



WINPEC Working Paper Series No. E2615

October 2026

Same Destination, Different Eyes: FDI and Trade Responses to Media Coverage of Geopolitical Risk

Haonan Li

Yasuyuki Todo

Waseda INstitute of Political EConomy
Waseda University
Tokyo, Japan

Same Destination, Different Eyes: FDI and Trade Responses to Media Coverage of Geopolitical Risk*

Haonan Li[†] Yasuyuki Todo[‡]

Abstract

Existing measures of geopolitical risk are country-level and assume that all investors face the same risk in a given destination. This paper constructs a directional, bilateral geopolitical risk index that captures how the domestic media of each source country report on geopolitical conflicts involving each destination country. Using GDELT news data, the index covers more than 200 source and destination countries at a monthly frequency. We combine the index with project-level data on greenfield FDI and product-level trade data, and exploit variation across source countries for the same destination and period while controlling for destination-specific shocks. Source countries whose media place greater emphasis on a destination's geopolitical risk subsequently announce more greenfield projects there: a one-standard-deviation increase in the index is associated with a 7% increase in new projects. This suggests that firms may read such coverage as a signal of future market-access frictions and localize production in advance. Consistent with this interpretation, the association is concentrated in projects serving the host market and in sectors that depend on local demand, and is absent among politically aligned country pairs. By contrast, higher risk coverage is followed by a short-lived decline in imports, driven by severe conflicts, while exports do not respond.

Keywords: geopolitical risk, media, foreign direct investment, trade, GDELT

JEL Codes: F14, F21, F23

*This study is part of the project “Research on Relationships between Economic Networks and National Security”, which is associated with the Research Institute of Economy, Trade and Industry (RIETI). Earlier versions of this paper were presented at the AY2025 Graduate Student Lunchtime Workshop at Waseda University and the Waseda University Institute of Political Economy Seminar. The authors would like to thank the participants of these meetings, particularly Kozo Ueda, Shuhei Kurizaki, Similan Rujiwattanapong, Zhihong Yu and Hongyong Zhang, for their helpful comments and suggestions. Todo is grateful for the financial support provided by JSPS Kakenhi Grant No. JP23H00823 and JP26K00349. Li is grateful for the financial support provided by JSPS Kakenhi Grant No. JP26KJ2042. The opinions expressed and arguments made in this paper are the sole responsibility of the authors and do not necessarily reflect those of the RIETI, Waseda University or any institution with which the authors are affiliated.

[†]Corresponding author. Graduate School of Economics, Waseda University. haonan.li@toki.waseda.jp

[‡]Graduate School of Economics, Waseda University, and Research Institute of Economy, Trade and Industry. yastodo@waseda.jp

1 Introduction

Trade frictions, political tensions, and sudden sanctions are no longer rare shocks to the global economy. They have become increasingly common features of the international economic environment. Caldara and Iacoviello (2022) define geopolitical risk broadly as risks arising from wars, terrorism, and tensions among states and political actors that threaten the peaceful course of international relations. Russia’s invasion of Ukraine, tensions in the Middle East, and India–Pakistan tensions are prominent examples. International organizations such as the International Monetary Fund has also increasingly highlighted geopolitical tensions as an important downside risk to the global economic outlook (International Monetary Fund, 2023). Firms and investors similarly express growing concerns about their economic consequences.

A large literature studies the economic effects of geopolitical risk. At the macroeconomic level, higher geopolitical risk is associated with lower investment and employment and greater downside risks to economic activity (Caldara and Iacoviello, 2022). Geopolitical tensions also affect cross-border economic activity. For example, Crozet and Hinz (2020) and Chevalier et al. (2026) show that greater bilateral geopolitical tensions are associated with lower trade. Bussy and Zheng (2023) find that higher geopolitical risk discourages foreign direct investment (FDI). Aiyar, Malacrino, and Presbitero (2024), meanwhile, show that geopolitical alignment increasingly shapes the geographical allocation of FDI, with investment becoming more concentrated among politically aligned countries.

