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Geopolitical Risks and Economic Expectations: The Role of Trade Linkages

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Abstract

I study the impact of domestic and foreign geopolitical risk (GPR) on economic expectations, and how trade linkages affect the transmission of foreign risks. Using monthly professional forecasts since 1995, I start by estimating the effect of GPR events on the distribution of expectations across 32 advanced and developing economies. I find that while changes in GPR do not shift median GDP forecasts, they increase their dispersion. I then assess how trade substitutability and concentration influence the cross-country transmission of GPR. I construct new country-level indicators based on granular product-level trade data and find that countries which have exports that are easy to substitute (the international demand for these exports is elastic) are more affected by foreign GPR shocks. Perhaps surprisingly, for these countries, foreign GPR shocks dominate domestic GPR shocks.

Keywords: Geopolitical risks, economic expectations, uncertainty, trade linkages.

JEL classification: F14; F41; F51; E37; D84

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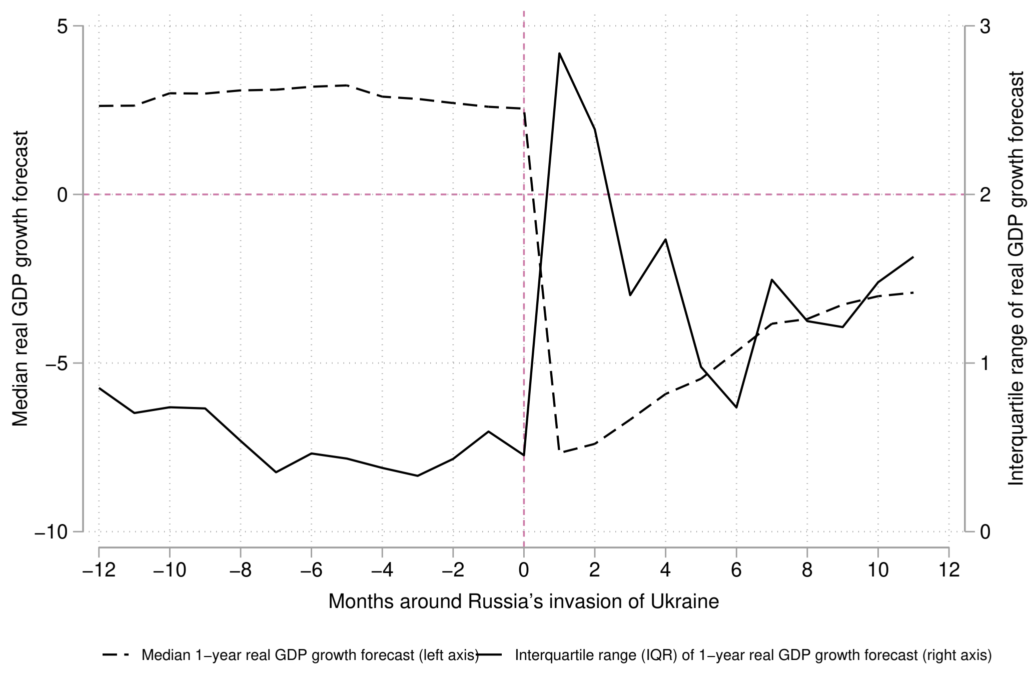
1 Introduction

There is evidence that geopolitical risk (GPR) has an important impact on economic activity (Caldara and Iacoviello, 2022; Caldara et al., 2022; Smales, 2021; Wang et al., 2019).[1] However, little is known about how GPR affects the formation of economic expectations. This paper aims to fill this gap by studying the effects of GPR on both the median and the dispersion of forecasts and investigating how structural dimensions of trade influence the cross-country transmission of GPR.

Expectations play a crucial role in shaping the decisions of households, firms, and policymakers (Canova and Gambetti, 2010; Roth and Wohlfart, 2020; Bachmann et al., 2022). As forward-looking indicators, expectations can also rapidly respond to new information, while actual economic activity takes more time to adjust. Examining how GPR affects economic expectations is therefore essential to understand the full transmission mechanism of geopolitical shocks. Figure 1 illustrates this point and plots the rapid adjustment of professional forecasters' expectations about Russia's real GDP growth around the invasion of Ukraine.

Figure 1: Real GDP growth forecasts for Russia around the 2022 invasion of Ukraine



Sources: Own calculations based on Consensus Forecasts

[1] In this paper, I use the definition of geopolitical risk proposed by Caldara and Iacoviello (2022): the threat, occurrence, and escalation of adverse events such as wars, terrorism, and tensions among states or political actors that disrupt the peaceful course of international relations.

On the month following the invasion, the median growth forecast (dashed line) fell sharply, while dispersion across forecasters (solid line) surged. As factors such as the sanctions imposed after the invasion may have influenced these forecast dynamics, it is important to move beyond anecdotal evidence. This paper aims to systematically assess how expectations respond to GPR beyond this specific event.

To explore how GPR affects the median and dispersion of countries' economic forecasts and test the relative importance of domestic and foreign shocks, I use analyst-level monthly survey data of professional forecasters from Consensus Forecasts, focusing on 32 advanced and developing economies since 1995. The granularity of this dataset allows to study how GPR influences different dimensions of economic forecasts. My focus is on GDP growth but I also examine the distribution of four other key macroeconomic variables: real fixed investment growth, real consumption growth, the current account balance, and inflation.

Together, these variables show how GPR influences professional forecasters' expectations about both real and nominal macroeconomic outcomes. I source GPR from Caldara and Iacoviello (2022) and use bilateral trade data to construct a novel measure of how GPR propagates across countries. I call the original Caldara and Iacoviello (2022) index "domestic GPR" and the new index based on bilateral trade data "foreign GPR". I then study how the international transmission of GPR depends on structural dimensions of trade. To do so, I use granular product-level bilateral trade data to compute novel country-level metrics for the substitutability of exported and imported goods and trade concentration.

I have three key results. First, GPR does not systematically affect the median GDP forecast but it increases its variance. While international conflicts are often associated with destructive economic consequences (Glick and Taylor, 2010), economic stimulus from increased military spending likely offset these effects in the short term (Ramey, 2011; Hall and Sargent, 2022). A closer look at GDP components reveals that domestic GPR shocks negatively impact the median forecast of real fixed investment growth. On average, a one-standard-deviation domestic GPR shock reduces the median forecast for real investment growth by 5.8 percentage points. The rise in forecast dispersion highlights the uncertainty surrounding how geopolitical risks will unfold and their ultimate economic implications.

Second, I find that foreign GPR shocks increase forecast dispersion in the domestic economy more than domestic GPR: a one-standard-deviation domestic GPR shock leads to a 1.1 percentage point rise in the interquartile range (IQR) of GDP forecasts, while a one-standard-deviation foreign GPR shock results in a roughly 1.8 percentage point increase in the IQR of GDP forecasts. Similarly, a one-standard-deviation increase in domestic GPR raises the IQR for the real fixed investment growth forecasts by 3 percentage points, while the same increase in foreign GPR raises it by 13 percentage points. These findings are consistent with the idea that the transmission of foreign GPR shocks is inherently more complex and less understood than traditional economic shocks. In addition, the uncertainty surrounding policymakers' responses to these shocks likely compounds the challenge of accurate forecasting.

Finally, I show that in countries which have exports that are easy to substitute (the international demand for these exports is elastic) are more affected by foreign GPR shocks. This result reflects that essential goods are less prone to disruptions even if a shock affects a main trading destination, which reduces uncertainty about supply chain reallocation. However, I find no significant role for trade concentration in driving forecast dispersion. This contrasts with the literature suggesting that economies with concentrated trade are more vulnerable to shocks (Mayneris and Ourens, 2024). I argue that this result reflects rational inattention by forecasters.

Related literature: This paper contributes to four strands of the literature. First, it relates to the growing body of research on the economic impacts of geopolitical risks. Recent studies highlight the negative effects of GPR on trade (Javorcik et al., 2024), corporate investments (Wang et al., 2019), cross-border capital flows (Feng et al., 2023; Aiyar et al., 2024), stock markets (Smales, 2021; Salisu et al., 2022; Yilmazkuday, 2024), commodities (Alvarez et al., 2023; Pinchetti, 2024), and inflation (Iacoviello et al., 2024). However, less is known about how GPR events influence expectations about the economic outlook. I address this gap by examining its impact on expectations for key macroeconomic variables using a large dataset of professional forecasters

Second, this paper builds on a nascent literature investigating the formation of economic expectations following large unexpected shocks. Baker et al. (2020) explore the formation of economic expectations around a set of natural disasters and find that forecast disagreement decreases among inattentive agents while it increases for attentive ones. Binder (2020) and Dietrich et al. (2022) explore the reaction of expectations about GDP, unemployment, household income and inflation around the COVID-19 shock in the US. Both studies report high and pervasive uncertainty following the start of the pandemic and much more so for consumers than professional forecasters. Dräger et al. (2024) identify the effect of the 2022 Russia invasion of Ukraine on inflation expectations in

Germany using a survey of tenured economics professors. They show that expert expectations adjust faster and to a larger degree to the shock than a representative sample of households. My study extends this literature by systematically analyzing how domestic GPR shocks affect professional forecasts for a large cross-section of countries and across different components of macroeconomic indicators.

Third, this study connects to the literature on the international transmission of shocks through trade. Caselli et al. (2020) argue that trade openness can reduce income volatility by diversifying supply and demand sources across countries, while Forbes (2002) emphasize how trade linkages transmit crises through competitiveness and income effects. Kramarz et al. (2020) show that trade networks amplify shocks because firms often rely on one or two key trading partners. Disruptions to these concentrated trade flows create ripple effects that propagate through the broader economy, leading to aggregate volatility. My study contributes by introducing a trade-weighted measure of foreign GPR exposure, capturing how geopolitical risks originating from key trading partners influence domestic economic forecasts.

Finally, I contribute to the growing literature on the propagation of shocks through global value chains. Studies such as Acemoglu et al. (2012), Barrot and Sauvagnat (2016), and Gerschel et al. (2020) highlight how input-output linkages, input specificity, and sectoral heterogeneity shape the transmission of shocks across supply chains. Building on this literature, I study how the substitutability of imports and exports and trade concentration influence the impact of foreign GPR shocks on economic expectations. I find that for countries with hard-to-substitute exports, foreign GPR has a more muted effect on the dispersion of forecasts.

The rest of the paper is organized as follows. Section 2 describes the data and discusses stylized facts related to GPR and economic expectations. Section 3 presents my main results on the effects of GPR on economic expectations. Section 4 introduces an extension of the model to assess whether professional forecasters take into consideration structural dimensions of trade when geopolitical events disrupt a country's main trading partners. Section 5 concludes and outlines key policy implications.

2 Data and Stylized Facts

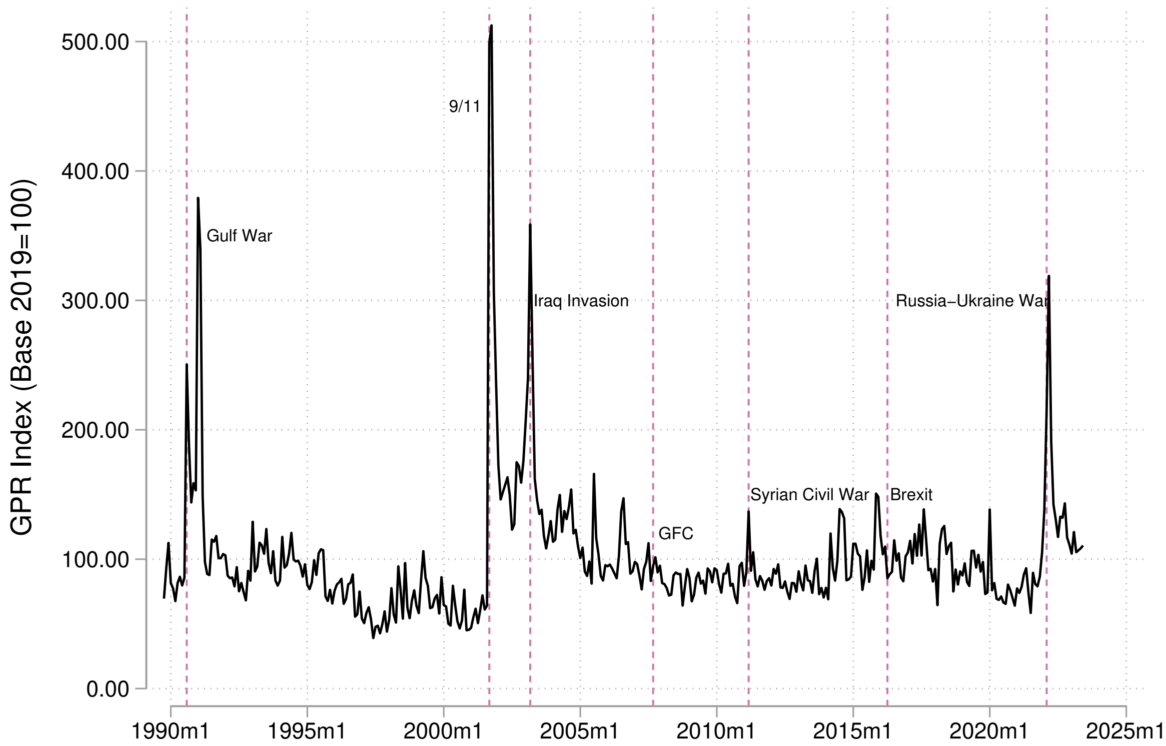
This section outlines the methodology to identify domestic and foreign GPR. It also discusses the Consensus Forecasts survey of professional forecasters and presents key stylized facts related to Russia's invasion of Ukraine in 2022. Finally, this section introduces novel country-level metrics for trade substitutability and trade concentration, which are analyzed to understand their role in the transmission of foreign GPR. Table 24 in the appendix reports the summary statistics for all key variables.

2.1 Measuring geopolitical risks

To quantify geopolitical risks, I utilize the news-based index developed by Caldara and Iacoviello (2022). The index is based on an automated text search that tracks the frequency of terms related to geopolitical tensions in major newspapers. The index offers several key advantages for identifying geopolitical risks. First, the media-based approach tracks GPR fluctuations continuously on a monthly basis. This provides a more granular analysis of GPR variations over time, rather than being limited to a small number of major discrete events. Second, the authors show that the index is only weakly correlated with other common measures of uncertainty. This helps to isolate GPR from other sources of uncertainty, such as economic and policy uncertainty. Third, because the media swiftly reports new events, the index captures the timing of geopolitical events with good accuracy.

Figure 2 plots the global GPR index of Caldara and Iacoviello (2022). The index captures major geopolitical events, including 9/11, the 2003 invasion of Iraq, and Russia's invasion of Ukraine in 2022. Importantly, the index does not spike during financial crises such as the Global Financial Crisis (GFC), supporting the idea that it identifies geopolitical risks rather than general uncertainty. Another reassuring feature is the index's quick response to events. For instance, the spike in February 2022 virtually coincides with Russia's invasion of Ukraine.

Figure 2: Aggregate geopolitical risk index

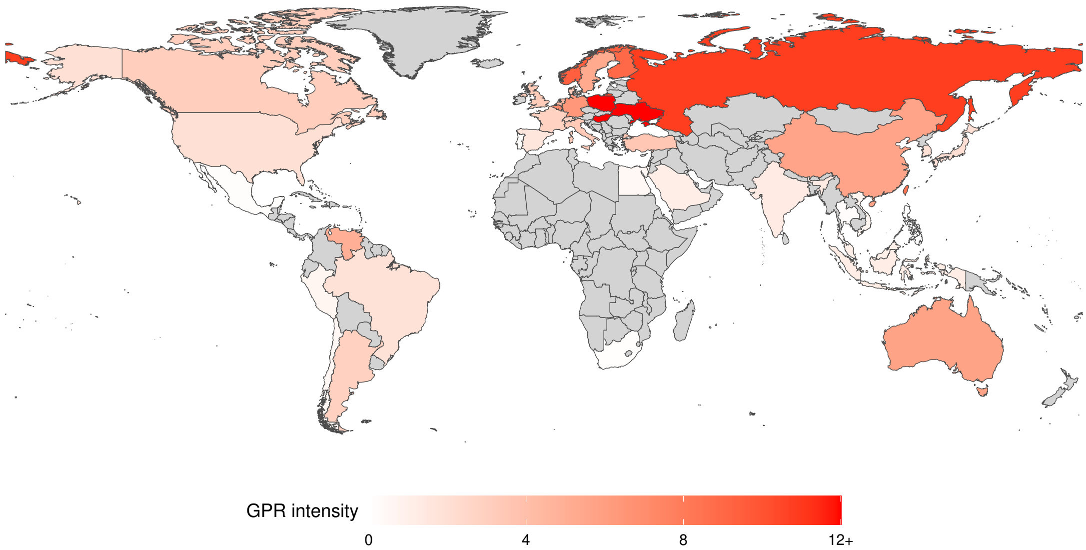


Sources: Own calculations based on Caldara and Iacoviello (2022)

Caldara and Iacoviello (2022) also provide a country-specific GPR index, which I use because it captures the distinct geographic impact of major geopolitical events. The country-specific GPR indexes are constructed using the same news article counting methodology as the global index but require that articles also mention the specific country or its major cities. Each index represents the share of total news articles meeting these conditions and reflects the intensity of coverage on geopolitical events. The underlying assumption is that greater media coverage reflects more intense GPR. The country-specific indexes are available monthly since 1985 for 44 advanced and developing economies.

Figure 3 presents the movements in country-specific GPR indexes around Russia's invasion of Ukraine. The heat map compares the value of each country-specific GPR index in March 2022 (the month following the invasion) against its historical average. A value above zero indicates that the GPR index for a given country exceeds its historical average. Unsurprisingly, GPR intensity is highest for belligerent countries and those geographically close to the conflict, while it is lower for countries not directly involved.[2]

Figure 3: Country-level geopolitical risk index around Russia's invasion of Ukraine



Sources: Own calculations based on Caldara and Iacoviello (2022)

These observations motivate the use of country-specific indexes because they capture how geopolitical events affect countries with differing intensities.

2.2 Measuring exposure to foreign geopolitical risks

To measure countries' exposure to foreign geopolitical risks, I construct country-specific foreign GPR measures based on the intensity of bilateral trade.[3] I use the cleaned version of UN COMTRADE international trade data by Bustos and Yildirim (2020). The foreign

[2]The correlation in GPR across countries is generally modest with an average correlation coefficient of 0.30 over the studied sample. Table 29 in the appendix provides the correlation values for all country pairs.

[3]The IMF's October 2024 Global Financial Stability Report (GFSR) employs a similar methodology to compute foreign uncertainty. The report constructs a composite of seven measures weighted by bilateral trade intensity to examine cross-border spillover effects of macroeconomic uncertainty (IMF, 2024a). The GFSR also examines exposure through financial linkages using banking relationships and portfolio investments. However, I do not adopt this approach as trade flows and capital flows are generally positively correlated (Lane and Milesi-Ferretti, 2008; Antras and Caballero, 2009; Belke and Domnick, 2021), and because my analysis centers on how structural dimensions of trade influence the international transmission of GPR.

