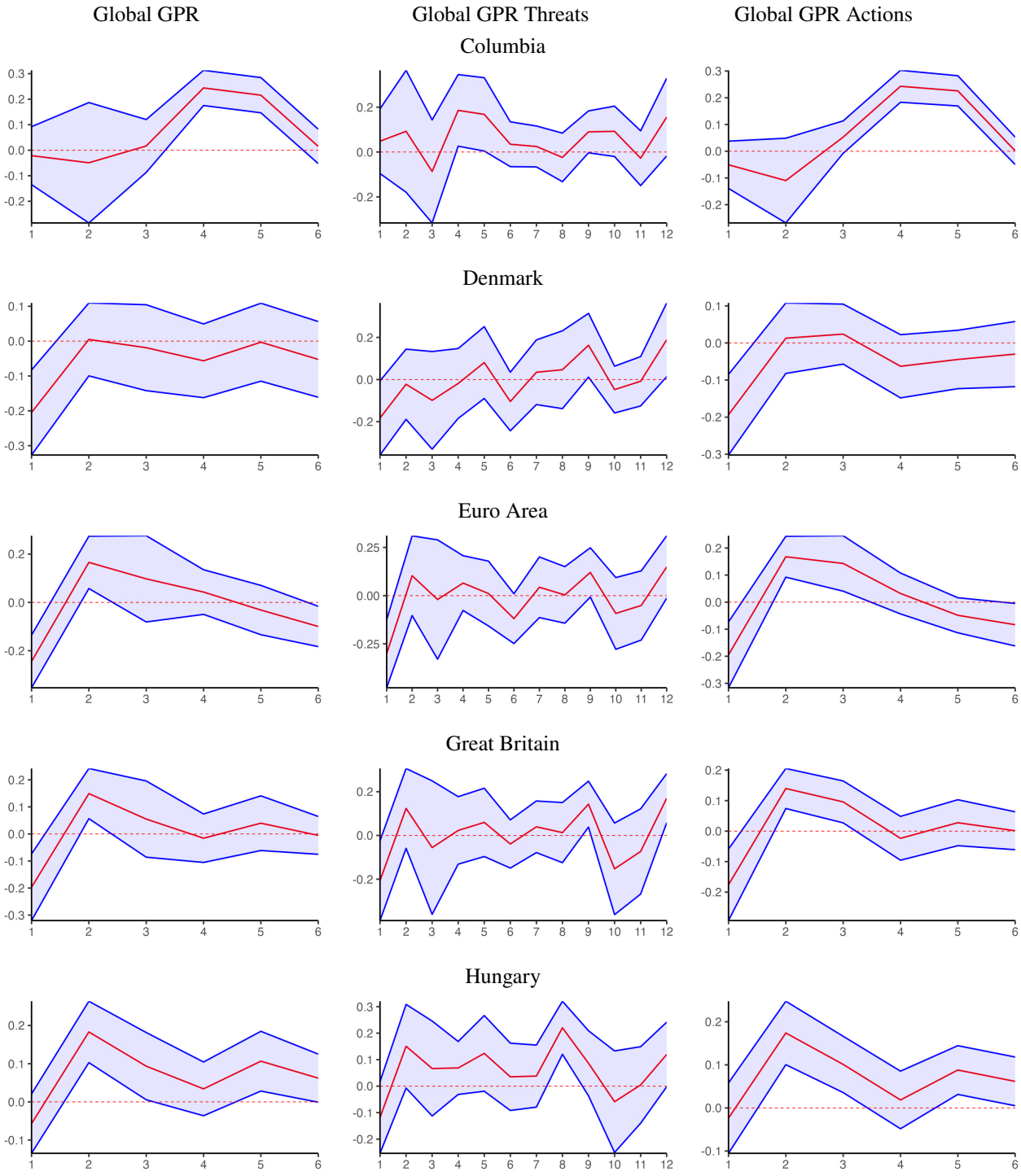


Figure C.7: Global GPR (Total, Threats and Actions) on Equity Returns