These findings depend critically on how geopolitical risk is measured. One strand of the literature focuses on specific geopolitical events, such as wars and sanctions, and estimates their effects using event-based research designs (Crozet and Hinz, 2020). However, such high-intensity events occur relatively infrequently. Geopolitical tensions often develop through persistent deterioration in international relations, threats, and lower-intensity confrontations rather than through outright conflict. A second strand of the literature therefore uses text analysis to construct continuous measures of geopolitical risk. The most prominent example is Caldara and Iacoviello (2022), who use ten newspapers from the United States, the United Kingdom, and Canada to construct global and country-specific GPR indices. However, these measures primarily capture geopolitical risk at the country level rather than at the bilateral level.

More recent studies introduce a bilateral dimension into the measurement of geopolitical relations. For example, Chevalier et al. (2026) use the Global Database of Events, Language, and Tone (GDELT) data to measure geopolitical tensions between country pairs, while Fan (2025) constructs an event-based measure of bilateral geopolitical alignment. These measures allow geopolitical conditions to vary across country pairs rather than only across individual countries. But their main object is the geopolitical relationship between the two countries themselves.

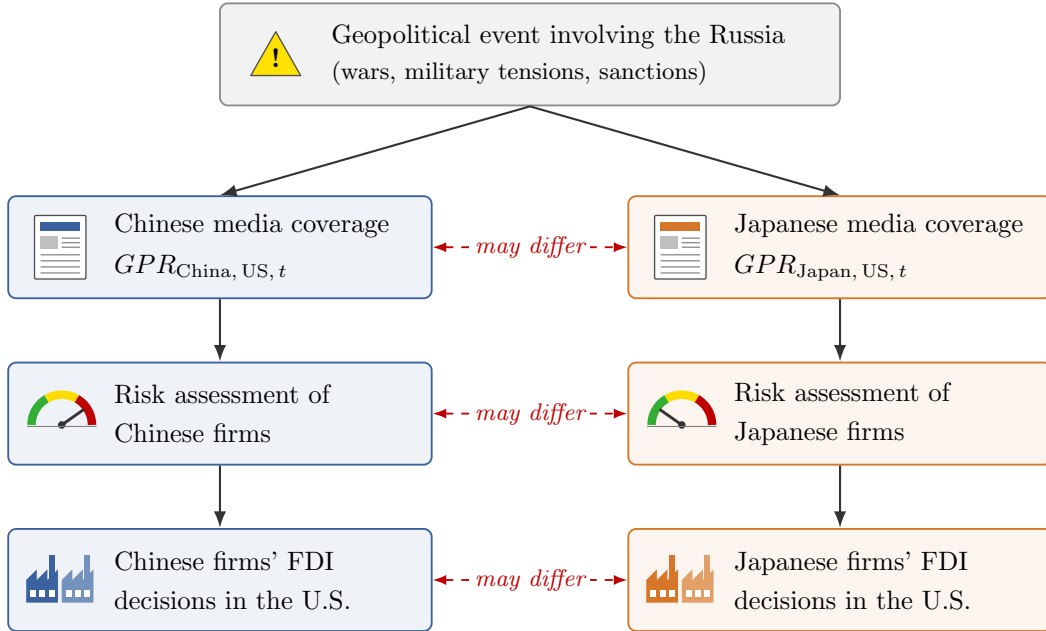
Neither type of measure captures a dimension that is central to cross-border decisions: the same geopolitical events involving a destination country may be reported very differently across source countries. Firms rarely observe foreign geopolitical events directly. They learn about them largely through their domestic media. As a result, firms in different source countries may receive different information about the risks associated with the same destination country

j .¹ Country-level indices assign the same risk to all source countries facing j , while bilateral indices describe the relationship between i and j rather than how j 's risk is presented in i . Our focus is on this source-specific dimension: how geopolitical risk involving j is represented in the information environment of source country i .

This source-specific dimension matters for two reasons. First, firms respond not only to realized risks but also to the risks they perceive (Ilut and Schneider, 2014; Hassan et al., 2019), so differences in the information they receive can translate into differences in their decisions. Second, these differences are likely to be systematic rather than random: audience preferences, commercial incentives, and government influence shape both which events the media cover and how intensely they cover them (Gentzkow and Shapiro, 2010; Qin, Strömberg, and Wu, 2018; Kim, 2018). Consistent with this, Bondarenko et al. (2024) show that a geopolitical risk index constructed from Russian media differs markedly from indices based on English-language newspapers.