GPR shock for country c at time t is calculated as follows:

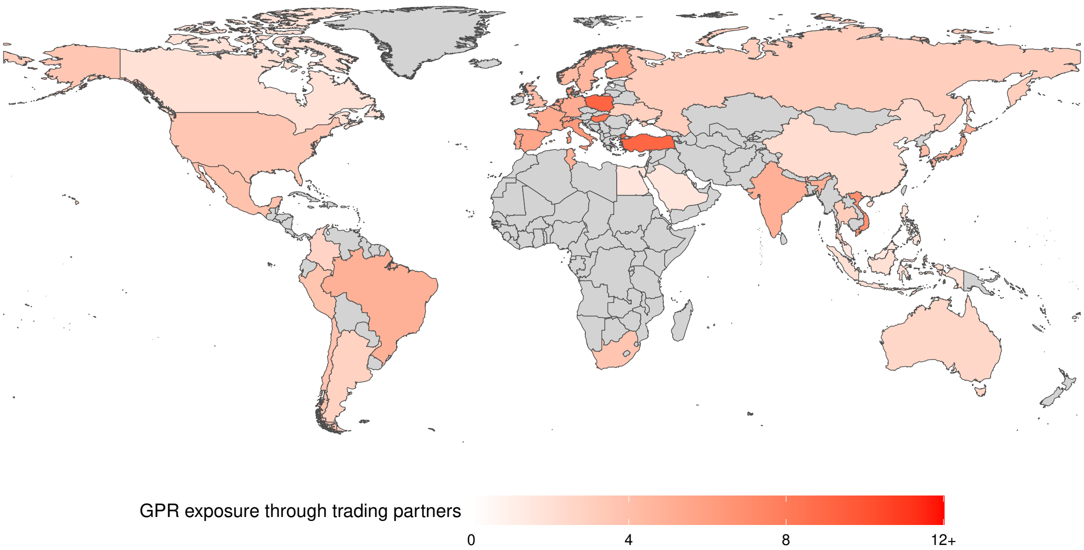
$$\text{GPR}_{c,t}^{\text{Foreign}} = \sum_{i \neq c} \text{GPR}_{i,t}^{\text{Domestic}} \times \left(\frac{\text{EXP}_{ci,t-1} + \text{IMP}_{ci,t-1}}{\text{GDP}_{c,t-1}} \right)$$

where $\text{EXP}_{ci,t-1}$ and $\text{IMP}_{ci,t-1}$ represent the exports from country c to country i at time $t-1$ and the imports from country i to country c at time $t-1$, respectively. $\text{GDP}_{c,t-1}$ is the gross domestic product of country c at time $t-1$, and $\text{GPR}_{i,t}^{\text{Domestic}}$ is the country-specific geopolitical risk index for trading partner i. The term $\left(\frac{\text{EXP}_{ci,t-1} + \text{IMP}_{ci,t-1}}{\text{GDP}_{c,t-1}} \right)$ serves as a weighting factor and reflects two key aspects: i) the geographical composition of trade, where greater trade exposure of country c to i increases the weight of $\text{GPR}_{i,t}^{\text{Domestic}}$, and (ii) the economic relevance of trade, as the trade exposure is scaled relative to GDP.[4] I lag the trade intensity measure by one period (i.e., using trade data from $t-1$) to account for the possibility that a geopolitical event may cause a reallocation of trade flows in response to changing geopolitical conditions. The correlation between domestic and foreign GPR is close to zero (p = -0.08).

Figure 4 presents the movements in foreign GPR shocks around Russia's invasion of Ukraine. The heat map plots the foreign GPR shock for each country, comparing its value in March 2022 (the month following the invasion) against its historical average. A value above zero indicates that a country's foreign GPR shock exceeds its historical average. Unlike the domestic GPR shocks discussed in the previous section, foreign GPR shocks are not concentrated around belligerent countries and their geographic neighbors. Instead, they reflect exposure through trade linkages with different levels of exposure leading to varying GPR shock intensities across countries. By construction, countries directly involved in the conflict (i.e., Russia and Ukraine) have lower foreign GPR shocks because these shocks only capture spillovers from trading partners, not domestic events. For example, countries within the EU and Brazil appear more affected due to their trade exposure to Russia.

[4] I do not distinguish between shocks originating from import and export partners, as the high correlation between import-weighted and export-weighted shocks (p = 0.85) raises multicollinearity concerns. In Section 4, I discuss two models examining these shocks separately.

Figure 4: Trade exposure to geopolitical risks around Russia's invasion of Ukraine



Sources: Own calculations based on Caldara and Iacoviello (2022)

2.3 Measuring Economic Expectations

To assess the effect of GPR on the formation of economic expectations, I use survey data from the Consensus Forecasts conducted by Consensus Economics, a private macroeconomic survey firm based in London. Since 1989, the survey has been administered during the first week of each month and gathers input from 10–30 professional forecasters. The dataset offers extensive coverage of 44 advanced and emerging market economies, along with a wide range of macroeconomic variables.

I use the survey of professional forecasters from Consensus Forecasts for three key reasons. First, professional forecasters are typically assumed to possess extensive and largely homogeneous information sets, as well as sophisticated processing capabilities (Bachmann et al., 2022). This makes them better equipped than respondents in consumer and firm surveys to assess the implications of complex and relatively less frequent events, such as geopolitical shocks. Second, the long time span and broad coverage of countries and macroeconomic variables in Consensus Forecasts are valuable for studying international spillovers of geopolitical risks. Third, Consensus Forecasts provides the distribution of forecasts, which enables an analysis of both level and uncertainty effects by looking at the dispersion of forecasts.[5]

In this paper, I focus on 32 of the 44 countries included in Consensus Forecasts between 1995m1 and 2023m6. These countries are selected because they can be consistently matched with both the country-specific geopolitical risk index and the survey data.[6] I examine the forecasts of five key macroeconomic variables: real GDP growth, real fixed investment growth, real consumption growth, the current account balance and inflation. Together, these variables allow me to study both real and nominal macroeconomic outcomes in the context of geopolitical shocks.[7] From the distribution of forecasts, I focus on the median and the interquartile range (the difference between the 75th and 25th percentiles). Both measures are robust to outliers and help capture the level and uncertainty effects generated by geopolitical shocks.

Forecasts for all variables are fixed-event forecasts. This means that each month, the survey provides a pair of forecasts for the current and the following calendar year. Following Dovern et al. (2012), I approximate a fixed-horizon forecast for the next twelve months as an average of the forecasts for the current and next calendar year weighted by their share in the forecasting horizon:

$$\hat{x}_{i,t+12|t} = \frac{k}{12}\hat{x}_{i,t+k|t} + \frac{12-k}{12}\hat{x}_{i,t+12+k|t}, \tag{1}$$

where $\hat{x}_{i,t+k|t}$ and $\hat{x}_{i,t+12+k|t}$ are forecasts made at time t with horizons of k and $k+12$ months, respectively, and $k \in \{1, \ldots, 12\}$. In other words, this approach captures a rolling 12-month forecast for all studied macroeconomic variables.

Figure 5 highlights how professional forecasts capture the economic impact of geopolitical events. The figure plots the distribution of real GDP growth forecasts around Russia's invasion of Ukraine for Russia, the principal actor in the conflict, and Poland, a neighboring country with trade exposure and geographical proximity to the belligerents. Following the invasion, median real GDP growth forecasts for both Russia and

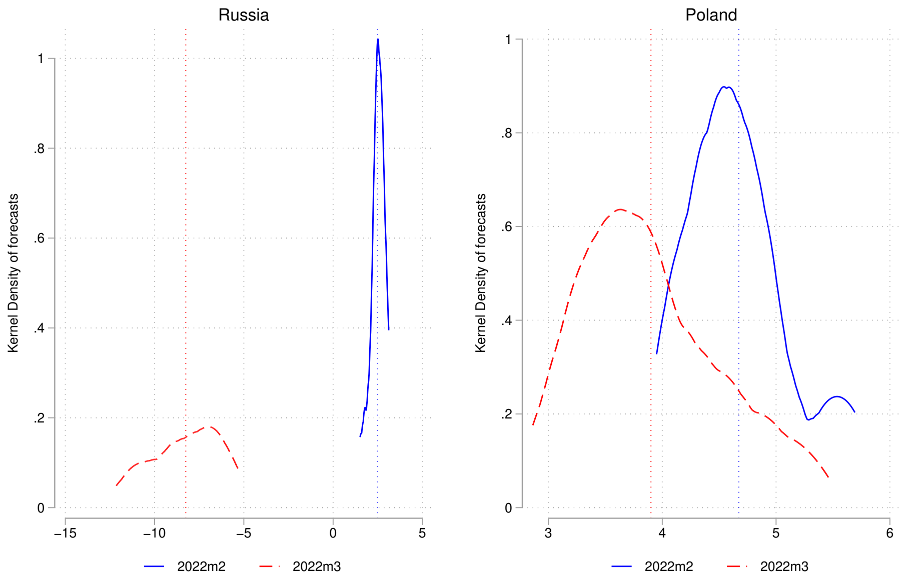
[5]Blue Chip Economic Indicators also provides monthly international forecasts but covers only 15 countries and 5 economic indicators. It does not include the distribution of forecasts, which does not allow for the construction of a measure of dispersion.

[6]The sample includes the following countries: Argentina, Australia, Brazil, Canada, Chile, China, Colombia, France, Germany, Hungary, India, Indonesia, Italy, Japan, Malaysia, Mexico, Netherlands, Norway, Peru, Philippines, Poland, Russia, South Korea, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, Ukraine, United Kingdom, and the United States of America. Together, these countries account for more than 80% of global GDP in 2023 based on purchasing power parity according to the October 2024 edition of the World Economic Outlook (IMF, 2024b).

[7]While a full decomposition of GDP components would also include the budget balance, data limitations prevent its inclusion for the sample of countries in this study.

Poland dropped sharply. The widening dispersion of forecasts also highlights heightened uncertainty about the economic outlooks of both countries.

Figure 5: Distribution of real GDP forecasts around Russia's Invasion of Ukraine



Sources: Own calculations based on Consensus Forecasts

2.4 Trade concentration and trade substitutability

This section introduces new country-level metrics for trade concentration and trade substitutability using product-level trade data. These metrics are used to analyze their impact on the international transmission of geopolitical risks. Section 4 explains how trade concentration and trade substitutability influence domestic economic expectations in response to foreign geopolitical risks.

2.4.1 Trade concentration

I use the cleaned version of UN COMTRADE product-level bilateral trade data by Bustos and Yildirim (2020), classified at the 4-digit level of the 1992 version of the Harmonized System (HS). The data is available at an annual frequency from 1995 to 2022 and includes 1,241 traded products.[8] In the spirit of Mayneris and Ourens (2024), I construct product-level measures of geographic concentration for imports and exports using a Herfindahl-

[8] I use the Harmonized System (HS) classification instead of the Standard International Trade Classification (SITC) because the HS provides a more detailed classification of goods, although it covers a shorter time period. This limitation is not an issue, as our expectation data begins in 1995, coinciding with the start year of the HS.

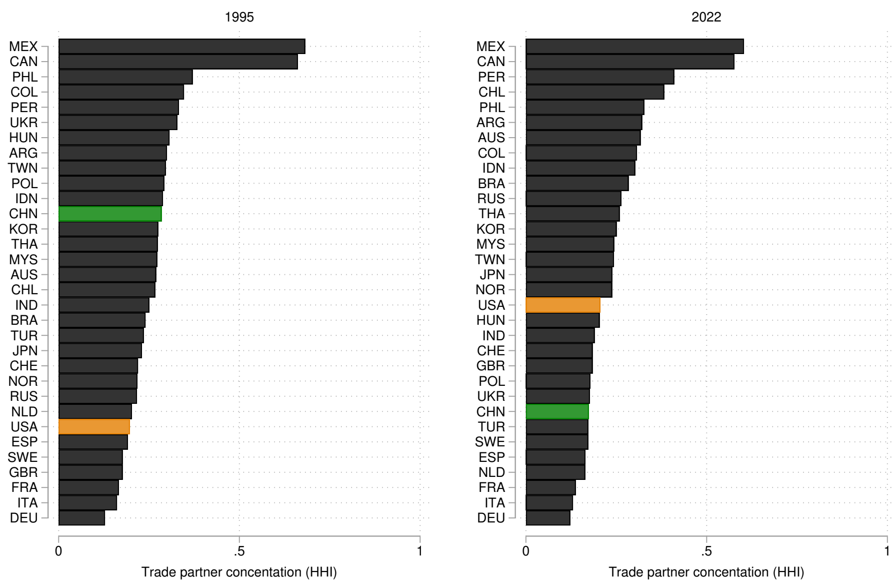
Hirschman Index (HHI). I then aggregate the product-level HHI values at the country level and weight them by each product's share in total imports or exports:[9]

$$\mathrm{HHI}_{\mathrm{import},ct} = \frac{\sum_k \mathrm{HHI}_k \times \mathrm{Imports}_{ckt}}{\sum_k \mathrm{Imports}_{ckt}}$$

$$\mathrm{HHI}_{\mathrm{export},ct} = \frac{\sum_k \mathrm{HHI}_k \times \mathrm{Exports}_{ckt}}{\sum_k \mathrm{Exports}_{ckt}}$$

where HHI_k is the concentration measure for product k, and $\mathrm{Imports}_{ckt}$ and $\mathrm{Exports}_{ckt}$ are the import and export values of product k for country c at time t.[10] Due to the high correlation between the import and export concentration measures, I use the average of the import and export HHI to prevent multicollinearity issues in the model.[11]

Figure 6: Trade concentration in 1995 and 2022



Sources: Own calculations based on Bustos and Yildirim (2020)

Figure 6 shows the distribution of countries trade concentration for the years 1995 and 2022. The graph reveals two important facts: (i) Canada and Mexico exhibit higher concentrations than other countries in the sample due to their significant trade exposure

[9] Mayneris and Ourens (2024) compute a measure of the geographic concentration of imports using the BACI database but only from 2000 to 2019. I expand this approach to cover the period from 1995 to 2022 and apply it to exports using the cleaned bilateral trade data from Bustos and Yildirim (2020).

[10] In the section B.2 of the appendix, I provide an example for the calculation and interpretation of the trade concentration measure at the product-level and how it is aggregated at the country level. I also discuss the pros and cons of this measure compared to a country-level measure of trade concentration that does not account for differences across products.

[11] Figure 16 in the appendix plots the correlation between these two measures.

to the United States, and (ii) while the ranking of countries by trade concentration slightly differs between 1995 and 2022, these changes remain small in magnitude. Section B.3 in the appendix offers a more detailed exploration of the dynamics of trade concentration for China and the USA since 1995.

2.4.2 Trade substitutability

In this paper, I use trade elasticity as a proxy for trade substitutability.[12] I rely on the tariff-based product-level elasticities of Fontagné et al. (2022) for a list of 1,241 products at the HS-4 digit level. Fontagné et al. (2022) define trade elasticity as the degree of substitutability between varieties of products exported by different countries to a specific destination.[13] It exploits variations in bilateral tariffs across the universe of country pairs from 2001 to 2016.[14]

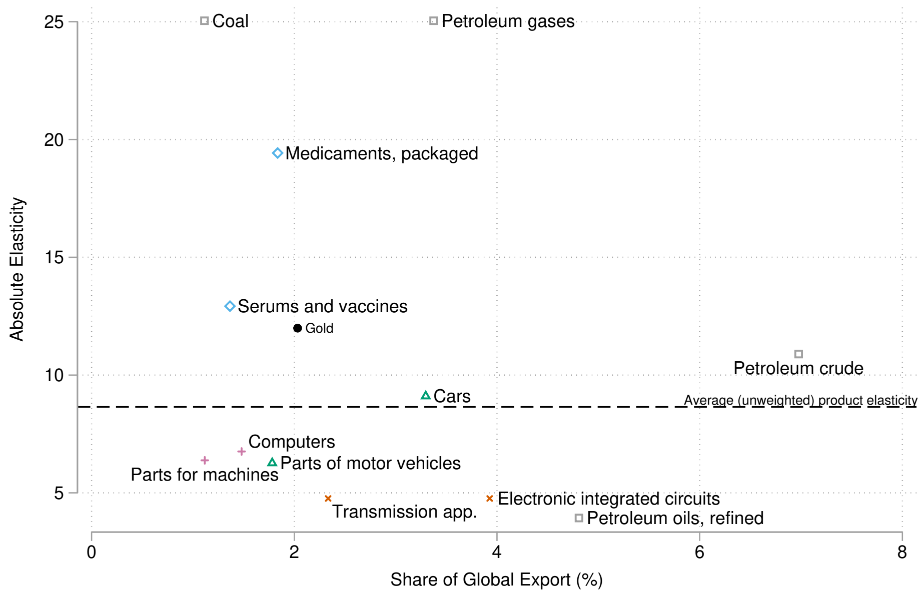
Figure 7 presents the trade elasticity estimates from Fontagné et al. (2022) for the most traded products in global trade. A striking feature of these estimates is that trade elasticity at the HS 4-digit product level varies significantly both within and across industries. This variation underscores the importance of considering the product composition of trade when analyzing the impact of foreign GPR.

[12] In the context of an Armington (1969) model, which assumes consumers have CES preferences within industries and goods differentiated by country of origin, trade elasticities are determined by the elasticity of substitution through the relationship $\epsilon = \sigma - 1$.

[13] Several other methods exist to compute trade elasticities (see for example Broda and Weinstein 2006; Caliendo and Parro 2015; Giri et al. 2021). I rely on the approach of Fontagné et al. (2022) because it identifies trade elasticities entirely though variations in trade policy changes (tariffs) and uses a global coverage of importing and exporting countries.

[14] Boehm et al. (2023) compute trade elasticities for both the short term and the long term and find values that are significantly lower than those reported elsewhere in the literature. Their estimation method is more advanced, as it accounts for bilateral unobservables and employs instrumental variable (IV) techniques to address potential endogeneity issues. However, this methodological rigor comes at the cost of reduced sectoral coverage, as their analysis spans only 11 broad sectors compared to the 1,241 HS-4 digit product categories used by Fontagné et al. (2022). Since this paper focuses on differences in product substitutability across countries, I rely on the elasticities provided by Fontagné et al. (2022), which offer a more detailed representation of potential heterogeneity across industries.

Figure 7: Elasticity of key traded products in global trade



Notes: The figure plots trade elasticity estimates for the top 1% of global exports at the HS 4-digit product level. Symbols represent products grouped within the same HS 1-digit category.

Sources: Own calculations based on Fontagné et al. (2022) and Bustos and Yildirim (2020)

To measure trade substitutability at the country level, I calculate a weighted average of product-level trade elasticities, where the weights are based on each product's share of a country's total trade.[15] I construct this separately at the import and export levels to assess the substitutability of a country's import and export base:

$$\varepsilon_{\text{import},ct} = \frac{\sum_k \varepsilon_k \times \text{Imports}_{ckt}}{\sum_k \text{Imports}_{ckt}}$$

$$\varepsilon_{\text{export},ct} = \frac{\sum_k \varepsilon_k \times \text{Exports}_{ckt}}{\sum_k \text{Exports}_{ckt}}$$

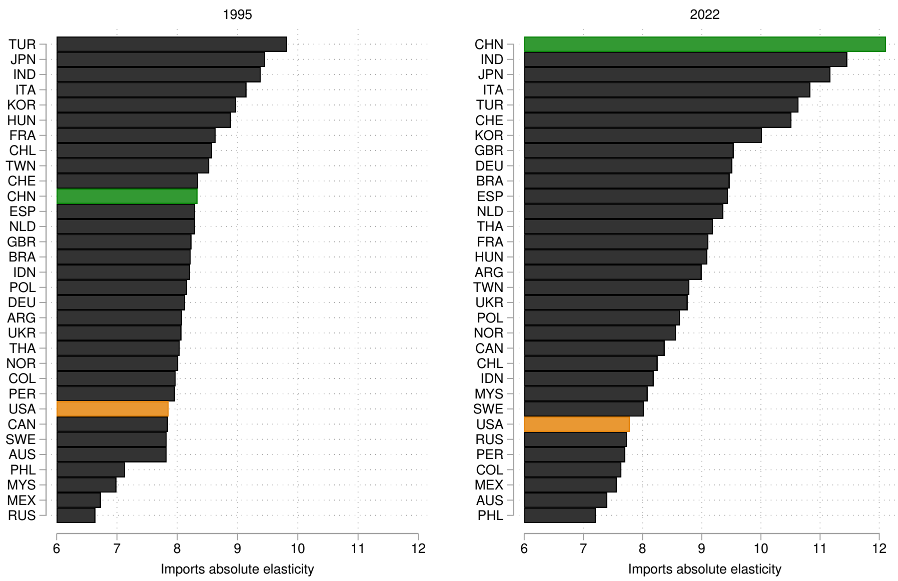
where ε_k is the elasticity for product k, and Imports_{ckt} and Exports_{ckt} are the import and export volumes of product k for country c at time t . Note that ε_k is constant over time, so changes in countries' import and export base trade elasticities are solely driven by trade composition effects.