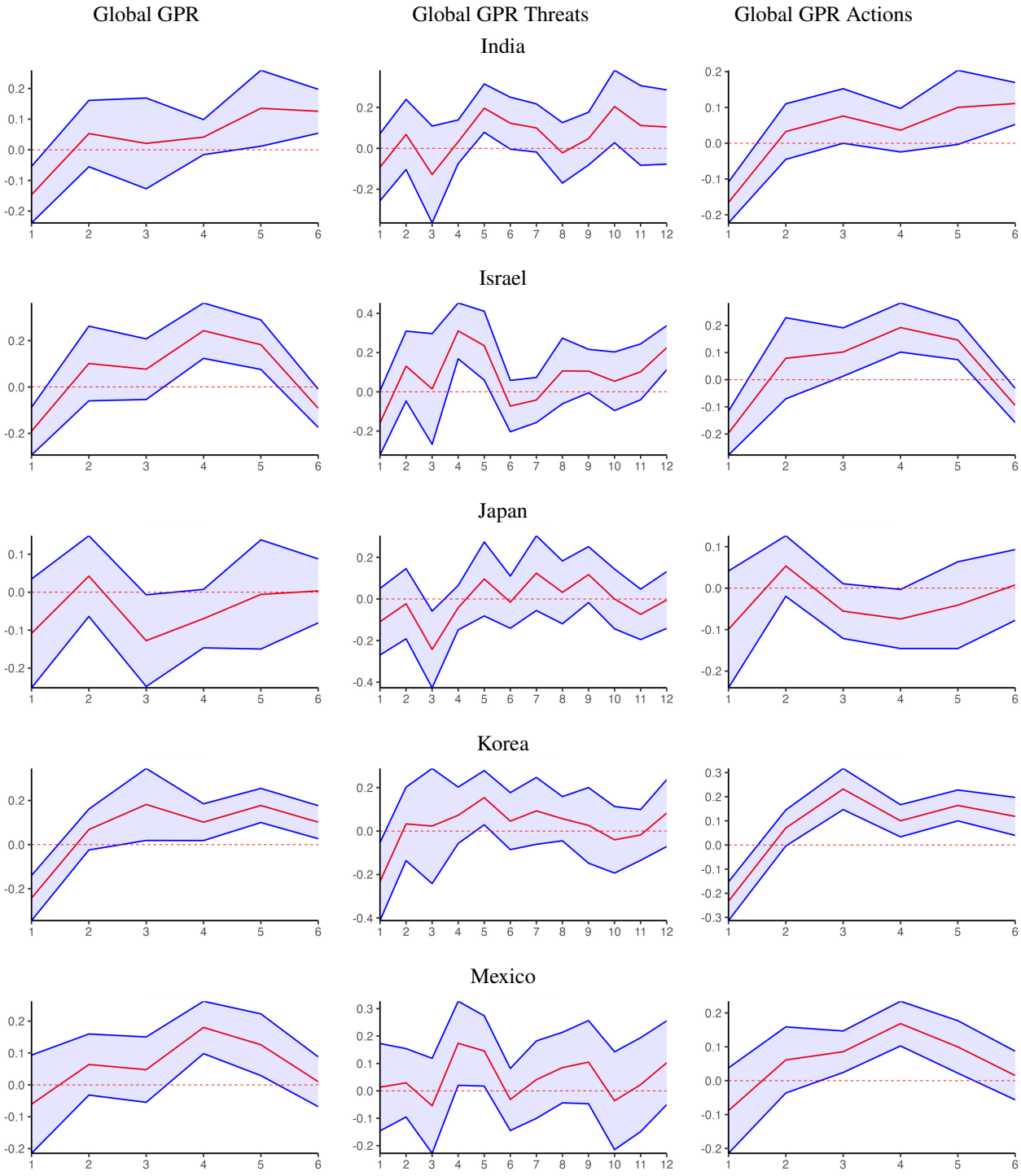


Figure C.8: Global GPR (Total, Threats and Actions) on Equity Returns