Figure 1 illustrates this idea. Suppose that the Russia becomes involved in a geopolitical event. Chinese and Japanese media may both report the event, but the intensity of their coverage can differ because of differences in media incentives, political relationships, and domestic information environments. As a result, firms in China and Japan may receive different information about the geopolitical risk surrounding the Russia. These differences may shape their assessments of the Russian market and ultimately be reflected in their cross-border investment decisions.

Figure 1. From a Common Geopolitical Event to Source-Specific Risk Information



Motivated by these considerations, we construct a bilateral geopolitical risk index based on

¹Throughout the paper, i denotes the source country, where the reporting media and economic decision-makers, such as investors, are located, and j denotes the destination country being reported on, which in the FDI analysis is also the host country of the investment.

the domestic media of each source country. The index measures how strongly the media of source country i emphasize geopolitical conflicts involving destination country j when reporting on j . It has an observer–object structure: the source country is the observer of information, and the destination country is the object being reported on. The index is therefore directional, and different source countries can present different levels of risk for the same destination. We ask whether, after controlling for the risk that a destination poses to all source countries alike, relative differences in risk coverage across source countries are related to cross-border economic activity. We study both FDI and trade.

To construct the index, we use the event and mention tables of the GDELT database. We identify geopolitical conflict events reported by each country’s media and assign each outlet to a country based on its web domain. The resulting monthly index covers around 234 source countries and around 224 destination countries. FDI data come from project-level records in Orbis Crossborder Investment, and trade data come from the United Nations Commodity Trade Statistics Database (UN Comtrade). The empirical analysis focuses on the 10 source countries and 20 destination countries that account for most greenfield FDI activity, and we estimate Poisson pseudo-maximum likelihood (PPML) models with high-dimensional fixed effects.

Contrary to common intuition, we find that greater risk coverage is associated with more FDI. A one-standard-deviation increase in the GPR index is associated with about a 7% increase in the expected number of new projects. This finding does not contradict evidence that geopolitical risk reduces FDI, because existing measures vary mainly across destinations, whereas our estimate comes from differences in how media in different source countries report on the same destination. To understand this pattern, we examine where the association is concentrated. It is strongest in projects that serve the destination’s domestic market and in sectors whose value added is mainly absorbed by local demand, and it is almost absent among the most politically aligned country pairs.

These patterns are consistent with market-access localization: firms may read risk coverage as a signal that serving the destination through exports will become more costly, and therefore set up local production there in advance. This mechanism resembles tariff-jumping FDI, in which firms invest in a market to avoid trade barriers (Blonigen, 2002). The positive association also does not differ significantly across conflict intensities. Even coverage of mild conflicts, such as condemnations and threats, is associated with more investment, which fits the precautionary nature of localization.

In contrast to FDI, higher risk coverage is followed by lower imports, an adjustment that takes place within one to two quarters and is driven mainly by coverage of severe conflicts, while exports show no detectable response. This contrast is consistent with our framework: when the destination serves as a market, risk coverage may push firms to move closer to it, whereas buyers that rely on it as a source of supply may reduce their reliance on it.

This paper makes three contributions. First, we construct a directional, bilateral geopolitical risk index based on the domestic media of each source country. Unlike unilateral indices built from the media of a few countries, or symmetric indices of bilateral conflict events, our index captures how the risk of the same destination is presented differently across source countries. Second, the index allows us to study a dimension that existing work has not examined. Beyond

the risk that a destination poses to all investors, the information environment specific to each source country is also related to cross-border investment, and the relationship can go in the opposite direction. This does not contradict earlier findings. Rather, it shows that the two types of variation capture different things, and together they give a fuller picture of how geopolitical risk shapes firms' international decisions. Third, we analyze investment and trade within a common framework based on the role the destination plays in firms' decisions, as a market or as a source of supply. This framework explains why the two respond differently to the same risk information. Firms move production closer to destinations they serve as markets, while buyers reduce purchases from destinations they rely on for supply. In doing so, we add to the literature on tariff-jumping FDI (Blonigen, 2002; Moder and Spital, 2025). Our results suggest that firms respond not only to trade barriers already in place, but possibly also to future frictions signaled by risk information.