Figures 8 and 9 plot the distribution of countries' import and export base elasticities in 1995 and 2022. The graphs highlight three key insights. First, trade substitutability within countries has significantly evolved over time. This reflects changes in the compo-

[15]This method of aggregating at a granular product level, compared to relying on macroeconomic aggregates or considering broader product categories, limits potential heterogeneity biases as discussed in Imbs and Mejean (2015).

sition of products traded by countries. Second, the relative rankings of countries by trade substitutability differ significantly between 1995 and 2022. This indicates heterogeneous adjustments in countries' trade structures. Third, the distribution of trade substitutability for exports is much wider than that for imports. This suggests greater variability in the substitutability of exported goods across countries.

Figure 8: Country-Average Import Base Elasticity in 1995 and 2022

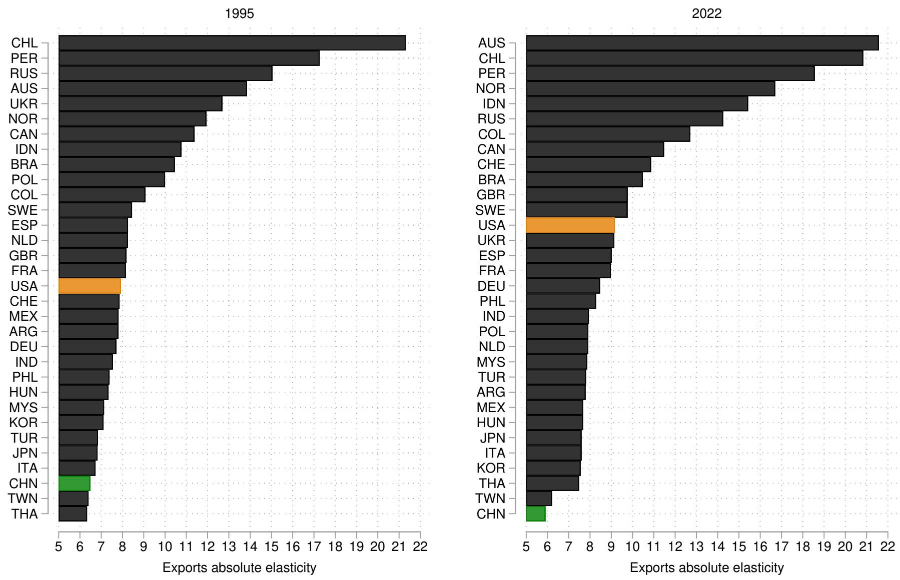


Sources: Own calculations based on Fontagné et al. (2022) and Bustos and Yildirim (2020)

Section B.3 in the appendix offers a detailed discussion of the dynamics of trade substitutability for China and the USA since 1995. It notably highlights changes in the top 10 imports and exports of both countries over time and examines the resulting impact on their import and export base elasticities.

Section B.4 in the appendix further examines the correlations among trade substitutability and trade concentration measures for imports and exports in 2022. Two key takeaways emerge. First, the trade elasticity of a country's import base is not significantly correlated with that of its export base. This indicates that countries exporting goods that are hard to substitute do not systematically also import goods that are easy to substitute. Second, the correlation between the substitutability of traded goods and the geographic concentration of trade is low.

Figure 9: Country-Average Export Base Elasticity in 1995 and 2022



Sources: Own calculations based on Fontagné et al. (2022) and Bustos and Yildirim (2020)

3 The effects of geopolitical risks on economic expectations

3.1 Baseline model

I begin by examining the response of the 1-year-ahead median and IQR of real GDP growth forecasts to GPR for 32 countries over the 1995m1-2023m6 sample. To this end, I estimate the following baseline panel data regression model:

$$Y_{c,t} = \beta_1 Y_{c,t-1} + \beta_2 \text{GPR}^{\text{Domestic}}_{c,t-1} + \beta_3 \text{GPR}^{\text{Foreign}}_{c,t-1} + \mu_c + \nu_t + \epsilon_{c,t}, \qquad (2)$$

where $Y_{c,t}$ represents either the median or the interquartile range of the real GDP growth forecasts for country c at time t. $\text{GPR}^{\text{Domestic}}_{c,t-1}$ is from Caldara and Iacoviello (2022) and corresponds to the standardized domestic geopolitical risk in country c at time $t-1$. The variable $\text{GPR}^{\text{Foreign}}_{c,t-1}$ denotes the standardized foreign geopolitical risks affecting country c at time $t-1$ computed as a trade-weighted average of country-specific GPR:

$$\text{GPR}^{\text{Foreign}}_{c,t-1} = \sum_{i \neq c} \text{GPR}^{\text{Domestic}}_{i,t-1} \times \left(\frac{\text{EXP}_{ci,t-1} + \text{IMP}_{ci,t-1}}{\text{GDP}_{c,t-1}} \right)$$

where the variables $\text{EXP}_{ci,t-1}$ and $\text{IMP}_{ci,t-1}$ represent the exports from country c to country i and the imports into country c from country i at time $t-1$, respectively. The denominator $\text{GDP}_{c,t-1}$ is the gross domestic product of country c at time $t-1$, serving as a scaling factor to normalize the trade exposure. The terms μ_c and ν_t are country and time fixed effects, respectively, and $\epsilon_{c,t}$ is the error term.[16] As discussed in the data section, I do not distinguish between foreign GPR arising from import or export partners because of their high correlation (0.85), which raises multicollinearity concerns in the estimation.[17] I employ Driscoll and Kraay (1998)'s standard errors to account for cross-sectional and temporal correlation.

Several factors facilitate the identification of the impact of GPR on economic expectations. First, Caldara and Iacoviello (2022) show that macroeconomic, financial, and uncertainty developments—including indicators like the VIX and the Economic Policy Uncertainty (EPU) index—do not Granger-cause the GPR index. This finding mitigates concerns about other sources of uncertainty driving the results and provides confidence that the GPR index can be treated as exogenous in the analysis. Second, the forward-looking and ex-ante nature of professional forecasts data is critical for the identification. This is because changes in forecasts reflect the incorporation of new information rather than responses to existing or previously known economic developments. Third, the relatively high-frequency nature of the data helps to identify the impact of GPR shocks on economic forecasts. The financial sophistication of professional forecasters and their access to timely information ensures that they rapidly incorporate new information into their expectations. I therefore include the GPR index in the model with a lag, assuming that forecasters directly adjust their expectations in the month following a geopolitical event.[18] Additionally, the news-based nature of the GPR index is appealing because media outlets quickly report geopolitical events, which minimizes concerns about misidentifying the timing of such events. Finally, the inclusion of country and time fixed effects

[16]The large time dimension of my panel should be enough to mitigate concerns about a Nickell (1981) bias from including the lagged dependent variable as a control in Equation 2.

[17]I discuss a case where these two shocks are estimated separately in the next section.

[18]In Section A.1 of the appendix, I test the robustness of this assumption by also estimating the baseline equation using contemporaneous and two-month lags of the GPR index.

in my regression model controls for country-specific and month-specific unobserved heterogeneity.

3.2 Effects of GPR on real GDP growth forecasts

Table 1 presents the estimation results for the baseline model. Columns 1 and 2 report the effects of GPR on the median forecast of real GDP growth, while columns 3 and 4 display the effects on the IQR of the forecasts. Columns 1 and 3 estimate the equation with domestic GPR only, while Columns 2 and 4 include foreign GPR as a control. The results indicate that neither domestic nor foreign GPR significantly impact the one-year-ahead median forecast of real GDP growth. This finding contrasts with Iacoviello et al. (2024), who report that a one-standard-deviation increase in GPR is associated with an average 1.5 percent drop in GDP over a two-year horizon. While the coefficient for domestic GPR in my results point in the same direction, it is not statistically significant.

Table 1: Impact of geopolitical risks on real GDP growth expectations

Real GDP growth	Median Forecast		IQR of Forecasts	
	(1)	(2)	(3)	(4)
Lagged dependent variable$_{c,t-1}$	0.946***	0.944***	0.702***	0.700***
	(0.0215)	(0.0217)	(0.0252)	(0.0256)
Domestic GPR Shock$_{c,t-1}$	-0.0254	-0.0254	0.0110*	0.0108*
	(0.0190)	(0.0192)	(0.00576)	(0.00563)
Foreign GPR Shock$_{c,t-1}$		0.0168		0.0178**
		(0.0247)		(0.00812)
Observations	8714	8483	8714	8483
Number of Countries	32	32	32	32
Country FE	✓	✓	✓	✓
Time FE	✓	✓	✓	✓
Adjusted R-squared	0.899	0.897	0.497	0.494

Note: This table reports the estimates of equation 2. Driscoll and Kraay (1998) standard errors are reported in in parentheses.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Several factors could explain this difference. First, Iacoviello et al. (2024) analyze a much longer sample period (1900–2022), which includes the two world wars, whereas my sample begins in 1995 and therefore reflects events of relatively more moderate intensity. Second, my analysis relies on expectations data, which limits the sample to 32 economies compared to 44 in their study. As a consequence, it excludes many smaller and potentially more vulnerable economies. Third, over a one-year horizon, economic stimulus through monetary expansion and increased military spending likely offsets the negative effects of geopolitical events. (Ramey, 2011; Hall and Sargent, 2022).[19]

In contrast, both domestic and foreign GPR shocks widen the dispersion of forecasts. On average, a one-standard-deviation domestic GPR shock leads to a 1.1 percentage point rise in the interquartile range (IQR), which is statistically significant at the 10% confidence level. Similarly, a one-standard-deviation foreign GPR shock results in around 1.8 percentage point increase in the IQR, statistically significant at the 5% confidence level. This suggests that GPR heightens uncertainty about future economic conditions, as forecasters offer more divergent predictions on the potential consequences of geopolitical events.[20] Importantly, the findings regarding foreign GPR highlight that countries are indirectly exposed to geopolitical events through their main trading partners. This underscores the international transmission of foreign GPR and the potential for contagion risks. Both Caldara and Iacoviello (2022) and Brignone et al. (2024) find that a shock to the aggregate GPR index results in only a moderate increase in financial uncertainty, as measured by the VIX.[21] However, since the VIX is an aggregate market-based measure of uncertainty, my findings also align with evidence that financial indicators may not fully capture macroeconomic uncertainty (Dew-Becker and Giglio, 2023; IMF, 2024a). In addition, these previous studies focus on aggregate GPR. I argue that this approach may fail to capture the nuanced ways in which geopolitical risks affect individual countries. As discussed in the data section, using a country-specific measure of GPR allows for a more detailed assessment of the domestic consequences of foreign exposure to geopolitical risks.

[19] The next section examines the response of GDP components to GPR shocks. However, data limitations preclude an analysis of the effect of GPR on budget balances across the sample of countries.

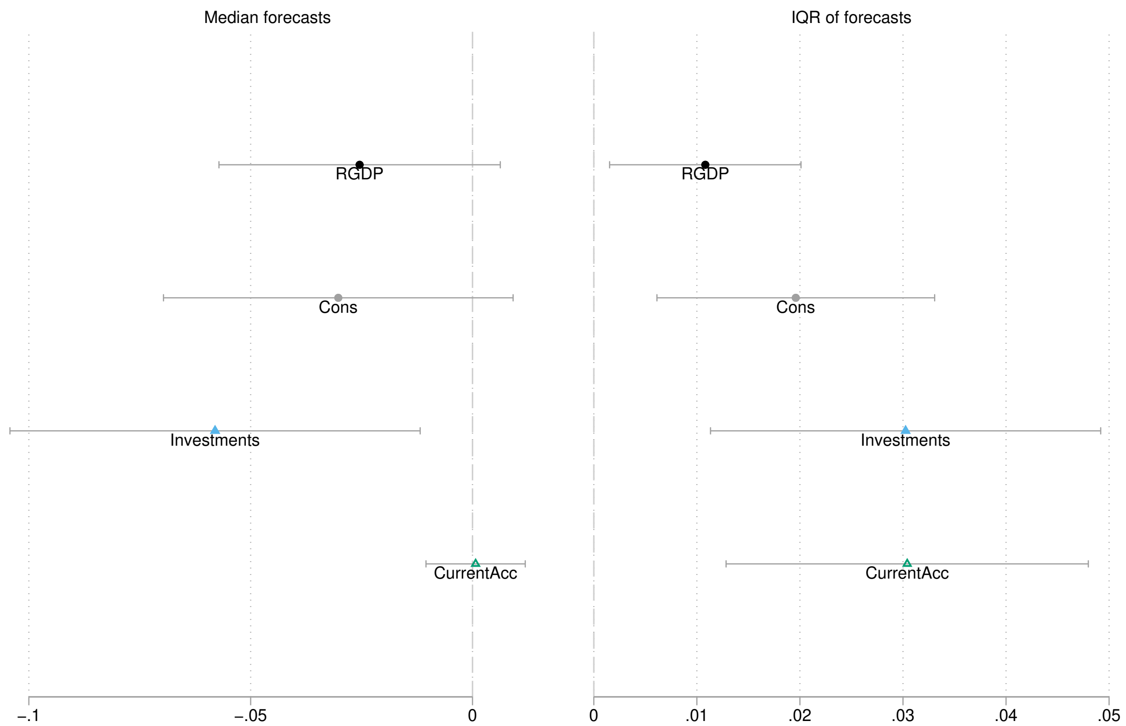
[20] As a benchmark, Russia's invasion of Ukraine corresponds to a four-standard-deviation GPR shock and resulted in an increase in the IQR of real GDP growth forecasts of 2.4 percentage points for Russia and 9.8 percentage points for Ukraine.

[21] Brignone et al. (2024) argue that only substantially large GPR shocks (i.e., above four standard deviations) are associated with higher uncertainty.

3.3 Effects on GDP components

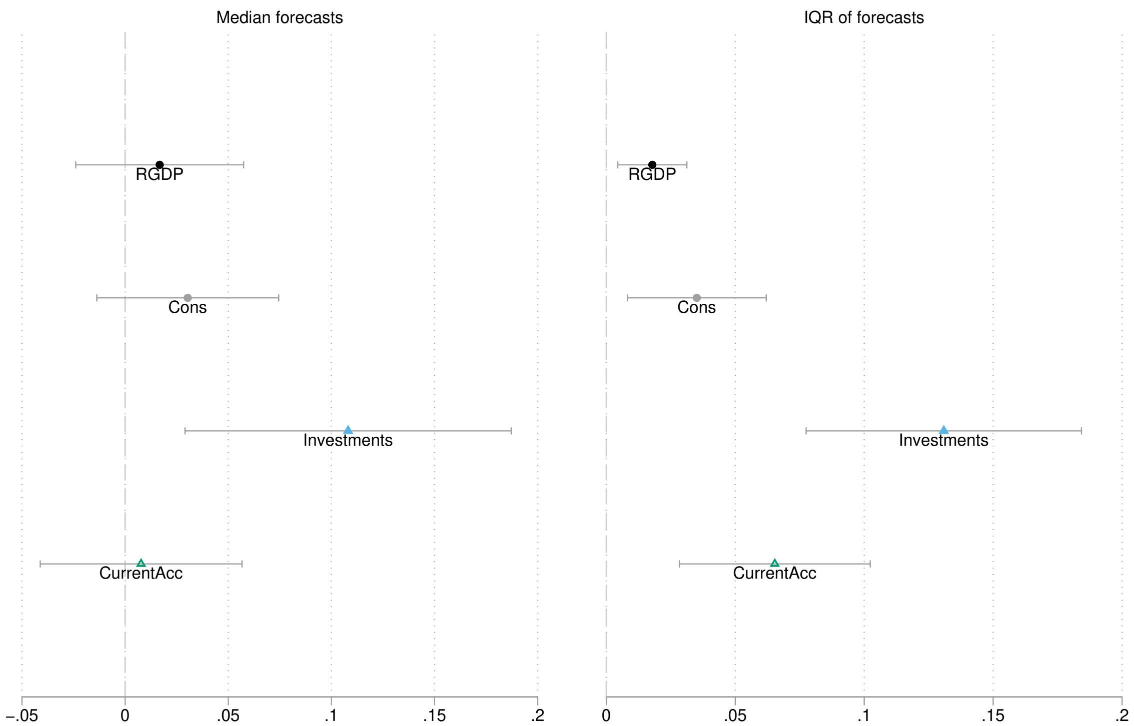
I further investigate the impact of GPR on economic expectations by analyzing specific components of GDP. While a comprehensive decomposition would ideally encompass all components, I focus on expectations for real fixed investment growth, real private consumption growth, and the current account balance due to data limitations. Figures 10 and 11 display the estimated coefficients β_2 and β_3 in equation 2 for the median and interquartile range (IQR) of the aforementioned GDP components.

Figure 10: Impact of domestic geopolitical risks on economic expectations: Components of GDP



Notes: The plots show the regression coefficients for different components of GDP, capturing the impact of a one standard deviation increase in the domestic GPR risk index on the median and interquartile range (IQR) of expectations for various macroeconomic variables. This corresponds to the coefficient β_2 in equation 2. The error bars represent 90% confidence intervals. RGDP = Real GDP growth, Cons = Real household consumption growth, Investments = Real fixed investment growth, CurrentAcc = Current account balance (% of GDP).

Figure 11: Impact of foreign geopolitical risks on economic expectations: Components of GDP



Notes: The plots show the regression coefficients for different components of GDP, capturing the impact of a one standard deviation increase in the foreign GPR risk index on the median and interquartile range (IQR) of expectations for various macroeconomic variables. This corresponds to the coefficient β_3 in equation 2. The error bars represent 90% confidence intervals. RGDP = Real GDP growth, Cons = Real household consumption growth, Investments = Real fixed investment growth, CurrentAcc = Current account balance (% of GDP).

The findings for the median forecasts largely mirror the baseline results: for most components of GDP, neither domestic nor foreign GPR significantly impacts the one-year-ahead median forecasts. A notable exception is real fixed investment growth. On average, a one-standard-deviation domestic GPR shock reduces the median forecast for real investment growth by 5.8 percentage points. This estimate aligns with the range of results in the literature. For example, Wang et al. (2019) find that a doubling of the aggregate GPR index reduces firm-level investment rates by 14% in the subsequent quarter, while Xue and Hu (2021) report that North Korea's nuclear weapons tests decrease Chinese firm-level investments by an average of 3% in the following quarter. Although these studies differ in the magnitude of shocks and forecast horizons, my results highlight that professional forecasters expect real investment growth to contract when a country faces domestic geopolitical shocks.

A more puzzling result is the positive effect of foreign GPR shocks on domestic real investment growth forecasts. Specifically, a one-standard-deviation foreign GPR shock increases the median forecast for domestic real investment growth by 10.8 percentage points. This finding is counterintuitive as foreign geopolitical risks would typically be expected to dampen investment confidence through higher uncertainty (Dixit and Pindyck, 1994; Bloom et al., 2018). However, this result does not hold under robustness checks that control for structural dimensions of trade as discussed in Section 4. That said, this result could also reflect professional forecasters' expectations that foreign geopolitical shocks will accelerate "reshoring" and "friend-shoring" strategies, thereby boosting domestic investment growth forecasts (Javorcik et al., 2024; Aiyar et al., 2024). By contrast, the effect of both domestic and foreign GPR shocks on the median forecasts for real private consumption growth and the current account balance is not statistically significant.