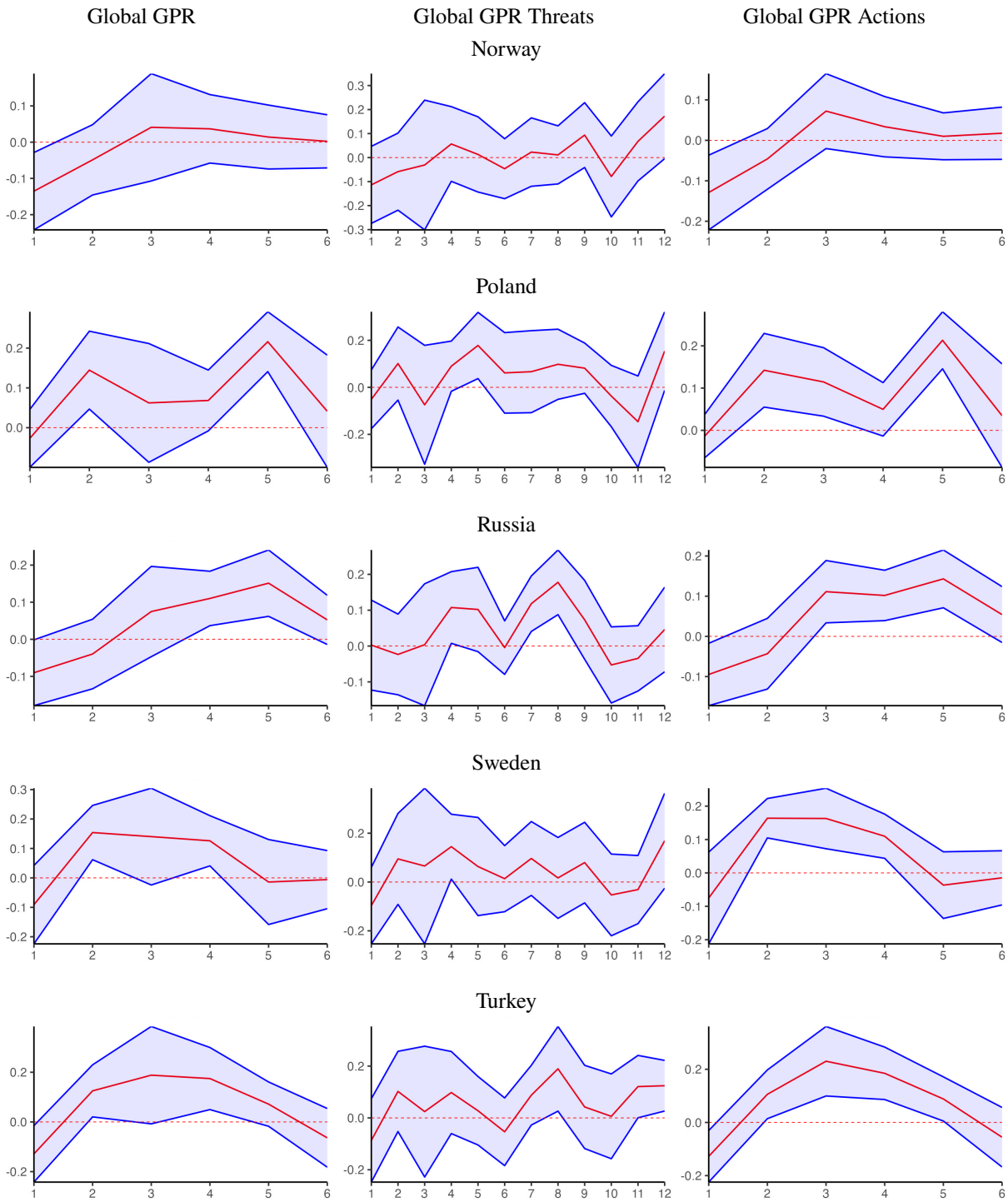


Figure C.9: Global GPR (Total, Threats and Actions) on Equity Returns