2 Conceptual Framework

This section discusses how media coverage of geopolitical risk in source country i may affect cross-border economic activity with destination country j . We distinguish between two roles of the destination country. The destination country can play two different roles. It can serve as a market for firms in the source country, or as a source of supply. Greater perceived geopolitical risk may affect these two types of cross-border decisions differently. We discuss these mechanisms below.

2.1 Information Environment and Cross-Border Decisions

Geopolitical risk can affect both international investment and trade. Existing studies generally find that higher geopolitical risk is associated with lower trade and FDI (Bussy and Zheng, 2023; Chevalier et al., 2026), including evidence from major geopolitical events such as the Russia–Ukraine war (Crozet and Hinz, 2020; Yalcin et al., 2025).

However, firms respond not only to realized risks but also to perceived risks and uncertainty (Ilut and Schneider, 2014; Hassan et al., 2019). Related studies also show that bilateral perceptions can shape cross-border economic activity. Trade and investment tend to be lower between countries with lower bilateral trust (Guiso, Sapienza, and Zingales, 2009), while deteriorating public attitudes toward another country have been associated with lower bilateral trade (Disdier and Mayer, 2007; Michaels and Zhi, 2010).

For geopolitical events that occur abroad, domestic news media are an important source of such perceptions. Firms rarely observe foreign events directly, and domestic media provide a low-cost way to learn about risks in foreign markets. This is especially relevant for firms that have not yet entered a destination country and therefore have limited access to local information. Media coverage involving foreign countries can also affect economic behavior directly. For example, Kim (2018) shows that government-controlled Chinese newspapers covered product recalls by foreign automakers more negatively than those by domestic automakers, and that this coverage affected consumer purchases.

Because media incentives and political environments differ across countries, the same geopolitical event involving country j can generate different risk information in different source countries. We therefore view the information environment in source country i as the channel through which geopolitical events involving j enter the cross-border decisions of firms in i . In particular, greater coverage of geopolitical conflict involving j may shape expectations about future economic frictions with j , such as trade restrictions, sanctions, or supply disruptions. The following subsections discuss how such expectations may affect decisions depending on whether j serves as a market or as a source of supply.

2.2 Destination Country as a Market

The effect of GPR coverage may depend on the role played by destination country j . As summarized in Table 1, j can serve either as a market or as a source of supply. We distinguish four types of cross-border activity according to these two roles and discuss how each may respond to greater geopolitical risk.

Table 1. Role of the Destination Country and Types of Cross-Border Activity

	Destination j as a market	Destination j as a supply source
Investment	Market-oriented FDI (serving the local market of j)	Supply-oriented FDI (using j as a production base)
Trade	Exports (sales from i to j)	Imports (purchases by i from j)

Notes: i denotes the source country and j the destination country. The same firm may engage in more than one type of cross-border activity.

When country j serves as a target market, firms in country i can serve that market in two main ways: by exporting from the source country or by producing locally in j . The classic proximity–concentration trade-off suggests that firms balance the gains from concentrating production against the trade costs saved by producing closer to consumers (Brainard, 1997; Helpman, Melitz, and Yeaple, 2004). Greater perceived geopolitical risk can shift this trade-off by changing the relative costs and risks of exporting and local production.

This shift can affect market-oriented FDI through two opposing forces. The first is a deterrence effect. Greater risk may increase uncertainty about the destination country’s business environment, including future regulation, policy changes, and asset security. Because FDI typically involves substantial fixed costs and is partly irreversible, firms may respond by delaying, reducing, or abandoning investment. This is the mechanism emphasized by much of the existing literature linking geopolitical risk to lower FDI (Aiyar, Malacrino, and Presbitero, 2024).