The findings for the IQR of forecasts also largely mirror the baseline results for the real GDP forecasts. A one standard deviation increase in both the domestic and foreign GPR leads to a statistically significantly higher IQR for the expectations of real private consumption growth, real fixed investment growth and the current-account balance. This increase in forecast dispersion highlights the uncertainty surrounding how GPR will unfold and their ultimate economic implications.

Two notable observations stand out. First, the dispersion of forecasts is highest for the current account balance and investment growth. This indicates that disruptions to trade and shifts in capital allocation caused by GPR are the main channels driving uncertainty. For example, a one-standard-deviation increase in domestic GPR raises the IQR for the real fixed investment growth forecasts by 3 percentage points, whereas the same increase in foreign GPR leads to a 13 percentage point rise. This likely reflects that the economic transmission of foreign GPR is less well understood and that the corresponding policy responses to such shocks are less predictable or well-defined.[22]

3.4 Effects on inflation expectations

I also explore the impact of GPR on inflation expectations. Table 2 presents the estimation results. Columns 1 and 2 report the effects of GPR on the median forecast of inflation expectations, while columns 3 and 4 display the effects on the IQR of the forecasts. Columns 1 and 3 estimate the equation with domestic GPR only, while columns 2 and 4 include both domestic and foreign GPR.

[22] An interesting area of future research could test whether GPR causes country-level economic policy uncertainty as defined in Baker et al. (2016) to rise following a shock.

The results indicate no significant overall effect of GPR on either the level or the uncertainty of inflation expectations. This finding holds regardless of whether the shock originates domestically or from major trading partners. One potential reason for this result is the widespread adoption of inflation targeting among the countries in my sample since 1995. The literature shows that inflation targeting lowers inflation and reduces inflation variability compared to alternative monetary regimes (Fratzscher et al., 2020). Through better anchored inflation expectations, countries in my sample likely post lower sensitivity to geopolitical shocks. However, the results might differ in a sample that includes more low-income countries or economies without well-established monetary policy frameworks.

Another possible explanation relates to the inherent ambiguity in the relationship between geopolitical tensions and inflation. Geopolitical shocks can disrupt supply chains and drive up commodity prices, thereby exerting upward pressure on inflation (Pinchetti, 2024).

Table 2: Impact of geopolitical risks on inflation expectations

Inflation	Median Forecast		IQR of Forecasts	
	(1)	(2)	(3)	(4)
Lagged dependent variable$_{c,t-1}$	1.012***	1.013***	0.837***	0.837***
	(0.0154)	(0.0156)	(0.0565)	(0.0568)
Domestic GPR Shock$_{c,t-1}$	0.0232	0.0241	0.00202	0.00297
	(0.0194)	(0.0198)	(0.0176)	(0.0183)
Foreign GPR Shock$_{c,t-1}$		-0.0700		-0.0458
		(0.0791)		(0.0462)
Observations	8713	8482	8713	8482
Number of Countries	32	32	32	32
Country FE	✓	✓	✓	✓
Time FE	✓	✓	✓	✓
Adjusted R-squared	0.963	0.963	0.662	0.662

Note: This table reports the estimates of equation 2. Driscoll and Kraay (1998) standard errors are reported in in parentheses.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

At the same time, such shocks may weaken demand by reducing confidence and curtailing investment, exerting downward pressure on inflation. This ambiguity is further compounded by varying policy responses, which may involve either tightening or easing monetary policy (Iacoviello et al., 2024).

4 The role of trade concentration and trade substitutability

In the previous section, I show that GPR does not systematically influence median forecasts but amplifies forecast dispersion. This effect is more pronounced for foreign GPR, underscoring the cross-border spillover effects of geopolitical risks. In this section, I examine how structural dimensions of trade shape economic forecasts when geopolitical events impact a country's primary trading partners. Specifically, I explore whether the limited substitutability of a country's traded goods and reliance on a concentrated trading network adversely affect the median forecasts and amplify dispersion.

4.1 Theoretical mechanisms

4.1.1 Trade concentration

A growing strand of the literature has examined how a lack of trade diversification contributes to greater overall output volatility. At the firm level, Kramarz et al. (2020) show that the limited diversification of exporters and the connectedness of the largest buyers increase macroeconomic volatility. Vannoorenberghe et al. (2016) find similar results but only for large exporters. Mayneris and Ourens (2024) find that geographic concentration of imports is associated with a higher volatility of country-level imports through higher exposure to supply shocks.

In light of these findings, using the country-level metrics for trade concentration defined in section 2.4, I test whether professional forecasters take trade concentration into consideration when geopolitical events disrupt a country's main trading partners. Under full information rational expectations, I expect that professional forecasters will adjust their economic predictions by considering the degree of geographic concentration in a country's trade. For countries with highly concentrated imports and exports, I anticipate that foreign GPR shocks will lead forecasters to predict greater negative impacts on key economic variables such as GDP, consumption, investments, and potentially the current account balance.

On the import side, increased vulnerability to supply disruptions and price volatility can strain production processes and consumer markets due to potential shortages and higher input costs. On the export side, reliance on a few key markets means that demand disruptions abroad can significantly reduce export revenues, affecting domestic production and employment in export-oriented industries. The impact on the current account balance is ambiguous. Higher import prices can increase the value of imports, but this may be offset by reduced import volumes if demand for imports falls. Additionally, declining export revenues due to reduced foreign demand can exacerbate current account pressures, though changes in trade patterns or terms of trade could mitigate some of these effects.

Additionally, the uncertainty surrounding these forecasts is likely to be higher, reflecting the unpredictability associated with potential disruptions in both supply chains and external demand. That said, forecasters may also overlook these vulnerabilities and complexities due to rational inattention, which could result in no significant effect. These ambiguities underscore the importance of empirically testing whether and how forecasters perceive and integrate the complexities of structual dimensions of trade during times of heightened GPR.

4.1.2 Trade substitutability

Trade substitutability is another structural dimension of trade that may influence economic expectations when geopolitical events disrupt a country's primary trading partners. As countries specialize in trade, they engage in importing and exporting goods with varying degrees of substitutability (Broda and Weinstein, 2006; Ossa, 2015; Peter et al., 2023). This specialization means some goods can be easily replaced by alternatives from other countries, while others are more unique and harder to substitute.

Using the country-level metrics for trade elasticity defined in Section 2.4, I test whether professional forecasters take the substitutability of a country's import and export base into consideration when geopolitical events disrupt a country's main trading partners.[23] I expect professional forecasters to adjust their economic predictions based on the degree of substitutability in a country's imports and exports. Specifically, for countries with highly substitutable imports and less substitutable exports, I expect foreign GPR to lead forecasters to predict more stable impacts on key economic variables such as GDP growth, real fixed investment growth, consumption growth, current-account balance, and

[23]In section 2.4, I explain why trade elasticity is used as a proxy for trade substitutability.

inflation. On the import side, high substitutability allows for an easier replacement of disrupted imports, mitigating supply disruptions and price volatility, thereby supporting stable production processes and consumer markets. Conversely, higher substitutability on the export side suggests that a country's export base may consist of goods that are more easily replaceable by trading partners, which can lead to reduced demand during external shocks. The impact on the current account balance is ambiguous. While substitutable imports can stabilize import costs, less substitutable exports may reduce export revenues.

Additionally, I expect the uncertainty surrounding these forecasts to be higher for countries with low substitutability in imports and lower for countries with low substitutability in exports. Low substitutability in imports implies that disrupted imports cannot be easily replaced. This may lead to uncertainty due to potential supply shortages and higher input costs. Conversely, low substitutability in exports suggests that export demand may be more predictable and stable. This is because reliance on specialized goods limits the variability of export revenues. However, forecasters may overlook these vulnerabilities and complexities due to rational inattention, potentially resulting in no significant effect. Again, these ambiguities underscore the importance of empirically testing whether forecasters perceive and integrate the complexities of trade substitutability during times of heightened geopolitical risks.

4.2 Extended Model

To examine whether professional forecasters account for structural dimensions of trade influence when countries face foreign GPR, I extend the baseline panel data model as follows:

$$\begin{aligned} Y_{c,t} = {} & \beta_1 Y_{c,t-1} + \beta_2 \mathrm{GPR}^{\mathrm{Domestic}}_{c,t-1} + \beta_3 \mathrm{GPR}^{\mathrm{Foreign}}_{c,t-1} + \beta_4 \text{Low Import Elasticity}_{c,t-1} \\ & + \beta_5 \text{Low Export Elasticity}_{c,t-1} + \beta_6 \text{High Trade Concentration}_{c,t-1} \\ & + \beta_7 (\mathrm{GPR}^{\mathrm{Foreign}}_{c,t-1} \times \text{Low Import Elasticity}_{c,t-1}) \\ & + \beta_8 (\mathrm{GPR}^{\mathrm{Foreign}}_{c,t-1} \times \text{Low Export Elasticity}_{c,t-1}) \\ & + \beta_9 (\mathrm{GPR}^{\mathrm{Foreign}}_{c,t-1} \times \text{High Trade Concentration}_{c,t-1}) + \mu_c + \nu_t + \epsilon_{c,t} \end{aligned} \tag{3}$$

where $Y_{c,t}$ represents the median or IQR of economic forecasts for the set of macroeconomic variables of interest for country c at time t; $Y_{c,t-1}$ is the lagged value of this forecast measure, capturing potential persistence in economic forecasts; $\text{GPR}^{\text{Domestic}}_{c,t-1}$ denotes the domestic geopolitical risk affecting country c at time $t-1$; and $\text{GPR}^{\text{Foreign}}_{c,t-1}$ represents foreign geopolitical risk affecting country c at time $t-1$.

The three structural dimensions of trade included for country c at time $t-1$ are the following: Low Import Elasticity$_{c,t-1}$ is a binary variable defining the trade elasticity of the import base, which takes a value of 1 if a country has relatively inelastic imports (below the median elasticity) and 0 otherwise; Low Export Elasticity$_{c,t-1}$ is a binary variable defining the trade elasticity of the export base, which takes a value of 1 if a country's exports are relatively inelastic (below the median elasticity) and 0 otherwise; and High Trade Concentration$_{c,t-1}$ is a binary variable based on the average concentration of trading partners on the import and export sides, taking a value of 1 if a country has a concentrated trade network (above the median HHI) and 0 otherwise.[24] The interaction terms capture how the impact of foreign geopolitical risk on economic forecasts varies depending on each trade dimension. Finally, μ_c and ν_t represent country and time fixed effects, respectively, and $\epsilon_{c,t}$ is the error term.

I refrain from including two separate dummies for import and export partner concentration due to their high correlation ($p = 0.85$), which could cause multicollinearity issues. Instead, I use an average trade concentration measure that combines both the import and export sides.[25]. As a robustness check, Appendix A.2 provides two models that analyze import-weighted and export-weighted GPR shocks separately.

It is important to note that while I control for $\text{GPR}^{\text{Domestic}}_{c,t-1}$, only the $\text{GPR}^{\text{Foreign}}_{c,t-1}$ coefficient is interacted with the dimensions of trade. This approach enables me to investigate whether a country's trade structure affects the international transmission of foreign GPR shocks to domestic economic expectations.

An advantage of this specification is that the coefficient β_3 captures the baseline effect of a foreign GPR shock on domestic expectations under conditions where imports and exports are relatively substitutable (high elasticity), and the country has a relatively high number of trading partners (low HHI). The interaction coefficients β_7, β_8, and β_9 then capture how the impact of the foreign GPR on economic expectations changes if any of the baseline conditions are relaxed. Specifically, β_7 captures the additional effect of

[24]Note that the expectation data and GPR indexes are measured at a monthly frequency, whereas the dimensions of trade are only available at an annual frequency. The difference in frequency alongside the inclusion of country fixed effects complicates a direct interpretation of the coefficients for the dimensions of trade. This is however not an issue since the principal role of these variables is to act as a scaling factors in the interaction terms.

[25]Appendix B.4 provides plots illustrating the correlation between these measures.

foreign GPR shocks when imports are less substitutable. β_8 reflects the additional impact when exports are less substitutable. Finally, β_9 represents the additional effect when the country has a concentrated trade network (high HHI). As a robustness check, appendix A.3 investigates whether the impact of foreign GPR shocks differs with extreme levels of trade substitutability and trade concentration. This approach helps to capture potential non-linear effects that binary classifications based on median values may overlook.

4.3 Effects on economic expectations

4.3.1 Real GDP growth

In this section, I examine whether professional forecasters incorporate structural dimensions of trade—specifically, the substitutability of traded goods and the diversification of trade—in their forecasts for real GDP growth when geopolitical events impact a country's main trading partners. Table 3 presents the estimation results.

The coefficients for the median forecast for both domestic and foreign GPR shocks remain statistically insignificant after accounting for trade elasticity and trade concentration. In addition, none of the interaction variables are statistically significant, suggesting that the substitutability of a country's traded goods and the diversification of its trading partners have no notable impact on the median forecast of real GDP growth.

Turning to the IQR of forecasts, the positive and statistically significant coefficient for the foreign GPR shock survives controls for dimensions of trade. For a country with relatively highly substitutable imports, highly substitutable exports, and a relatively high number of trading partners, a one-standard-deviation increase in foreign GPR leads to a 3.5 percentage point rise in the IQR of real GDP growth forecasts, which is significant at the 5% level. Furthermore, all interaction variables are statistically insignificant except for trade concentration, which indicates that higher trade concentration reduces forecast dispersion. However, as shown in Tables 9, 14, and 19 in the appendix—which separately analyze import and export GPR shocks and examine extreme values of trade concentration—this coefficient is not robust.

Overall, these findings suggest that dimensions of trade do not materially affect professional forecasts for real GDP growth when geopolitical events impact a country's main trading partners.

Table 3: The role of trade elasticities and trade concentration in foreign geopolitical risks transmission: Real GDP growth

Real GDP growth	(1) Median Forecast	(2) IQR of Forecasts
Lagged dependent variable$_{c,t-1}$	0.943***	0.690***
	(0.0225)	(0.0274)
Low Import Elasticity$_{c,t-1}$	-0.0154	0.0331***
	(0.0179)	(0.0100)
Low Export Elasticity$_{c,t-1}$	-0.0386	0.0229**
	(0.0261)	(0.0115)
High Trade Concentration$_{c,t-1}$	0.00325	-0.0440*
	(0.0591)	(0.0241)
Domestic GPR Shock$_{c,t-1}$	-0.0236	0.00970*
	(0.0172)	(0.00495)
Foreign GPR Shock$_{c,t-1}$	-0.0159	0.0348**
	(0.0582)	(0.0174)
Foreign GPR Shock$_{c,t-1}$ × Low Import Elasticity$_{c,t-1}$	0.0115	-0.00569
	(0.0227)	(0.00825)
Foreign GPR Shock$_{c,t-1}$ × Low Export Elasticity$_{c,t-1}$	0.0305	-0.0173
	(0.0365)	(0.0116)
Foreign GPR Shock$_{c,t-1}$ × High Trade Concentration$_{c,t-1}$	0.0323	-0.0176*
	(0.0291)	(0.0106)
Observations	8450	8450
Number of Countries	32	32
Country FE	✓	✓
Time FE	✓	✓
Adjusted R-squared	0.897	0.495

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

4.3.2 Real private consumption growth

Table 4 reports the estimation results for real private consumption growth. The findings indicate that controlling for trade elasticity and trade concentration does not significantly alter the impact of GPR on the median forecasts of real private consumption growth. Both domestic and foreign GPR still have statistically insignificant effects on the median of consumption growth expectations, which is consistent with the baseline results.

However, the effects on the dispersion of forecasts persist even after accounting for trade dimensions. The foreign GPR shock continues to have a positive and statistically significant impact on the IQR of consumption growth forecasts, confirming that foreign geopolitical events increase uncertainty about private consumption domestically. For a country with relatively highly substitutable imports, highly substitutable exports, and a relatively high number of trading partners, a one-standard-deviation increase in foreign GPR leads to a 7.2 percentage point rise in the IQR of real private consumption growth forecasts, which is significant at the 5% level.

All interaction variables carry a negative and statistically significant sign at least at the 10% level, indicating that these trade dimensions reduce the dispersion of forecasts. This suggests that countries with less substitutable imports and exports and more concentrated trade networks experience a smaller increase in forecast dispersion in response to foreign GPR shocks. However, robustness checks reveal that only the effect of low export substitutability remains consistent across different model specifications. Tables 10, 15, and 20 in the appendix show that the mitigating effects of import substitutability and trade concentration on forecast dispersion are not robust when exploring nonlinearities or when separating import and export shocks.

From a theoretical perspective, the finding that low export substitutability reduces the dispersion of consumption growth forecasts is consistent with economic intuition. Countries with less substitutable exports typically produce specialized goods that are not easily replaced by other suppliers. As a result, even if geopolitical events disrupt their main trading partners, the demand for these unique exports remains relatively stable. This stability in export revenues may in turn lead to more predictable income and employment in export-oriented sectors, thereby reducing uncertainty in domestic private consumption forecasts.

Table 4: The role of trade elasticities and trade concentration in foreign geopolitical risks transmission: Real household consumption growth

Real private consumption growth	(1) Median Forecast	(2) IQR of Forecasts
Lagged dependent variable$_{c,t-1}$	0.947***	0.727***
	(0.0210)	(0.0210)
Low Import Elasticity$_{c,t-1}$	-0.0298	0.0222
	(0.0191)	(0.0162)
Low Export Elasticity$_{c,t-1}$	-0.0293	0.0472***
	(0.0325)	(0.0154)
High Trade Concentration$_{c,t-1}$	-0.0115	-0.00800
	(0.0896)	(0.0298)
Domestic GPR Shock$_{c,t-1}$	-0.0327	0.0169**
	(0.0214)	(0.00724)
Foreign GPR Shock$_{c,t-1}$	0.00461	0.0727***
	(0.0683)	(0.0257)
Foreign GPR Shock$_{c,t-1}$ × Low Import Elasticity$_{c,t-1}$	0.0104	-0.0182**
	(0.0230)	(0.00913)
Foreign GPR Shock$_{c,t-1}$ × Low Export Elasticity$_{c,t-1}$	0.0355	-0.0286***
	(0.0479)	(0.0104)
Foreign GPR Shock$_{c,t-1}$ × High Trade Concentration$_{c,t-1}$	0.0317	-0.0283*
	(0.0383)	(0.0147)
Observations	8027	8027
Number of Countries	32	32
Country FE	✓	✓
Time FE	✓	✓
Adjusted R-squared	0.907	0.535

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Conversely, one might expect that lower import substitutability would lead to greater uncertainty in consumption forecasts due to potential supply shortages and price volatility affecting consumer goods. Theoretically, if a country cannot easily substitute its imports, disruptions in supply chains could significantly impact domestic consumption. However, the empirical results do not support this expectation. A possible explanation is that import base elasticity shows less variability across countries compared to export base elasticity, as illustrated in Figure 15 in the appendix. This limited variability likely reduces the role of import substitutability in driving the dispersion of forecasts.

For trade concentration, one might expect that countries relying heavily on a few key trading partners would face greater uncertainty, as disruptions to those partners could significantly impact their economy. This could imply that forecasters prioritize other factors that more directly influence consumption dynamics.

In summary, geopolitical risks originating abroad amplify uncertainty in consumption projections, but only low export substitutability partially mitigates this effect. Forecasters seem to acknowledge that limited export substitutability enhances a country's resilience to external shocks, thereby reducing forecast dispersion.

4.3.3 Real fixed investments growth

Table 5 presents the estimation results for real fixed investment growth. Controlling for trade elasticity and trade concentration does not significantly alter the impact of GPR on the median forecasts of investment growth. The negative effect of domestic GPR shocks on the median forecast remains statistically significant at the 5% level, indicating that domestic geopolitical risks continue to reduce expected investment growth even after accounting for trade dimensions. In contrast, the previously observed positive effect of foreign GPR shocks on the median forecast disappears, resolving the earlier puzzling result.