The second is a localization effect. Greater risk may also signal that future cross-border transactions will face higher frictions. If firms expect exporting to country j to become more costly or less reliable, local production becomes relatively more attractive. Firms may therefore establish or expand production in j to preserve access to its market. This logic is closely related to the literature on tariff-jumping FDI (Belderbos, 1997; Blonigen, 2002). Recent evidence also shows that higher trade barriers can be associated with greater greenfield investment aimed at serving local markets (Moder and Spital, 2025). A recent example can be found in the

automobile industry. In response to higher U.S. tariffs and uncertainty over future market access, Japanese automakers such as Toyota have considered expanding production in the United States, illustrating how greater trade frictions can increase the attractiveness of local production (Shiraki, 2025).

These considerations yield two competing hypotheses for market-oriented FDI.

Hypothesis 1a (Deterrence). *Greater GPR coverage of destination country j in source country i is associated with less FDI from i to j .*

Hypothesis 1b (Market-access localization). *Greater GPR coverage of destination country j in source country i is associated with more FDI from i to j . This association is stronger for projects that serve the local market of j and in sectors that rely more on local demand.*

GPR coverage may also affect trade decisions. When country j serves primarily as a market for firms in country i , the relevant trade margin is exports from i to j . Over a longer horizon, greater local production may substitute for exports from the source country. But in the short run, newly established plants may require machinery and intermediate inputs from the home country, which can increase exports. Existing studies have documented both substitution and complementarity between foreign production and exports (Blonigen, 2001). Although the forces discussed above make the effect theoretically ambiguous, we expect substitution to dominate, as firms that shift toward local production rely less on exports to serve country j .

Hypothesis 2 (Export substitution). *Greater GPR coverage of destination country j in source country i is associated with lower exports from i to j .*

2.3 Destination Country as a Supply Source

When country j serves as a source of supply, firms are primarily concerned with the reliability of production and procurement. This role is particularly relevant for intermediate inputs, which firms in country i may obtain from j either through independent suppliers or through their own affiliates.

For supply-oriented FDI, greater geopolitical risk can create two opposing forces. On the one hand, firms may reduce or relocate production in country j to limit their exposure to potential disruptions. On the other hand, greater uncertainty may increase the value of control over production and sourcing relationships. The property-rights literature suggests that integration can provide firms with greater control than relying on independent suppliers (Antràs and Helpman, 2004). This may make direct ownership relatively more attractive when firms are concerned about supplier reliability or contractual frictions. At the same time, country-level geopolitical risk also makes holding production assets in j more risky. The net effect on supply-oriented FDI is therefore ambiguous.

These considerations yield two competing hypotheses for supply-oriented FDI.

Hypothesis 3a (Exposure reduction). *Greater GPR coverage of destination country j in source country i is associated with less supply-oriented FDI from i to j .*

Hypothesis 3b (Internalization). *Greater GPR coverage of destination country j in source country i is associated with more supply-oriented FDI from i to j , as firms seek greater control over production and sourcing.*

For trade, we focus on imports by source country i from destination country j . Two opposing forces may arise. First, greater risk may signal future disruptions, delays, or policy restrictions. Buyers may therefore reduce their reliance on j to limit supply risk (Grossman, Helpman, and Lhuillier, 2023). Second, if buyers expect future tariffs, export controls, or other restrictions, they may increase imports in advance and build inventories before those frictions materialize (Khan and Khederlarian, 2021). Although these forces make the effect theoretically ambiguous, we expect the first force to dominate, so that buyers reduce their reliance on j .

Hypothesis 4 (Reduced reliance). *Greater GPR coverage of destination country j in source country i is associated with lower imports by i from j . This association is stronger for higher-intensity conflicts.*

The relative importance of these forces may depend on the nature of the risk and the availability of alternative suppliers. Switching is easier when substitutes are readily available, but more difficult for specialized or critical inputs. Similarly, verbal disputes may have little immediate effect on the physical flow of goods, whereas severe conflict is more likely to cause actual supply disruptions. We therefore expect import responses to be stronger for higher-intensity conflicts.

Finally, trade decisions are generally easier to adjust and more reversible than investment decisions. We therefore expect trade responses to emerge more quickly and potentially be less persistent than FDI responses.