Regarding the dispersion of forecasts, the uncertainty effects persist. The foreign GPR shock continues to have a positive and statistically significant impact on the IQR of investment growth forecasts, significant at the 1% level. This suggests that foreign geopolitical events increase uncertainty about future investment growth.

The interaction terms between foreign GPR shocks and the trade dimensions are generally not statistically significant or robust. While the interaction between foreign GPR shocks and high trade concentration is positive and marginally significant at the 10% level in the median forecast equation, this effect does not systematically hold when splitting the foreign GPR shocks into import and export shocks or when exploring nonlinearities as reported in Tables 11, 16, and 21 in the appendix. Similarly, the negative effect of high trade concentration on the IQR of forecasts indicates that higher trade concentration may lead to less uncertainty, but this result is not robust across different specifications.

Overall, these findings suggest that while domestic GPR shocks negatively affect expected investment growth and both domestic and foreign GPR shocks increase uncertainty, the structural dimensions of trade do not play a significant or consistent role in moderating these effects on investment growth forecasts.

Table 5: The role of trade elasticities and trade concentration in foreign geopolitical risks transmission: Real fixed investments growth

	(1)	(2)
Real fixed investment growth	Median Forecast	IQR of Forecasts
Lagged dependent variable$_{c,t-1}$	0.959***	0.708***
	(0.0110)	(0.0195)
Low Import Elasticity$_{c,t-1}$	-0.0362	0.0696*
	(0.0471)	(0.0413)
Low Export Elasticity$_{c,t-1}$	-0.0571	-0.0560
	(0.0593)	(0.0497)
High Trade Concentration$_{c,t-1}$	-0.0264	-0.00879
	(0.0918)	(0.0370)
Domestic GPR Shock$_{c,t-1}$	-0.0521**	0.0287**
	(0.0254)	(0.0115)
Foreign GPR Shock$_{c,t-1}$	0.0643	0.174***
	(0.0879)	(0.0427)
Foreign GPR Shock$_{c,t-1}$ × Low Import Elasticity$_{c,t-1}$	-0.00781	-0.0267
	(0.0387)	(0.0180)
Foreign GPR Shock$_{c,t-1}$ × Low Export Elasticity$_{c,t-1}$	0.0419	-0.0242
	(0.0411)	(0.0207)
Foreign GPR Shock$_{c,t-1}$ × High Trade Concentration$_{c,t-1}$	0.0831*	-0.0385*
	(0.0428)	(0.0230)
Observations	8429	8429
Number of Countries	32	32
Country FE	✓	✓
Time FE	✓	✓
Adjusted R-squared	0.926	0.513

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

4.3.4 Current account

Table 6 presents the estimation results for the current account. Again, the analysis reveals that foreign GPR does not have a significant effect on the median forecasts of the current account when controlling for trade elasticities and trade concentration. Specifically, both domestic and foreign GPR shocks exhibit statistically insignificant impacts on the central tendency of current account forecasts, aligning with the baseline results.

However, the influence of foreign GPR shocks on the dispersion of forecasts remains robust even after controlling for trade dimensions. The foreign GPR shock is positively and significantly associated with the IQR of current account forecasts, indicating that geopolitical events abroad heighten uncertainty regarding the current account domestically. The results show that low export elasticity is the only significant interaction effect. Countries with lower export elasticity experience less forecast dispersion when foreign GPR shocks occur. This effect remains consistent across different model specifications, including those that explore non-linear effects of trade dimensions and export-specific shocks, as reported in Tables 12, 17, and 22 in the appendix.

From a theoretical perspective, the decrease in forecast uncertainty for the current account when export elasticity is low is sensible. Countries with less substitutable exports usually produce specialized goods that aren't easily replaced by other suppliers. This means that even if geopolitical events disrupt major trading partners, the demand for these differentiated exports stays relatively stable. As a result, export revenues remain more predictable, leading to steadier current account balances forecasts.

Contrary to expectations, lower import elasticity does not significantly increase uncertainty in current account forecasts. One might argue that a country with less flexibility to substitute imports would be more vulnerable to supply chain disruptions and price changes, potentially destabilizing the current account. However, the data does not support this hypothesis. As discussed earlier, this may be because import elasticity exhibits less variation across countries compared to export elasticity, making it less likely that forecasters consider this dimension of trade during periods of heightened GPR.

Regarding trade concentration, the lack of a significant effect suggests that it is not a major driver of uncertainty in current account forecasts during foreign geopolitical shocks. This suggests that forecasters likely focus on other factors when evaluating the impact of geopolitical risks on the current account.

Table 6: The role of trade elasticities and trade concentration in foreign geopolitical risks transmission: Current account

	(1)	(2)
Current account (% of GDP)	Median Forecast	IQR of Forecasts
Lagged dependent variable$_{c,t-1}$	0.983***	0.719***
	(0.00479)	(0.0477)
Low Import Elasticity$_{c,t-1}$	-0.0180	-0.0190
	(0.0258)	(0.0214)
Low Export Elasticity$_{c,t-1}$	-0.0137	0.0178
	(0.0258)	(0.0191)
High Trade Concentration$_{c,t-1}$	-0.00595	0.0405
	(0.0271)	(0.0439)
Domestic GPR Shock$_{c,t-1}$	0.00112	0.0320***
	(0.00698)	(0.0114)
Foreign GPR Shock$_{c,t-1}$	0.0224	0.0975***
	(0.0311)	(0.0259)
Foreign GPR Shock$_{c,t-1}$ × Low Import Elasticity$_{c,t-1}$	0.00210	-0.00122
	(0.00920)	(0.0137)
Foreign GPR Shock$_{c,t-1}$ × Low Export Elasticity$_{c,t-1}$	-0.0277	-0.0419**
	(0.0246)	(0.0205)
Foreign GPR Shock$_{c,t-1}$ × High Trade Concentration$_{c,t-1}$	0.00916	0.00881
	(0.00748)	(0.0100)
Observations	7894	7894
Number of Countries	32	32
Country FE	✓	✓
Time FE	✓	✓
Adjusted R-squared	0.972	0.534

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

In summary, while foreign GPR does not affect the median current account forecast, it leads to greater disagreement among forecasters. This uncertainty is significantly lower in countries with low export substitutability, highlighting the role of export specialization in reducing the uncertainty caused by external geopolitical shocks.

4.3.5 Inflation expectations

Table 7 presents the estimation results for inflation. The analysis indicates that foreign geopolitical risks (GPR) do not have a significant effect on the median forecasts of inflation when controlling for trade elasticities and trade concentration.

Table 7: The role of trade elasticities and trade concentration in foreign geopolitical risks transmission: Inflation

	(1)	(2)
Inflation	Median Forecast	IQR of Forecasts
Lagged dependent variable$_{c,t-1}$	1.004***	0.796***
	(0.0199)	(0.0469)
Low Import Elasticity$_{c,t-1}$	-0.0226	-0.0301*
	(0.0215)	(0.0178)
Low Export Elasticity$_{c,t-1}$	0.0730	0.0610
	(0.108)	(0.0744)
High Trade Concentration (HHI)$_{c,t-1}$	-0.0698**	-0.0317
	(0.0326)	(0.0300)
Domestic GPR Shock$_{c,t-1}$	0.0282	0.0123
	(0.0219)	(0.0189)
Foreign GPR Shock$_{c,t-1}$	-0.0752	-0.0135
	(0.0985)	(0.0560)
Foreign GPR Shock$_{c,t-1}$ × Low Import Elasticity$_{c,t-1}$	-0.0155	-0.0446**
	(0.0210)	(0.0176)
Foreign GPR Shock$_{c,t-1}$ × Low Export Elasticity$_{c,t-1}$	0.0346	0.00128
	(0.0253)	(0.0211)
Foreign GPR Shock$_{c,t-1}$ × High Trade Concentration (HHI)$_{c,t-1}$	-0.0222	-0.0182
	(0.0341)	(0.0149)
Observations	8257	8257
Number of Countries	32	32
Country FE	✓	✓
Time FE	✓	✓
Adjusted R-squared	0.950	0.623

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Similarly, there are no significant impacts on the uncertainty of inflation forecasts in the combined results. This suggests that, overall, geopolitical risks do not influence the central tendency or dispersion of inflation expectations.

The only significant interaction is between foreign GPR shocks and low import elasticity, indicating that countries with less substitutable imports experience more stable inflation expectations during geopolitical shocks. While this effect holds in models focused on import shocks, non-linear analyses suggest a more complex relationship between trade elasticities and inflation forecast uncertainty. Detailed results for import and export shocks and non-linear effects are presented in Tables 12, 17, and 22 in the appendix.

5 Conclusion

Geopolitical risks influence economic expectations, whether shocks originate domestically or through trading partners. They increase uncertainty in economic forecasts and lower investment expectations. Foreign GPR also generates more uncertainty than domestic shocks, suggesting that the mechanisms of its international transmission are less well understood. In addition, this paper highlights how some structural dimensions of trade shape the transmission of geopolitical shocks. Countries which have exports that are easy to substitute (the international demand for these exports is elastic) are more affected by foreign GPR shocks.

These results have policy implications. First, policymakers should enhance their capacity to assess and manage shocks driven by geopolitical developments. This includes identifying potential risks and analyzing how these shocks propagate through trade, investment, and other economic linkages. Such efforts are especially important for emerging and developing economies, which are more exposed to geopolitical shocks and may benefit from capacity-building initiatives to manage these challenges. Second, clear and consistent communication from central banks and fiscal authorities about policy actions within established frameworks can help reduce uncertainty. Providing clear and transparent information in a timely manner helps economic agents make informed decisions, thereby stabilizing markets and economic activity. Third, the exposure of countries to geopolitical shocks through trade linkages highlights the importance of diversifying supply chains and investing in infrastructure. Diversifying the sourcing of intermediate inputs across a broader range of countries can enhance economic resilience during supply disruptions. At the same time, infrastructure investments can improve trade logistics and further strengthen supply chains.

Future research can delve deeper into the mechanisms through which trade elasticities and trade concentrations affect the transmission of GPR. While this paper focuses on country-level trade elasticities, sectoral differences in responses to geopolitical risks may introduce heterogeneity that is not fully captured. Future research could therefore explore more granular trade dynamics. Investigating sector-specific impacts, non-linear effects of certain crucial traded products, and incorporating firm-level data may provide further insights into how GPR can affect economic activity. Examining the capital flow channel in amplifying or dampening these effects could also offer a more comprehensive understanding of the economic consequences of geopolitical risks.

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A Robustness Checks

A.1 Different lags of GPR shocks

In the baseline model specified in equation 2, I include the GPR indexes with a lag, assuming that forecasters adjust their expectations in the month following a geopolitical event. To relax this assumption, I explore two additional cases. First, I consider a two-lag specification, acknowledging that forecasters may require additional time to fully incorporate new information into their forecasts. Second, I include the GPR indexes contemporaneously, recognizing that professional forecasters, who typically provide their forecasts in the first week of the month, may already account for an event occurring early in the same month. Table 8 presents the results of the baseline estimations for the three specifications discussed above: the lagged GPR index, the two-lag specification, and the contemporaneous inclusion of the GPR index.

Table 8: The effects of geopolitical risks on real GDP growth expectations: alternative lags

Real GDP growth	Median Forecast			IQR of Forecasts		
	$l=-2$	$l=-1$	$l=0$	$l=-2$	$l=-1$	$l=0$
Lagged dependent variable$_{c,t-1}$	0.943***	0.944***	0.944***	0.700***	0.700***	0.699***
	(0.0213)	(0.0217)	(0.0216)	(0.0256)	(0.0256)	(0.0256)
Domestic GPR Shock$_{c,t}$	-0.0015	-0.0254	-0.0411	0.0049	0.0108*	0.0153*
	(0.0096)	(0.0192)	(0.0331)	(0.0031)	(0.0056)	(0.0092)
Foreign GPR Shock$_{c,t}$	0.0543***	0.0168	-0.0243	0.0072	0.0178**	0.0234
	(0.0177)	(0.0247)	(0.0487)	(0.0074)	(0.0081)	(0.0150)
Observations	8451	8483	8501	8451	8483	8501
Number of Countries	32	32	32	32	32	32
Country FE	✓	✓	✓	✓	✓	✓
Time FE	✓	✓	✓	✓	✓	✓
Adjusted R-squared	0.896	0.897	0.897	0.493	0.494	0.495

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

When the GPR indexes are included contemporaneously ($l = 0$), there is no impact on the median forecast. This is consistent with the baseline assumption that geopolitical risks affect forecasts with a one-month lag ($l = 1$). However, a positive impact emerges with a two-month lag ($l = 2$) for shocks originating from major trading partners. This delayed effect may reflect the time required for policymakers to implement supportive expansionary measures, which could offset initial adverse impacts and temporarily boost real GDP growth.

For the interquartile range (IQR) of economic forecasts, there is no significant effect of GPR shocks at $l = 2$, suggesting that any impacts are already reflected in forecasts. However, at $l = 0$, domestic GPR shocks seem to have a statistically significant effect on the IQR of real GDP forecasts, possibly due to forecasters either anticipating events or incorporating shocks that occur early in the first week of the month.

A.2 Comparing import- and export-driven GPR shocks

In the baseline model, I defined foreign exposure to GPR as:

$$\mathrm{GPR}_{c,t}^{\mathrm{Foreign}} = \sum_{i \neq c} \mathrm{GPR}_{i,t}^{\mathrm{Domestic}} \times \left(\frac{\mathrm{EXP}_{ci,t-1} + \mathrm{IMP}_{ci,t-1}}{\mathrm{GDP}_{c,t-1}} \right)$$

which does not differentiate between shocks originating from import or export partners. This combined model was chosen due to the high correlation between import- and export-weighted GPR shocks, which raised multicollinearity concerns if included as separate variables. In this appendix, I run separate models to assess whether import- and export-weighted GPR shocks impact domestic economic expectations differently.

A.2.1 Import-Weighted GPR Shock Model

The foreign exposure to GPR through import partners is defined as:

$$\mathrm{GPR}_{c,t}^{\mathrm{Import}} = \sum_{i \neq c} \mathrm{GPR}_{i,t}^{\mathrm{Domestic}} \times \left(\frac{\mathrm{IMP}_{ci,t-1}}{\mathrm{GDP}_{c,t-1}} \right)$$

This measure calculates the exposure of country c to the geopolitical risk originating from each import partner i, weighted by the importance of these imports relative to country c's GDP at time $t - 1$. I adapt equation 3 as follows:

$$
\begin{aligned}
Y_{c,t} = {} & \beta_1 Y_{c,t-1} + \beta_2 \mathrm{GPR}^{\mathrm{Domestic}}_{c,t-1} + \beta_3 \mathrm{GPR}^{\mathrm{Import}}_{c,t-1} \\
& + \beta_4 \text{Import Elasticity}_{c,t-1} + \beta_5 \text{Import Concentration}_{c,t-1} \\
& + \beta_6 \mathrm{GPR}^{\mathrm{Import}}_{c,t-1} \times \text{Import Elasticity}_{c,t-1} \\
& + \beta_7 \mathrm{GPR}^{\mathrm{Import}}_{c,t-1} \times \text{Import Concentration}_{c,t-1} + \mu_c + \nu_t + \epsilon_{c,t},
\end{aligned} \tag{4}
$$

where Import Elasticity$_{c,t-1}$ is a binary variable representing the elasticity of the import base, taking a value of 1 if a country has relatively inelastic imports (below the median elasticity) and 0 otherwise. Similarly, Import Concentration$_{c,t-1}$ is a binary variable for the concentration of import trading partners, taking a value of 1 if a country has a concentrated import network (above the median Herfindahl-Hirschman Index, HHI) and 0 otherwise. The interaction terms capture whether relatively inelastic imports or a concentrated import network amplify the effect of foreign geopolitical shocks driven by import partners on domestic economic outcomes.

The tables below report the estimation results for real GDP growth, all GDP components and inflation expectations:

(i) Real GDP growth

Table 9: The effects of import-weighted GPR on real GDP growth expectations

Real GDP growth	(1) Median Forecast	(2) IQR of Forecasts
Lagged dependent variable_$c, t-1$	0.945***	0.694***
	(0.0228)	(0.0259)
Low Import Elasticity_$c, t-1$	-0.0260	0.0306***
	(0.0169)	(0.00901)
High Import Concentration_$c, t-1$	0.00581	-0.0250
	(0.0401)	(0.0171)
Domestic GPR Shock_$c, t-1$	-0.0264	0.0103*
	(0.0177)	(0.00530)
Import GPR Shock_$c, t-1$	-0.00946	0.0238***
	(0.0239)	(0.00872)
Import GPR Shock_$c, t-1$ × Low Import Elasticity_$c, t-1$	0.0109	-0.00486
	(0.0189)	(0.00730)
Import GPR Shock_$c, t-1$ × High Import Concentration_$c, t-1$	0.0195	-0.00702
	(0.0201)	(0.00785)
Observations	8258	8258
Number of Countries	32	32
Country FE	✓	✓
Time FE	✓	✓
Adjusted R-squared	0.897	0.490

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

(ii) Real private consumption growth

Table 10: The effects of import-weighted GPR on real private consumption growth

Real private consumption	(1) Median Forecast	(2) IQR of Forecasts
Lagged dependent variable$_{c,t-1}$	0.948***	0.729***
	(0.0204)	(0.0210)
Low Import Elasticity$_{c,t-1}$	-0.0319*	0.0228
	(0.0179)	(0.0159)
High Import Concentration$_{c,t-1}$	-0.0124	-0.0176
	(0.0520)	(0.0194)
Domestic GPR Shock$_{c,t-1}$	-0.0335	0.0169**
	(0.0222)	(0.00692)
Import GPR Shock$_{c,t-1}$	-0.00509	0.0662***
	(0.0270)	(0.0204)
Import GPR Shock$_{c,t-1}$ $\times$ Low Import Elasticity$_{c,t-1}$	0.0121	-0.0198**
	(0.0185)	(0.00852)
Import GPR Shock$_{c,t-1}$ $\times$ High Import Concentration$_{c,t-1}$	0.0124	-0.0241
	(0.0245)	(0.0149)
Observations	8027	8027
Number of Countries	32	32
Country FE	✓	✓
Time FE	✓	✓
Adjusted R-squared	0.907	0.534

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

(iii) Real fixed investment growth

Table 11: The effects of import-weighted GPR on real fixed investment growth

	(1)	(2)
Real fixed investment growth	Median Forecast	IQR of Forecasts
Lagged dependent variable$_{c,t-1}$	0.961***	0.711***
	(0.0112)	(0.0195)
Low Import Elasticity$_{c,t-1}$	-0.0613	0.0360
	(0.0461)	(0.0387)
High Import Concentration$_{c,t-1}$	-0.0550	-0.0488
	(0.0713)	(0.0322)
Domestic GPR Shock$_{c,t-1}$	-0.0567**	0.0236**
	(0.0265)	(0.0118)
Import GPR Shock$_{c,t-1}$	0.0122	0.133***
	(0.0471)	(0.0337)
Import GPR Shock$_{c,t-1}$ $\times$ Low Import Elasticity$_{c,t-1}$	-0.0000505	-0.0278
	(0.0332)	(0.0168)
Import GPR Shock$_{c,t-1}$ $\times$ High Import Concentration$_{c,t-1}$	0.0392	-0.0524***
	(0.0307)	(0.0182)
Observations	8237	8237
Number of Countries	32	32
Country FE	✓	✓
Time FE	✓	✓
Adjusted R-squared	0.926	0.512