3 Data

This section describes the data used in our empirical analysis. Section 3.1 introduces the news database used to construct our geopolitical risk (GPR) measure. Section 3.2 explains the construction of the index. Section 3.3 and Section 3.4 examine its main properties and provide validation exercises. Finally, Section 3.5 describes the data sources for FDI, trade, and other variables used in the analysis.

3.1 GDELT Database

To construct a bilateral GPR measure based on source-country media, we need a news database that covers a large number of countries and languages while processing news content in a consistent manner. Existing text-based measures often rely on a relatively small set of newspapers from one or a few countries, as in Caldara and Iacoviello (2022), making them less suitable for systematic cross-country comparisons. We therefore use GDELT, a large-scale open database constructed from global news media (Leetaru and Schrodt, 2013). GDELT applies automated text-processing techniques to convert unstructured news content into structured event records covering political, economic, and social events around the world.

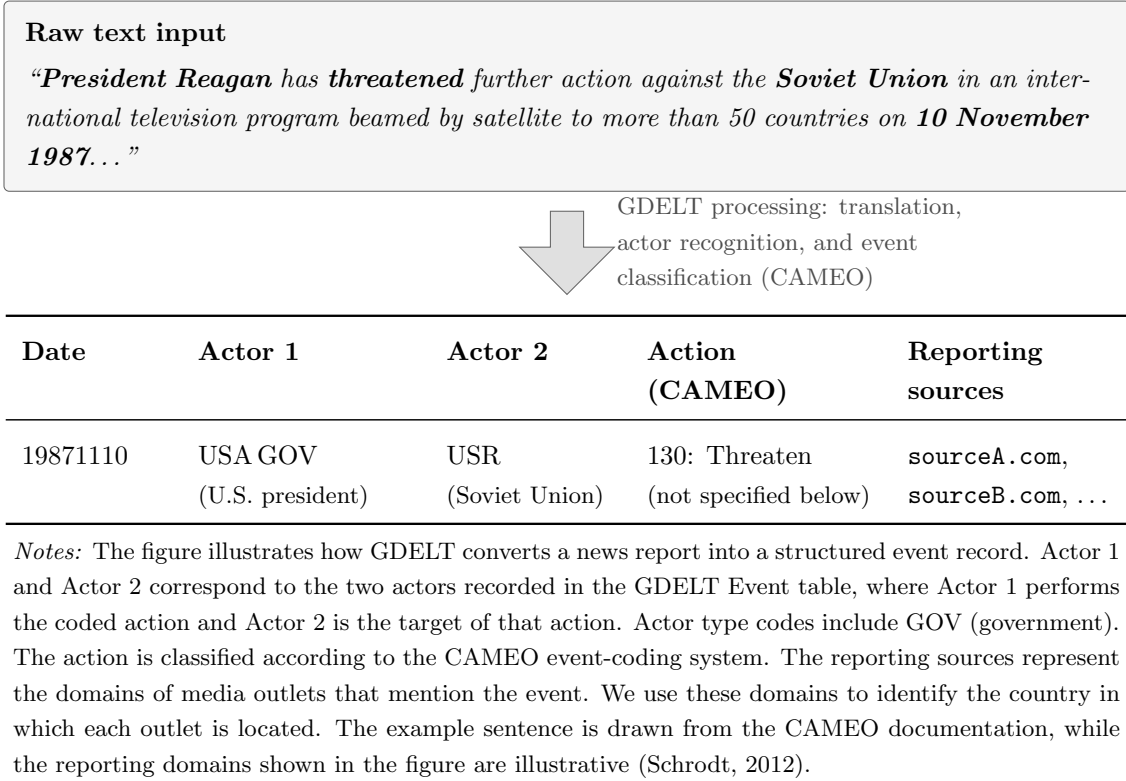
GDELT is particularly suitable for our analysis for three reasons. First, it provides broad international and multilingual coverage. Through its Translingual system, GDELT machine-translates news reported in multiple languages into English before applying a common event-extraction procedure. This allows us to compare media coverage across source countries within a common framework. Second, GDELT applies a standardized translation and event-classification pipeline across countries. This reduces comparability concerns that would arise if country-specific news sources were processed using different text-analysis methods. Third, the database provides detailed structured information on each event, including the nationalities and types of the actors involved, the category of the event, the timing of the report, and the media source in which the event is mentioned. These features allow us to identify both the countries involved in an event and the country from which the corresponding news coverage originates. GDELT has also been increasingly used in economics, finance, and related fields to construct measures of political events, geopolitical tensions, and media sentiment (Gong et al., 2024; Anwar et al., 2025; Chevalier et al., 2026).