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

(iv) Current account balance

Table 12: The effects of import-weighted GPR on the current account balance

Current account	(1) Median Forecast	(2) IQR of Forecasts
Lagged dependent variable$_{c,t-1}$	0.983***	0.749***
	(0.00474)	(0.0464)
Low Import Elasticity$_{c,t-1}$	-0.0271	-0.0259
	(0.0243)	(0.0205)
High Import Concentration$_{c,t-1}$	-0.0222	-0.0427***
	(0.0195)	(0.0157)
Domestic GPR Shock$_{c,t-1}$	0.000335	0.0267***
	(0.00705)	(0.00886)
Import GPR Shock$_{c,t-1}$	0.0324	0.0505**
	(0.0303)	(0.0209)
Import GPR Shock$_{c,t-1}$ $\times$ Low Import Elasticity$_{c,t-1}$	0.00168	0.000671
	(0.00925)	(0.0144)
Import GPR Shock$_{c,t-1}$ $\times$ High Import Concentration$_{c,t-1}$	0.00520	-0.0154
	(0.00992)	(0.0118)
Observations	7822	7822
Number of Countries	32	32
Country FE	✓	✓
Time FE	✓	✓
Adjusted R-squared	0.972	0.537

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

(iv) Inflation

Table 13: The effects of import-weighted GPR on inflation

Inflation	(1) Median Forecast	(2) IQR of Forecasts
Lagged dependent variable$_{c,t-1}$	1.004***	0.797***
	(0.0199)	(0.0475)
Low Import Elasticity$_{c,t-1}$	-0.00775	-0.0208
	(0.0212)	(0.0177)
High Import Concentration$_{c,t-1}$	-0.0496*	-0.00488
	(0.0295)	(0.0199)
Domestic GPR Shock$_{c,t-1}$	0.0292	0.0135
	(0.0223)	(0.0193)
Import GPR Shock$_{c,t-1}$	0.0386	0.0359
	(0.0735)	(0.0315)
Import GPR Shock$_{c,t-1}$ × Low Import Elasticity$_{c,t-1}$	-0.0294	-0.0522***
	(0.0221)	(0.0199)
Import GPR Shock$_{c,t-1}$ × High Import Concentration$_{c,t-1}$	0.00596	-0.00132
	(0.0313)	(0.0191)
Observations	8257	8257
Number of Countries	32	32
Country FE	✓	✓
Time FE	✓	✓
Adjusted R-squared	0.950	0.623

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

A.2.2 Export-Weighted GPR Shock Model

Similarly, the foreign exposure to GPR through export partners is defined for country c at time t as:

$$\text{GPR}_{c,t}^{\text{Export}} = \sum_{i \neq c} \text{GPR}_{i,t}^{\text{Domestic}} \times \left(\frac{\text{EXP}_{ci,t-1}}{\text{GDP}_{c,t-1}} \right)$$

This measure calculates the exposure of country c to the geopolitical risk originating from each export partner i, weighted by the importance of these exports relative to country c's GDP at time $t-1$. I adapt equation 3 as follows:

$$
\begin{aligned}
Y_{c,t} = {} & \beta_1 Y_{c,t-1} + \beta_2 \mathrm{GPR}^{\mathrm{Domestic}}_{c,t-1} + \beta_3 \mathrm{GPR}^{\mathrm{Export}}_{c,t-1} \\
& + \beta_4 \text{Export Elasticity}_{c,t-1} + \beta_5 \text{Export Concentration}_{c,t-1} \\
& + \beta_6 \mathrm{GPR}^{\mathrm{Export}}_{c,t-1} \times \text{Export Elasticity}_{c,t-1} \\
& + \beta_7 \mathrm{GPR}^{\mathrm{Export}}_{c,t-1} \times \text{Export Concentration}_{c,t-1} + \mu_c + \nu_t + \epsilon_{c,t},
\end{aligned} \tag{5}
$$

where Export Elasticity$_{c,t-1}$ is a binary variable representing the elasticity of the export base, taking a value of 1 if a country's exports are relatively inelastic (below the median elasticity) and 0 otherwise. Similarly, Export Concentration$_{c,t-1}$ is a binary variable for the concentration of export trading partners, taking a value of 1 if a country has a concentrated export network (above the median Herfindahl-Hirschman Index, HHI) and 0 otherwise. The interaction terms capture whether relatively inelastic exports or a concentrated export network amplify the effect of foreign geopolitical shocks driven by export partners on domestic economic outcomes.

The tables below report the estimation results for real GDP growth, all GDP components, and inflation expectations:

(i) Real GDP growth

Table 14: The effects of export-weighted GPR on real GDP growth expectations

Real GDP growth	(1) Median Forecast	(2) IQR of Forecasts
Lagged dependent variable$_{c,t-1}$	0.943***	0.694***
	(0.0240)	(0.0267)
Low Export Elasticity$_{c,t-1}$	-0.0387	0.0258**
	(0.0262)	(0.0113)
High Export Concentration$_{c,t-1}$	-0.0221	0.00682
	(0.0156)	(0.00983)
Domestic GPR Shock$_{c,t-1}$	-0.0281	0.0114*
	(0.0211)	(0.00656)
Export GPR Shock$_{c,t-1}$	-0.0421	0.0331***
	(0.0369)	(0.0119)
Export GPR Shock$_{c,t-1}$ × Low Export Elasticity$_{c,t-1}$	0.0337	-0.0135
	(0.0315)	(0.0102)
Export GPR Shock$_{c,t-1}$ × High Export Concentration$_{c,t-1}$	-0.00846	0.00639
	(0.0220)	(0.00934)
Observations	8258	8258
Number of Countries	32	32
Country FE	✓	✓
Time FE	✓	✓
Adjusted R-squared	0.898	0.490

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

(ii) Real private consumption growth

Table 15: The effects of export-weighted GPR on real private consumption growth

Real private consumption	(1) Median Forecast	(2) IQR of Forecasts
Lagged dependent variable$_{c,t-1}$	0.947***	0.728***
	(0.0213)	(0.0210)
Low Export Elasticity$_{c,t-1}$	-0.0331	0.0455***
	(0.0315)	(0.0152)
High Export Concentration$_{c,t-1}$	-0.0461*	0.0169
	(0.0273)	(0.0173)
Domestic GPR Shock$_{c,t-1}$	-0.0350	0.0181**
	(0.0261)	(0.00867)
Export GPR Shock$_{c,t-1}$	-0.0362	0.0637***
	(0.0461)	(0.0185)
Export GPR Shock$_{c,t-1}$ $\times$ Low Export Elasticity$_{c,t-1}$	0.0354	-0.0240***
	(0.0413)	(0.00868)
Export GPR Shock$_{c,t-1}$ $\times$ High Export Concentration$_{c,t-1}$	-0.0159	-0.00525
	(0.0234)	(0.00950)
Observations	8027	8027
Number of Countries	32	32
Country FE	✓	✓
Time FE	✓	✓
Adjusted R-squared	0.907	0.534

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

(iii) Real fixed investment growth

Table 16: The effects of export-weighted GPR on real fixed investment growth

Real fixed investment growth	(1) Median Forecast	(2) IQR of Forecasts
Lagged dependent variable$_{c,t-1}$	0.960***	0.712***
	(0.0115)	(0.0199)
Low Export Elasticity$_{c,t-1}$	-0.0726	-0.0552
	(0.0618)	(0.0504)
High Export Concentration$_{c,t-1}$	-0.0682	0.0232
	(0.0414)	(0.0410)
Domestic GPR Shock$_{c,t-1}$	-0.0577*	0.0266**
	(0.0300)	(0.0124)
Export GPR Shock$_{c,t-1}$	-0.0430	0.123***
	(0.0593)	(0.0284)
Export GPR Shock$_{c,t-1}$ $\times$ Low Export Elasticity$_{c,t-1}$	0.0539	-0.0108
	(0.0351)	(0.0195)
Export GPR Shock$_{c,t-1}$ $\times$ High Export Concentration$_{c,t-1}$	0.00618	-0.0289
	(0.0307)	(0.0254)
Observations	8237	8237
Number of Countries	32	32
Country FE	✓	✓
Time FE	✓	✓
Adjusted R-squared	0.926	0.511

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

(iv) Current account balance

Table 17: The effects of export-weighted GPR on the current account balance

Current account	(1) Median Forecast	(2) IQR of Forecasts
Lagged dependent variable$_{c,t-1}$	0.984***	0.748***
	(0.00484)	(0.0442)
Low Export Elasticity$_{c,t-1}$	-0.0198	0.00808
	(0.0246)	(0.0157)
High Export Concentration$_{c,t-1}$	-0.0473*	0.0148
	(0.0277)	(0.0230)
Domestic GPR Shock$_{c,t-1}$	0.00259	0.0306***
	(0.00714)	(0.0113)
Export GPR Shock$_{c,t-1}$	0.0203	0.0703***
	(0.0228)	(0.0226)
Export GPR Shock$_{c,t-1}$ × Low Export Elasticity$_{c,t-1}$	-0.0260	-0.0380**
	(0.0244)	(0.0182)
Export GPR Shock$_{c,t-1}$ × High Export Concentration$_{c,t-1}$	0.0295***	0.0211
	(0.00806)	(0.0159)
Observations	7822	7822
Number of Countries	32	32
Country FE	✓	✓
Time FE	✓	✓
Adjusted R-squared	0.972	0.538

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

(iv) Inflation

Table 18: The effects of export-weighted GPR on inflation

Inflation	(1) Median Forecast	(2) IQR of Forecasts
Lagged dependent variable$_{c,t-1}$	1.004***	0.797***
	(0.0198)	(0.0469)
Low Export Elasticity$_{c,t-1}$	0.0731	0.0556
	(0.107)	(0.0746)
High Export Concentration$_{c,t-1}$	-0.0170	0.0223
	(0.0180)	(0.0139)
Domestic GPR Shock$_{c,t-1}$	0.0291	0.0140
	(0.0218)	(0.0189)
Export GPR Shock$_{c,t-1}$	0.0236	0.0109
	(0.0703)	(0.0270)
Export GPR Shock$_{c,t-1}$ × Low Export Elasticity$_{c,t-1}$	0.0215	-0.000195
	(0.0242)	(0.0221)
Export GPR Shock$_{c,t-1}$ × High Export Concentration$_{c,t-1}$	0.0111	0.0253
	(0.0227)	(0.0195)
Observations	8257	8257
Number of Countries	32	32
Country FE	✓	✓
Time FE	✓	✓
Adjusted R-squared	0.950	0.622

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

A.3 Non-Linearities

In this section, I extend the model from Equation 3 to examine the non-linear effects of the structural dimensions of trade. The initial model employed binary indicators for each trade dimensions to distinguish between "high" and "low" levels, defined as values above and below the median. Here, I refine this approach by replacing these median-based indicators with two dummy variables for each dimension of trade, capturing "very high" values (above the 75th percentile) and "very low" values (below the 25th percentile). This refinement enables a comparison of the effects of foreign GPR shocks at extreme levels of the trade dimensions with those at moderate levels (falling between the 25th and 75th percentiles). The updated approach provides insights into potential non-linearities and threshold effects that may remain undetected in a median-based model.

The updated model is specified as follows:

$$
\begin{aligned}
Y_{c,t} = {} & \beta_1 Y_{c,t-1} + \beta_2 \mathrm{GPR}^{\text{Domestic}}_{c,t-1} + \beta_3 \mathrm{GPR}^{\text{Foreign}}_{c,t-1} \\
& + \beta_4 \text{Import Elasticity Q75}_{c,t-1} + \beta_5 \text{Import Elasticity Q25}_{c,t-1} \\
& + \beta_6 \text{Export Elasticity Q75}_{c,t-1} + \beta_7 \text{Export Elasticity Q25}_{c,t-1} \\
& + \beta_8 \text{Trade Concentration Q75}_{c,t-1} + \beta_9 \text{Trade Concentration Q25}_{c,t-1} \\
& + \beta_{10} \mathrm{GPR}^{\text{Foreign}}_{c,t-1} \times \text{Import Elasticity Q75}_{c,t-1} \\
& + \beta_{11} \mathrm{GPR}^{\text{Foreign}}_{c,t-1} \times \text{Import Elasticity Q25}_{c,t-1} \\
& + \beta_{12} \mathrm{GPR}^{\text{Foreign}}_{c,t-1} \times \text{Export Elasticity Q75}_{c,t-1} \\
& + \beta_{13} \mathrm{GPR}^{\text{Foreign}}_{c,t-1} \times \text{Export Elasticity Q25}_{c,t-1} \\
& + \beta_{14} \mathrm{GPR}^{\text{Foreign}}_{c,t-1} \times \text{Trade Concentration Q75}_{c,t-1} \\
& + \beta_{15} \mathrm{GPR}^{\text{Foreign}}_{c,t-1} \times \text{Trade Concentration Q25}_{c,t-1} \\
& + \mu_c + \nu_t + \epsilon_{c,t}, \qquad (6)
\end{aligned}
$$

In this model, the variables Import Elasticity Q75$_{c,t-1}$ and Import Elasticity Q25$_{c,t-1}$ are binary indicators representing the trade elasticity of the import base. Specifically, Import Elasticity Q75$_{c,t-1}$ equals 1 if a country's import elasticity is above the 75th percentile (indicating very elastic imports), and Import Elasticity Q25$_{c,t-1}$ equals 1 if import elasticity is below the 25th percentile (indicating very inelastic imports). Both variables equal 0 for countries with moderate import elasticity (falling between the 25th and 75th percentiles).

Similarly, Export Elasticity Q75$_{c,t-1}$ and Export Elasticity Q25$_{c,t-1}$ represent the trade elasticity of the export base. Export Elasticity Q75$_{c,t-1}$ equals 1 if export elasticity is above the 75th percentile (very elastic), and Export Elasticity Q25$_{c,t-1}$ equals 1 if export elasticity is below the 25th percentile (very inelastic). Both variables equal 0 for countries with moderate export elasticity.

For the concentration of trading partners, Trade Concentration $Q75_{c,t-1}$ and Trade Concentration $Q25_{c,t-1}$ are binary variables. Trade Concentration $Q75_{c,t-1}$ equals 1 if a country's trade network is highly concentrated (above the 75th percentile), and Trade Concentration $Q25_{c,t-1}$ is 1 if the trade network is highly diversified (below the 25th percentile). These variables equal 0 for countries with moderate trade concentration.

This specification allows for a detailed examination of how more extreme trade structures affect the sensitivity of domestic economic forecasts to foreign GPR shocks. The coefficient β_3 represents the base effect of foreign GPR on domestic expectations for countries with trade characteristics between the 25th and 75th percentiles.

The interaction coefficients β_{10} to β_{15} capture the effect of foreign GPR shocks for different trade structures. For instance, β_{10} and β_{11} respectively reveal how countries with very high and very low import elasticity respond to foreign GPR shocks relative to countries with moderate import elasticity. Similarly, β_{12} and β_{13} capture the moderating effects of very high and very low export elasticity, while β_{14} and β_{15} capture the effects of very high and very low trade concentration.

By distinguishing between "very high", "very low", and moderate levels of trade dimensions, this model provides a more nuanced view of the conditions under which trade structures amplify or mitigate the transmission of foreign GPR shocks. This approach also allows me to observe whether countries with extreme trade structure levels experience disproportionately larger or smaller effects from foreign geopolitical risks, offering insights into potential thresholds in the moderating influence of trade structure.

The tables below report the estimation results for real GDP growth, all GDP components, and inflation expectations:

Table 19: Non-linear effects of trade elasticities and trade concentration in foreign geopolitical risks transmission: Real GDP growth

Real GDP growth	(1) Median Forecast	(2) IQR of Forecasts
Lagged dependent variable$_{c,t-1}$	0.941***	0.689***
	(0.0243)	(0.0277)
Import Elasticity Q25$_{c,t-1}$	-0.0167	0.0209***
	(0.0131)	(0.00749)
Import Elasticity Q75$_{c,t-1}$	0.0754	-0.0495*
	(0.0784)	(0.0279)
Export Elasticity Q25$_{c,t-1}$	0.000479	-0.0239**
	(0.0215)	(0.0104)
Export Elasticity Q75$_{c,t-1}$	-0.00315	-0.0198
	(0.0561)	(0.0243)
Trade Concentration Q25$_{c,t-1}$	-0.0127	0.00755
	(0.0231)	(0.0120)
Trade Concentration Q75$_{c,t-1}$	-0.00920	0.0262
	(0.0572)	(0.0213)
Domestic GPR Shock$_{c,t-1}$	-0.0283	0.0110*
	(0.0216)	(0.00658)
Foreign GPR Shock$_{c,t-1}$	-0.0241	0.0418*
	(0.0738)	(0.0234)
Foreign GPR Shock$_{c,t-1}$ × Import Elasticity Q25$_{c,t-1}$	0.0100	-0.0111
	(0.0129)	(0.00729)
Foreign GPR Shock$_{c,t-1}$ × Import Elasticity Q75$_{c,t-1}$	0.0366*	-0.0196**
	(0.0213)	(0.00972)
Foreign GPR Shock$_{c,t-1}$ × Export Elasticity Q25$_{c,t-1}$	0.0309	-0.0123
	(0.0415)	(0.0133)
Foreign GPR Shock$_{c,t-1}$ × Export Elasticity Q75$_{c,t-1}$	0.0171	-0.0116
	(0.0222)	(0.00885)
Foreign GPR Shock$_{c,t-1}$ × Trade Concentration Q25$_{c,t-1}$	0.0421	-0.0142
	(0.0510)	(0.0175)
Foreign GPR Shock$_{c,t-1}$ × Trade Concentration Q75$_{c,t-1}$	0.0300	-0.00602
	(0.0431)	(0.0114)
Observations	8258	8258
Number of Countries	32	32
Country FE	✓	✓
Time FE	✓	✓
Adjusted R-squared	0.898	0.491

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 20: Non-linear effects of trade elasticities and trade concentration in foreign geopolitical risks transmission: Real private consumption growth

Real private consumption	(1) Median Forecast	(2) IQR of Forecasts
Lagged dependent variable$_{c,t-1}$	0.946***	0.722***
	(0.0215)	(0.0215)
Import Elasticity Q25$_{c,t-1}$	-0.0211	0.0165*
	(0.0143)	(0.00862)
Import Elasticity Q75$_{c,t-1}$	0.0714	-0.0747***
	(0.0907)	(0.0238)
Export Elasticity Q25$_{c,t-1}$	0.0143	-0.0230
	(0.0275)	(0.0231)
Export Elasticity Q75$_{c,t-1}$	0.00668	-0.0689**
	(0.0683)	(0.0282)
Trade Concentration Q25$_{c,t-1}$	0.0191	0.0469**
	(0.0357)	(0.0232)
Trade Concentration Q75$_{c,t-1}$	-0.0364	0.0632**
	(0.0761)	(0.0272)
Domestic GPR Shock$_{c,t-1}$	-0.0355	0.0171*
	(0.0263)	(0.00874)
Foreign GPR Shock$_{c,t-1}$	-0.00816	0.0652**
	(0.0860)	(0.0283)
Foreign GPR Shock$_{c,t-1}$ × Import Elasticity Q25$_{c,t-1}$	0.0138	-0.0104
	(0.0166)	(0.00731)
Foreign GPR Shock$_{c,t-1}$ × Import Elasticity Q75$_{c,t-1}$	0.0421	-0.0134**
	(0.0303)	(0.00675)
Foreign GPR Shock$_{c,t-1}$ × Export Elasticity Q25$_{c,t-1}$	0.0267	-0.0331**
	(0.0465)	(0.0167)
Foreign GPR Shock$_{c,t-1}$ × Export Elasticity Q75$_{c,t-1}$	0.0229	-0.00628
	(0.0212)	(0.00773)
Foreign GPR Shock$_{c,t-1}$ × Trade Concentration Q25$_{c,t-1}$	0.0489	-0.00852
	(0.0579)	(0.0139)
Foreign GPR Shock$_{c,t-1}$ × Trade Concentration Q75$_{c,t-1}$	0.0255	-0.0189
	(0.0517)	(0.0230)
Observations	8027	8027
Number of Countries	32	32
Country FE	✓	✓
Time FE	✓	✓
Adjusted R-squared	0.907	0.535

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 21: Non-linear effects of trade elasticities and trade concentration in foreign geopolitical risks transmission: Real fixed investments growth

Real fixed investment growth	(1) Median Forecast	(2) IQR of Forecasts
Lagged dependent variable$_{c,t-1}$	0.957***	0.707***
	(0.0114)	(0.0197)
Import Elasticity Q25$_{c,t-1}$	-0.0571	-0.00261
	(0.0390)	(0.0325)
Import Elasticity Q75$_{c,t-1}$	0.150	-0.0384
	(0.122)	(0.0420)
Export Elasticity Q25$_{c,t-1}$	0.0663	-0.0468
	(0.0548)	(0.0467)
Export Elasticity Q75$_{c,t-1}$	-0.00916	0.0119
	(0.114)	(0.0818)
Trade Concentration Q25$_{c,t-1}$	0.00904	-0.0392
	(0.0733)	(0.0635)
Trade Concentration Q75$_{c,t-1}$	-0.0560	0.148**
	(0.0901)	(0.0622)
Domestic GPR Shock$_{c,t-1}$	-0.0571*	0.0259**
	(0.0308)	(0.0121)
Foreign GPR Shock$_{c,t-1}$	0.0363	0.174***
	(0.109)	(0.0302)
Foreign GPR Shock$_{c,t-1}$ $\times$ Import Elasticity Q25$_{c,t-1}$	-0.00248	-0.0317*
	(0.0206)	(0.0188)
Foreign GPR Shock$_{c,t-1}$ $\times$ Import Elasticity Q75$_{c,t-1}$	0.0980***	-0.0300
	(0.0274)	(0.0212)
Foreign GPR Shock$_{c,t-1}$ $\times$ Export Elasticity Q25$_{c,t-1}$	0.0388	-0.00132
	(0.0586)	(0.0261)
Foreign GPR Shock$_{c,t-1}$ $\times$ Export Elasticity Q75$_{c,t-1}$	-0.00601	-0.0206
	(0.0341)	(0.0268)
Foreign GPR Shock$_{c,t-1}$ $\times$ Trade Concentration Q25$_{c,t-1}$	0.0581	-0.00177
	(0.0704)	(0.0211)
Foreign GPR Shock$_{c,t-1}$ $\times$ Trade Concentration Q75$_{c,t-1}$	0.110*	-0.00937
	(0.0641)	(0.0359)
Observations	8237	8237
Number of Countries	32	32
Country FE	✓	✓
Time FE	✓	✓
Adjusted R-squared	0.927	0.512

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 22: Non-linear effects of trade elasticities and trade concentration in foreign geopolitical risks transmission: Current account balance

Current account	(1) Median Forecast	(2) IQR of Forecasts
Lagged dependent variable$_{c,t-1}$	0.983***	0.745***
	(0.00498)	(0.0455)
Import Elasticity Q25$_{c,t-1}$	0.0300*	-0.0159
	(0.0161)	(0.0190)
Import Elasticity Q75$_{c,t-1}$	0.000769	-0.00960
	(0.0298)	(0.0249)
Export Elasticity Q25$_{c,t-1}$	-0.00199	0.0295*
	(0.0224)	(0.0173)
Export Elasticity Q75$_{c,t-1}$	-0.0609	0.0421
	(0.0384)	(0.0284)
Trade Concentration Q25$_{c,t-1}$	0.00308	0.00165
	(0.0252)	(0.0267)
Trade Concentration Q75$_{c,t-1}$	-0.0111	0.0363
	(0.0295)	(0.0289)
Domestic GPR Shock$_{c,t-1}$	0.00165	0.0287***
	(0.00710)	(0.0110)
Foreign GPR Shock$_{c,t-1}$	0.0147	0.0853***
	(0.0233)	(0.0302)
Foreign GPR Shock$_{c,t-1}$ × Import Elasticity Q25$_{c,t-1}$	0.0228*	0.00544
	(0.0120)	(0.0130)
Foreign GPR Shock$_{c,t-1}$ × Import Elasticity Q75$_{c,t-1}$	0.00436	-0.00400
	(0.0117)	(0.0111)
Foreign GPR Shock$_{c,t-1}$ × Export Elasticity Q25$_{c,t-1}$	-0.0242*	-0.0350**
	(0.0143)	(0.0137)
Foreign GPR Shock$_{c,t-1}$ × Export Elasticity Q75$_{c,t-1}$	0.0145	0.0264
	(0.0237)	(0.0301)
Foreign GPR Shock$_{c,t-1}$ × Trade Concentration Q25$_{c,t-1}$	-0.0252*	-0.0358*
	(0.0129)	(0.0188)
Foreign GPR Shock$_{c,t-1}$ × Trade Concentration Q75$_{c,t-1}$	-0.0108	-0.0321
	(0.0166)	(0.0262)
Observations	7822	7822
Number of Countries	32	32
Country FE	✓	✓
Time FE	✓	✓
Adjusted R-squared	0.972	0.538

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 23: Non-linear effects of trade elasticities and trade concentration in foreign geopolitical risks transmission: Inflation

Inflation	(1) Median Forecast	(2) IQR of Forecasts
Lagged dependent variable$_{c,t-1}$	1.004***	0.794***
	(0.0203)	(0.0473)
Import Elasticity Q25$_{c,t-1}$	0.00685	0.0244
	(0.0287)	(0.0184)
Import Elasticity Q75$_{c,t-1}$	-0.0878	-0.139**
	(0.0619)	(0.0648)
Export Elasticity Q25$_{c,t-1}$	-0.0150	-0.0446**
	(0.0458)	(0.0204)
Export Elasticity Q75$_{c,t-1}$	-0.0160	-0.112***
	(0.0668)	(0.0389)
Trade Concentration Q25$_{c,t-1}$	0.0350	0.0152
	(0.0291)	(0.0200)
Trade Concentration Q75$_{c,t-1}$	-0.0385	0.0293
	(0.0914)	(0.0432)
Domestic GPR Shock$_{c,t-1}$	0.0291	0.0143
	(0.0226)	(0.0195)
Foreign GPR Shock$_{c,t-1}$	-0.0254	0.0186
	(0.0772)	(0.0539)
Foreign GPR Shock$_{c,t-1}$ × Import Elasticity Q25$_{c,t-1}$	-0.0415	-0.0579**
	(0.0258)	(0.0243)
Foreign GPR Shock$_{c,t-1}$ × Import Elasticity Q75$_{c,t-1}$	-0.0658*	-0.0478**
	(0.0385)	(0.0217)
Foreign GPR Shock$_{c,t-1}$ × Export Elasticity Q25$_{c,t-1}$	0.00442	-0.0413*
	(0.0280)	(0.0244)
Foreign GPR Shock$_{c,t-1}$ × Export Elasticity Q75$_{c,t-1}$	-0.0312	-0.0752**
	(0.0445)	(0.0350)
Foreign GPR Shock$_{c,t-1}$ × Trade Concentration Q25$_{c,t-1}$	-0.00533	-0.0206
	(0.0276)	(0.0262)
Foreign GPR Shock$_{c,t-1}$ × Trade Concentration Q75$_{c,t-1}$	0.00155	0.0370
	(0.0561)	(0.0354)
Observations	8257	8257
Number of Countries	32	32
Country FE	✓	✓
Time FE	✓	✓
Adjusted R-squared	0.950	0.623

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

B Additional data information

B.1 Summary statistics

Table 24: Summary Statistics

	Mean	Std. Dev.	Min	Max	N
Forecast for:					
Real GDP Growth (%)	2.99	2.37	-38.58	15.34	171,729
Real Consumption Growth (%)	3.02	3.07	-37.42	33.33	160,256
Real Fixed Investment Growth (%)	4.23	5.34	-69.72	63.90	157,301
Current Account Balance (% of GDP)	0.59	4.45	-19.74	42.52	138,127
Other Variables:					
Country GPR	0.27	0.57	0.00	13.23	9,963
Foreign GPR	0.34	0.36	0.02	7.51	9,723
Elasticity of Imports	8.70	0.99	6.47	13.22	9,771
Elasticity of Exports	9.75	3.63	5.59	25.23	9,771
Concentration of Trading Partners	0.25	0.11	0.12	0.71	9,771

Note: The table presents the mean, standard deviation, minimum, maximum, and number of observations for the variables included in the dataset. The sample includes 32 countries and spans from 1995 to 2022. The country-specific GPR index and the foreign GPR represent percentages of total journal articles. Elasticity of imports and exports are in absolute values. Concentration of trading partners reports the Herfindahl-Hirschman trade concentration index and ranges from 0 (infinite number of trading partners) to 1 (a single trading partner).

B.2 Herfindahl-Hirschman trade concentration index at the product and country level

In this paper, I examine whether professional forecasters consider trade concentration when geopolitical events disrupt a country's main trading partners. Trade concentration can differ significantly depending on whether it is measured at the product level or the country level. While I aggregate the product-level measure at the country level in the analysis, the product-level approach highlights dependencies that aggregate data might miss. Specifically, it assumes that a country trading with many partners cannot always source all varieties of a product from each partner. I include a simple example to illustrate the difference between these two measures.

Consider a country exporting two products. Product 1 is exported to one trading partner (Partner A), while Product 2 is exported to two trading partners (Partner B and Partner C). Partner B accounts for 80% of Product 2's exports, and Partner C accounts for the remaining 20%. The Herfindahl-Hirschman Index (HHI) for each product is:

$$\text{HHI}_1 = (1)^2 = 1, \quad \text{HHI}_2 = (0.8)^2 + (0.2)^2 = 0.64 + 0.04 = 0.68.$$

Assume that Product 1 constitutes 40% of the country's total exports, and Product 2 constitutes 60%. The country-level export HHI, computed at the product level, is:

$$\text{HHI}_{\text{export},ct} = (1 \times 0.4) + (0.68 \times 0.6) = 0.808.$$

Next, consider the HHI computed at the country level and irrespective of the specific products traded. Partner A imports only Product 1, which represents 40% of total exports:

$$\text{Share}_A = 0.4.$$

Partner B imports 80% of Product 2, which accounts for 60% of total exports:

$$\text{Share}_B = 0.8 \times 0.6 = 0.48.$$

Partner C imports 20% of Product 2, which accounts for 60% of total exports:

$$\text{Share}_C = 0.2 \times 0.6 = 0.12.$$

The shares of exports by trading partner are therefore:

$$\text{Share}_A = 0.4, \quad \text{Share}_B = 0.48, \quad \text{Share}_C = 0.12.$$

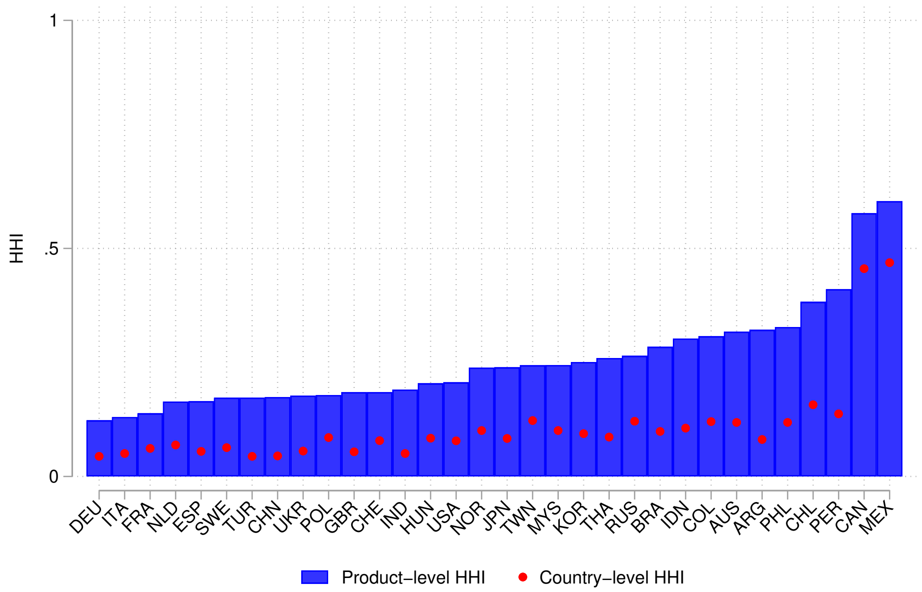
The HHI at the country level is:

$$\text{HHI}_{\text{country},ct} = (0.4)^2 + (0.48)^2 + (0.12)^2 = 0.16 + 0.2304 + 0.0144 = 0.4048.$$

Thus, the country-level export HHI (0.4048) is significantly lower than the country-level HHI computed at the product level and aggregated at the country level (0.808). This difference arises because the product-level HHI captures the concentration of trade within specific products or industries, while the country-level HHI only accounts for trading partners' shares in total exports. Therefore, computing concentration at the product level and then aggregating tends to result in higher concentration values. This stems from the assumption that a country trades with specific partners for a given product because sourcing from other countries is not feasible, to costly, or impractical. This assumption holds when products are sufficiently differentiated, as it reflects real dependencies. However, at very granular levels of classification, such as the 10-digit Harmonized System (HS), product differentiation diminishes. In such cases, products classified separately may be highly similar, making it plausible that a country could source these goods from alternative partners. To address this, I use the 4-digit HS classification, which provides a balance—capturing meaningful trade dependencies without overstating concentration due to excessive granularity.

Figure 12 illustrates the difference between the country-level HHI and the product-level HHI aggregated at the country level for the countries in my sample. The country-level concentration measures consistently indicate lower trade concentration values. Interestingly, the variation in country-level trade concentration is minimal for most countries except for Canada and Mexico, due to their significant trade exposure to the USA. In contrast, the product-level HHI aggregated at the country level captures a broader range of trade concentration patterns.

Figure 12: Comparing country-level HHI and product-level HHI

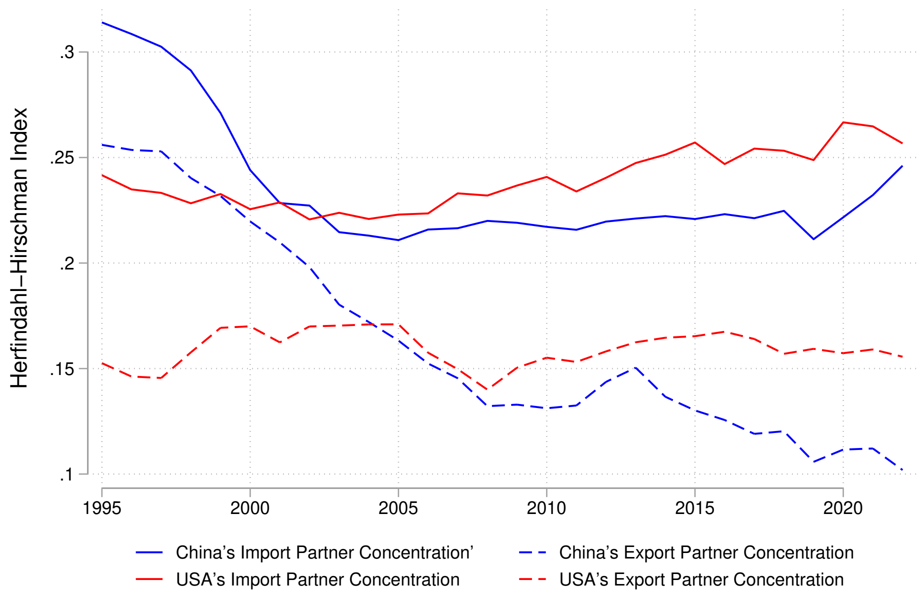


Sources: Own calculations based on Bustos and Yildirim (2020)

B.3 Country-level estimates of trade substitution and trade concentration for China and the USA

Figure 13 plots the evolution of the country-level import and export trade concentration measures for China and the USA over time. The figure reveals that China and the USA are similarly diversified in their import bases in 2022. However, China's export base is more diversified. Additionally, while the trade concentration of the USA's import and export bases has remained relatively constant over the sample period, China has significantly diversified both its import and export bases.

Figure 13: Trade partner concentration of imports and exports: China and the USA



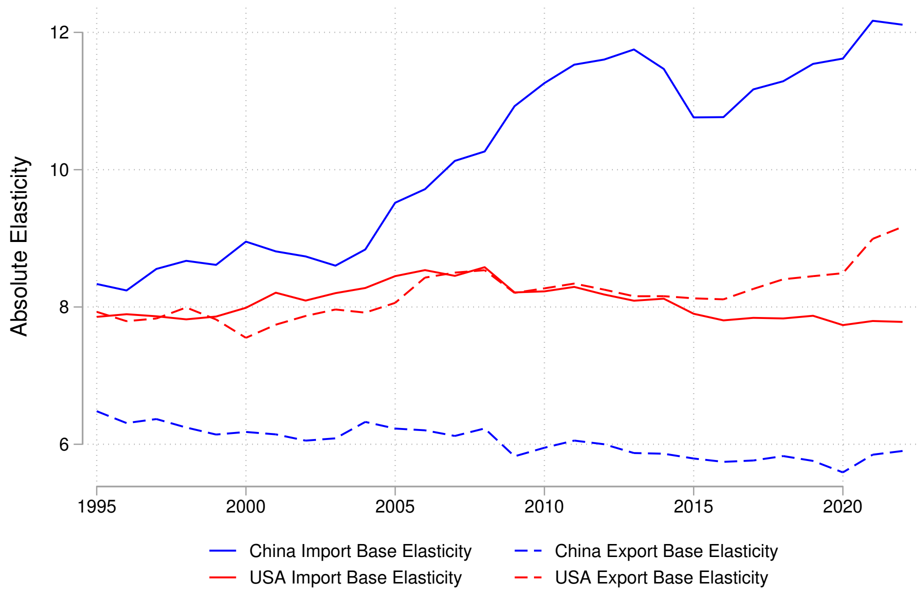
Note: A Herfindahl-Hirschman Index (HHI) of 1 indicates a single trading partner, while an HHI of 0 represents an infinite number of trading partners.

Sources: Own calculations based on Bustos and Yildirim (2020)

Figure 14 plots the evolution of the country-level import and export trade elasticity measures for China and the USA over the sample period. Since product elasticities are kept constant throughout the sample period, changes in import and export base elasticities are entirely driven by shifts in the composition of trade.

China's import base has become much more elastic over time, while its export base is also more inelastic than that of the United States. As of 2022, China's import base is far more elastic than the US, largely due to its reliance on raw commodity imports, which have relatively high trade elasticity.

Figure 14: Elasticity of import and export bases: China and the USA



Note: Elasticities are reported in absolute values. Higher elasticities indicate greater substitutability of the import or export base.

Sources: Own calculations based on Fontagné et al. (2022) and Bustos and Yildirim (2020)

Tables 25 to 28 list the top 10 imports for China and the USA in 1995 and 2022, along with the elasticity and trade concentration of each product. While the USA's trade composition has remained broadly stable, China has shifted from importing inelastic goods to more elastic ones. For exports, the elasticity of the top 10 remained relatively stable, but the composition changed significantly.