We mainly use two tables from GDELT 2.0: the Event table and the Mentions table. The Event table contains structured records of events identified from news coverage. For each event, it reports the two actors involved—Actor 1, which performs the coded action, and Actor 2, which is the target of that action—together with information on their countries and actor types. Each event is classified according to the Conflict and Mediation Event Observations (CAMEO) coding system (Gerner et al., 2002). For example, events may be classified as “Reduce relations,” “Threaten,” or “Fight,” depending on the action described in the underlying news report.

The Mentions table records each news article in which an event from the Event table is mentioned. It contains information such as the article URL, the domain of the reporting outlet, and the time at which the event was mentioned. We merge the Event and Mentions tables using the unique event identifier. This allows us to identify, for each news article, which event is being reported, which countries are involved in that event, and which media outlet reported it. We then use the domain of the reporting outlet to identify the country in which the outlet is located.

Figure 2 illustrates how GDELT converts unstructured news text into structured event data. Consider a news report stating that “President Reagan has threatened further action against the Soviet Union.” GDELT first identifies the U.S. government, represented by the president, as Actor 1 and the Soviet Union as Actor 2. Based on the verb “threatened,” the event is then classified under CAMEO code 130, “Threaten, not specified below.” The Mentions table further records the news articles that mention this event, together with their source domains and publication times. By combining this information, we can measure how frequently media outlets in each source country report different types of geopolitical events involving a given destination country.

Figure 2. From News Text to Structured Event Data: An Illustration



3.2 Construction of the GPR Index

Our index measures how prominently geopolitical risk involving destination country j is reported in the media of source country i . Specifically, we define the index as the share of articles published by media outlets in country i that report geopolitical conflict events involving country j :

$$GPR_{ijt} = 100 \times \frac{N_{ijt}^{\text{GPR}}}{N_{ijt}}, \quad (1)$$

where N_{ijt} denotes the number of articles published by media outlets in source country i during period t that report at least one event involving an actor from destination country j . The denominator includes all types of events identified by GDELT. The numerator, N_{ijt}^{GPR} , counts the subset of these articles that contain at least one geopolitical risk event involving country j , as defined below.

Using a share rather than the raw number of articles helps account for differences in the overall level of media attention that source country i devotes to destination country j . A higher value of GPR_{ijt} therefore indicates that, conditional on reporting about country j , media outlets in country i devote a larger share of their coverage to geopolitical conflict involving j . This normalization is consistent with the share-based approach used in previous text-based measures of geopolitical risk, including Lu, Shao, and Tao (2018) and Caldara and Iacoviello (2022). Importantly, the index measures the media information environment surrounding country j in source country i , rather than firms’ perceptions directly. We view this information environment as an important input into firms’ assessments of geopolitical risk, which may in turn shape their

cross-border decisions.

Observer–object structure. In our framework, i and j correspond to the observer and the object of media coverage, respectively. This observer–object structure is a key feature that distinguishes our index from existing bilateral measures. Recent studies have also used GDELT to construct bilateral measures of geopolitical tensions or political relations, such as Fan (2025) and Chevalier et al. (2026). In those measures, the country pair is defined by the two actors involved in an event. As a result, the index is constructed around the relationship between countries i and j , rather than around how one country’s media portrays the other.

Our index instead follows an *observer–object* structure. Source country i is the country in which the media outlet is located and thus represents the observer of the information. It does not need to be involved in the underlying event. Destination country j is the object being reported. The index therefore captures how intensively media in country i report geopolitical risk events involving country j , rather than geopolitical conflict between countries i and j themselves.