	USA				China			
Rank	Product	Share of total imports (%)	Elasticity	Concentration	Product	Share of total imports (%)	Elasticity	Concentration
1	Cars	9.1	9.1	0.29	Telephones	2.0	3.5	0.09
2	Petroleum oils, crude	6.0	10.9	0.11	Synthetic woven fabrics	1.9	5.6	0.31
3	Electronic integrated circuits	4.6	4.8	0.15	Petroleum oils, refined	1.9	3.9	0.24
4	Computers	4.1	6.8	0.17	Mixed fertilizers	1.6	17.3	0.73
5	Parts for machines	3.3	6.4	0.14	Polymers of styrene	1.6	13.9	0.40
6	Parts of motor vehicles	3.0	6.3	0.26	Machines n.e.c.	1.5	2.1	0.13
7	Petroleum oils, refined	1.8	3.9	0.13	Parts of radios	1.5	3.0	0.44
8	Motor vehicles for transporting goods	1.3	15.1	0.52	Petroleum oils, crude	1.5	10.9	0.18
9	Gasoline combustion engines	1.0	9.1	0.33	Wheat and meslin	1.5	2.6	0.36
10	Telephones	1.0	3.5	0.13	Parts for machines	1.4	6.4	0.41
		Average	**7.9**	**0.22**		Average	**6.8**	**0.33**

Note: Elasticities are in absolute terms and from Fontagné et al. (2022). Concentration is the Herfindahl-Hirschman Index (HHI) of trade partners. A HHI close to 0 indicates many trading partners, and 1 indicates a single partner.

Table 25: Comparison of top 10 imports for USA and China in 1995

Rank	USA Product	USA Share of total imports (%)	USA Elasticity	USA Concentration	China Product	China Share of total imports (%)	China Elasticity	China Concentration
1	Petroleum oils, crude	6.0	10.9	0.43	Petroleum oils, crude	13.1	10.9	0.13
2	Cars	5.2	9.1	0.15	Electronic integrated circuits	10.0	4.8	0.18
3	Transmission apparatus	3.7	4.8	0.30	Iron ores and concentrates	5.0	29.4	0.49
4	Computers	3.6	6.8	0.35	Petroleum gases	3.3	25.0	0.11
5	Parts of motor vehicles	2.8	6.3	0.19	Gold	2.8	12.0	0.29
6	Medicaments, packaged	2.6	19.4	0.10	Soya beans	2.7	6.2	0.47
7	Petroleum oils, refined	2.5	3.9	0.08	Copper ore	2.5	29.4	0.15
8	Serums and vaccines	2.2	12.9	0.19	Cars	2.2	9.1	0.27
9	Parts for machines	1.8	6.4	0.15	Machines n.e.c.	1.9	2.1	0.19
10	Medical instruments	1.2	2.6	0.12	Refined copper	1.6	40.1	0.11
		Average	**8.7**	**0.24**		Average	**14.0**	**0.22**

Note: Elasticities are in absolute terms and from Fontagné et al. (2022). Concentration is the Herfindahl-Hirschman Index (HHI) of trade partners. A HHI close to 0 indicates many trading partners, and 1 indicates a single partner.

Table 26: Comparison of top 10 imports for USA and China in 2022

Rank	USA Product	USA Share of total exports (%)	USA Elasticity	USA Concentration	China Product	China Share of total exports (%)	China Elasticity	China Concentration
1	Electronic integrated circuits	5.5	4.8	0.09	Women's suits and pants	2.4	2.8	0.27
2	Parts of motor vehicles	4.0	6.3	0.35	Men's suits and pants	2.4	3.2	0.22
3	Computers	4.0	6.8	0.08	Toys	1.9	2.8	0.24
4	Parts for machines	3.0	6.4	0.07	Trunks or cases	1.9	3.0	0.16
5	Cars	3.0	9.1	0.23	Leather footwear	1.7	9.4	0.45
6	Other aircraft and spacecraft	2.6	16.4	0.05	Reception apparatus for radio broadcasting	1.7	5.2	0.15
7	Medicaments, packaged	2.5	19.4	0.06	Footwear of rubber or plastics	1.6	6.7	0.27
8	Gold	2.4	12.0	0.07	Printed books	1.5	3.9	0.48
9	Telecommunications equipment	2.3	4.8	0.11	Other plastic products	1.5	4.0	0.17
10	Soya beans	2.0	6.2	0.08	Rubber tires	1.5	7.3	0.29
		Average	**8.6**	**0.13**		Average	**4.6**	**0.26**

Note: Elasticities are in absolute terms and from Fontagné et al. (2022). Concentration is the Herfindahl-Hirschman Index (HHI) of trade partners. A HHI close to 0 indicates many trading partners, and 1 indicates a single partner.

Table 27: Comparison of top 10 exports for USA and China in 1995

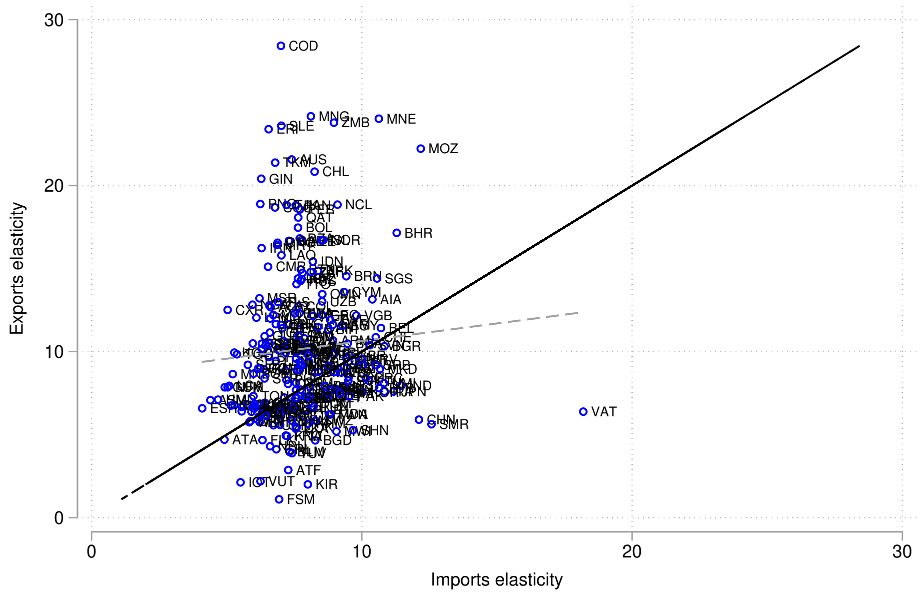
Rank	USA Product	USA Share of total exports (%)	USA Elasticity	USA Concentration	China Product	China Share of total exports (%)	China Elasticity	China Concentration
1	Petroleum oils, refined	7.1	3.9	0.12	Transmission apparatus	6.7	4.8	0.11
2	Petroleum oils, crude	6.0	10.9	0.07	Computers	4.7	6.8	0.14
3	Petroleum gases	5.1	25.0	0.07	Electronic integrated circuits	4.4	4.8	0.21
4	Cars	3.0	9.1	0.11	Parts for machines	2.2	6.4	0.11
5	Electronic integrated circuits	2.7	4.8	0.12	Semiconductor devices	1.7	4.8	0.06
6	Serums and vaccines	2.2	12.9	0.06	Batteries	1.6	4.8	0.08
7	Parts of vehicles	2.1	6.3	0.27	Parts of vehicles	1.4	6.3	0.08
8	Gold	1.9	12.0	0.35	Toys	1.4	2.8	0.09
9	Medicaments, packaged	1.8	19.4	0.08	Other plastic	1.3	3.0	0.08
10	Soya beans	1.8	6.2	0.29	Petroleum oils, refined	1.3	3.9	0.09
		Average	**11.0**	**0.13**		Average	**5.1**	**0.12**

Note: Elasticities are in absolute terms and from Fontagné et al. (2022). Concentration is the Herfindahl-Hirschman Index (HHI) of trade partners. A HHI close to 0 indicates many trading partners, and 1 indicates a single partner.

Table 28: Comparison of top 10 exports for USA and China in 2022

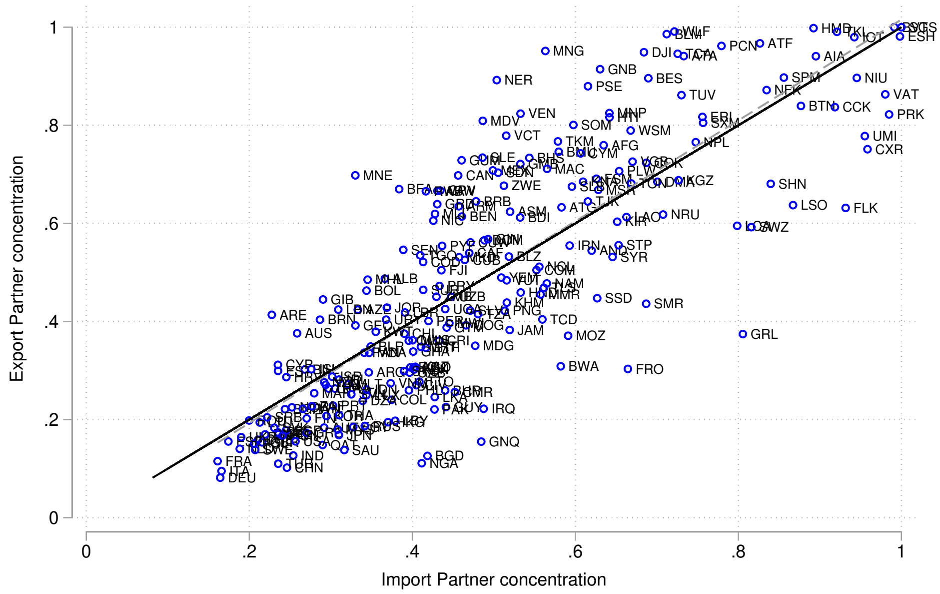
B.4 Correlation Among Trade Elasticity and Trade Concentration Metrics

Figure 15: Correlation between import and export trade elasticities in 2022



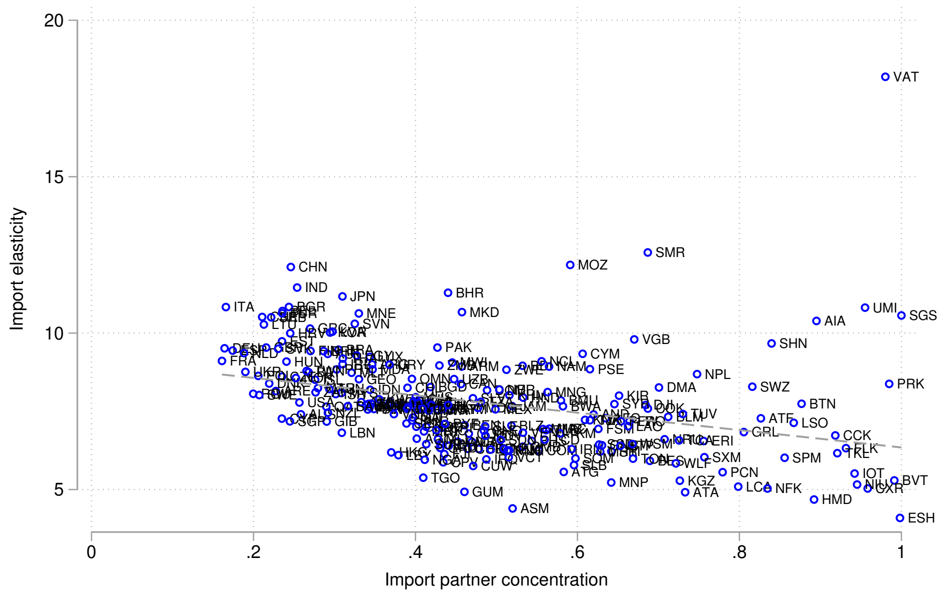
Sources: Own calculations based on Fontagné et al. (2022) and Bustos and Yildirim (2020)

Figure 16: Correlation between import and export trade partner concentration in 2022



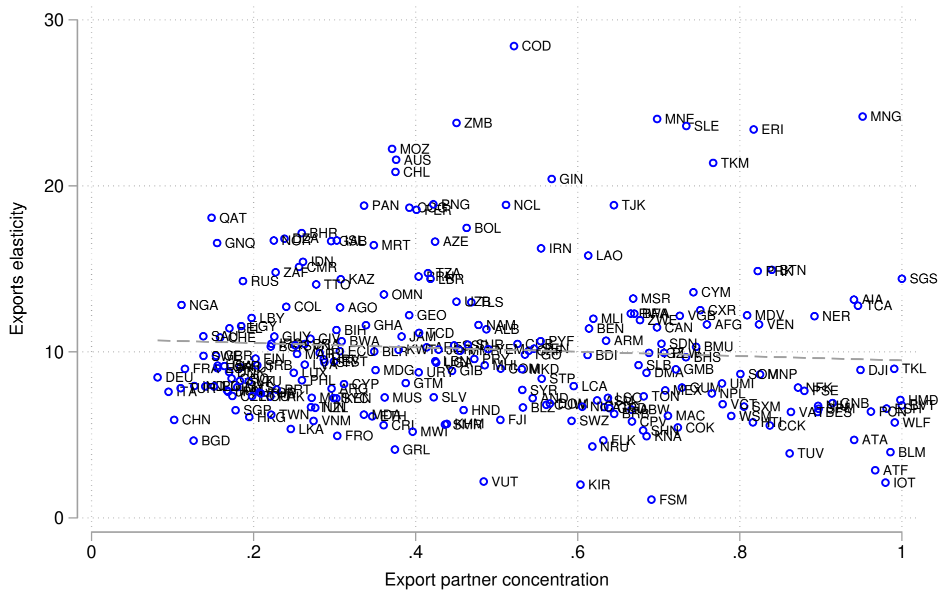
Sources: Own calculations based on Bustos and Yildirim (2020)

Figure 17: Correlation between import trade partner concentration and import trade elasticity in 2022



Sources: Own calculations based on Fontagné et al. (2022) and Bustos and Yildirim (2020)

Figure 18: Correlation between export trade partner concentration and export trade elasticity in 2022



Sources: Own calculations based on Fontagné et al. (2022) and Bustos and Yildirim (2020)

B.5 Correlation among country-specific geopolitical risk indexes

Table 29: Correlation among country-specific geopolitical risk indexes

	ARG	AUS	BRA	CAN	CHE	CHL	CHN	COL	DEU	ESP	FRA	GBR	HUN	IDN	IND	ITA	JPN	KOR	MEX	MYS	NLD	NOR	PER	PHL	POL	RUS	SWE	THA	TUR	TWN	UKR	USA
ARG	1.00																															
AUS	0.18	1.00																														
BRA	0.15	0.26	1.00																													
CAN	0.36	0.65	0.44	1.00																												
CHE	0.12	0.18	0.10	0.32	1.00																											
CHL	0.22	0.25	0.46	0.35	0.06	1.00																										
CHN	0.29	0.64	0.40	0.69	0.25	0.33	1.00																									
COL	0.07	0.00	0.33	0.09	-0.06	0.32	0.12	1.00																								
DEU	0.23	0.65	0.33	0.80	0.41	0.30	0.65	-0.05	1.00																							
ESP	0.19	0.37	0.30	0.44	0.17	0.36	0.36	0.25	0.47	1.00																						
FRA	0.17	0.38	0.19	0.54	0.29	0.19	0.32	-0.06	0.64	0.35	1.00																					
GBR	0.26	0.60	0.34	0.76	0.35	0.30	0.54	-0.06	0.85	0.42	0.69	1.00																				
HUN	0.20	0.64	0.31	0.71	0.33	0.26	0.56	-0.02	0.84	0.41	0.49	0.75	1.00																			
IDN	0.07	0.23	0.30	0.32	0.05	0.08	0.36	-0.00	0.25	0.15	0.10	0.22	0.30	1.00																		
IND	0.11	0.46	0.35	0.38	0.12	0.27	0.49	0.16	0.35	0.33	0.22	0.38	0.40	0.32	1.00																	
ITA	0.23	0.44	0.27	0.64	0.23	0.22	0.43	-0.04	0.71	0.53	0.53	0.69	0.64	0.25	0.33	1.00																
JPN	0.18	0.46	0.24	0.54	0.19	0.17	0.72	-0.03	0.46	0.40	0.33	0.45	0.38	0.27	0.34	0.35	1.00															
KOR	0.20	0.19	0.17	0.29	0.11	0.20	0.56	0.15	0.18	0.31	0.09	0.16	0.08	0.16	0.17	0.05	0.74	1.00														
MEX	0.17	0.04	0.28	0.27	0.02	0.32	0.26	0.26	0.03	0.15	0.06	0.07	0.03	0.04	0.14	0.02	0.37	0.37	1.00													
MYS	0.01	0.23	0.02	0.09	-0.01	-0.02	0.04	-0.06	0.18	0.02	0.18	0.17	0.05	0.08	-0.04	0.10	0.09	0.03	-0.02	1.00												
NLD	0.17	0.51	0.32	0.57	0.19	0.29	0.40	0.04	0.67	0.37	0.47	0.62	0.57	0.20	0.30	0.54	0.23	0.05	0.02	0.53	1.00											
NOR	0.17	0.56	0.25	0.62	0.24	0.31	0.53	-0.05	0.68	0.32	0.40	0.65	0.70	0.26	0.38	0.54	0.39	0.05	0.07	0.08	0.52	1.00										
PER	0.16	0.27	0.50	0.37	0.03	0.42	0.37	0.43	0.31	0.39	0.12	0.22	0.29	0.27	0.29	0.29	0.14	0.11	0.16	0.00	0.32	0.24	1.00									
PHL	0.02	0.17	-0.08	0.11	-0.05	0.05	0.23	0.06	0.09	0.27	0.20	0.05	0.01	0.06	-0.02	0.05	0.37	0.39	0.15	0.14	0.07	0.07	0.01	1.00								
POL	0.22	0.66	0.31	0.73	0.32	0.30	0.57	-0.02	0.88	0.43	0.48	0.78	0.91	0.26	0.41	0.66	0.34	0.09	0.00	0.04	0.63	0.72	0.30	0.00	1.00							
RUS	0.24	0.67	0.34	0.77	0.35	0.32	0.68	-0.03	0.91	0.45	0.54	0.82	0.89	0.34	0.44	0.68	0.45	0.19	0.02	0.14	0.66	0.72	0.39	0.08	0.92	1.00						
SWE	0.13	0.48	0.23	0.55	0.30	0.28	0.48	-0.08	0.65	0.44	0.34	0.55	0.72	0.30	0.44	0.57	0.37	0.14	0.08	0.02	0.42	0.50	0.26	0.01	0.63	0.70	1.00					
THA	-0.05	-0.03	0.11	-0.03	-0.05	0.02	0.05	-0.02	-0.05	-0.00	-0.11	-0.03	-0.04	0.12	0.18	-0.03	0.03	-0.00	0.04	0.07	0.01	0.04	-0.13	-0.09	-0.02	-0.04	-0.08	1.00				
TUR	0.24	0.14	0.12	0.27	0.10	0.20	0.18	-0.02	0.31	0.22	0.48	0.37	0.29	0.10	0.03	0.28	0.07	-0.01	0.15	0.05	0.23	0.22	0.14	0.15	0.25	0.35	0.28	-0.18	1.00			
TWN	0.02	0.53	0.24	0.41	0.11	0.16	0.62	-0.07	0.45	0.15	0.15	0.28	0.49	0.38	0.43	0.30	0.35	0.07	-0.06	-0.05	0.30	0.43	0.36	0.07	0.48	0.58	0.53	-0.08	0.06	1.00		
UKR	0.19	0.66	0.31	0.71	0.31	0.28	0.59	-0.08	0.87	0.45	0.44	0.76	0.89	0.36	0.44	0.68	0.36	0.05	-0.08	0.13	0.65	0.72	0.40	0.01	0.92	0.97	0.71	-0.04	0.24	0.62	1.00	
USA	0.28	0.62	0.37	0.79	0.40	0.36	0.71	0.03	0.84	0.47	0.68	0.86	0.72	0.30	0.41	0.62	0.65	0.43	0.21	0.20	0.60	0.61	0.30	0.24	0.73	0.84	0.55	-0.05	0.40	0.39	0.74	1.00

Notes: The table presents the correlation between the country-specific geopolitical risk indexes of Caldara and Iacoviello (2022). The average correlation across country pairs is 0.30.