Because the observer is source-country specific, the same destination country (j) can be portrayed differently across source-country media. This cross-source variation is a key feature of our index and is examined further in Section 3.3.

Identification of source countries. The destination country and source country are identified separately. The destination country can be directly determined from the nationality of the actors recorded in the GDELT Event table. Identifying the country associated with a media outlet requires an additional step because the outlet’s location is not directly recorded for all domains.

We follow the two-step procedure proposed by the GDELT Project (The GDELT Project, 2018). First, for outlets using a country-code top-level domain, we assign the country based directly on the domain suffix. For example, the domain `people.cn` is assigned to China. Second, for domains that do not contain country information, such as those ending in `.com`, we infer the outlet’s location from its geographic pattern of news coverage. Specifically, we assign each media domain to the country that is mentioned most frequently in its reporting.

This approach addresses several limitations of alternative location measures. The country in which a domain is registered may differ from the country in which the outlet actually operates, while server location can be misleading because many media websites are hosted in data centers located in other countries. The GDELT Project shows that media outlets tend to report disproportionately on events occurring in or related to their home countries, making the geographic distribution of their coverage informative about outlet location. The GDELT Project therefore considers this approach a reasonable way to infer the home country of a media outlet (The GDELT Project, 2018).

Identification of geopolitical risk events. After identifying the source and destination countries, we classify which event mentions constitute geopolitical risk. To improve the reliability of event identification, we retain only event mentions with a GDELT confidence score above 60. GDELT assigns each event mention a confidence score ranging from 0 to 100, reflecting the reliability with which the event is identified from the underlying text. An article enters the

denominator N_{ijt} if it contains at least one qualifying event mention involving country j . It enters the numerator N_{ijt}^{GPR} if at least one such mention also satisfies the three criteria described below.

Following Caldara and Iacoviello (2022), we view geopolitical risk as arising from the threat, realization, or escalation of adverse events related to war, terrorism, and tensions among states and political actors that may disrupt the peaceful course of international relations. We operationalize this concept using three criteria.

First, *at least one actor must be a state actor*. At least one of the two actors involved in the event must be classified as a government (GOV), military (MIL), police force (COP), intelligence agency (SPY), or judiciary (JUD). This requirement excludes events involving only non-state actors, such as commercial disputes between firms.

Second, *the event must belong to a conflict category*. CAMEO broadly classifies events into verbal cooperation, material cooperation, verbal conflict, and material conflict. We define geopolitical risk events as those belonging to either verbal conflict or material conflict.

Third, *the event must be international*. Both actors must have identifiable nationalities, and they must belong to different countries. This restriction excludes purely domestic political events, such as protests, internal unrest, and regime changes. These events may reflect political risk, but they are outside the scope of the cross-border geopolitical tensions studied in this paper.

In the baseline index, we do not distinguish whether destination country j is the initiator or the target of an event. Any qualifying event involving j is included, regardless of whether j imposes sanctions, issues threats, or initiates military action, or instead is subject to such actions. Likewise, the other actor in the event may be source country i or any third country.

The reason for this treatment is that whenever country j becomes involved in a geopolitical conflict, related media coverage in source country i may convey information about the risks to domestic economic agents. For firms operating in j , conflicts between j and a third country may also lead to sanctions, retaliatory measures, supply-chain disruptions, or changes in the policy environment, thereby affecting their operating conditions.

Aggregation. Finally, we count and aggregate the articles as follows. Because a single article may report multiple events, we use the article as the unit of counting. For a given media outlet, month, and destination country, each article, identified by its URL, is counted only once regardless of how many relevant events it reports. An article enters the numerator if it contains at least one event involving country j that satisfies the three criteria above. We first aggregate the monthly numerator and denominator at the media-outlet level and then sum them across outlets located in the same source country. Quarterly and annual indices are calculated by summing the corresponding monthly numerators and denominators and then taking their ratio.

3.3 Characteristics and Validation of the GPR Index

Our GPR index covers approximately 234 source countries and 224 destination countries from January 2016 to December 2025. The empirical analysis focuses on the 10 source countries and 20 destination countries with the largest shares of FDI activity, as described in Section 3.5. This

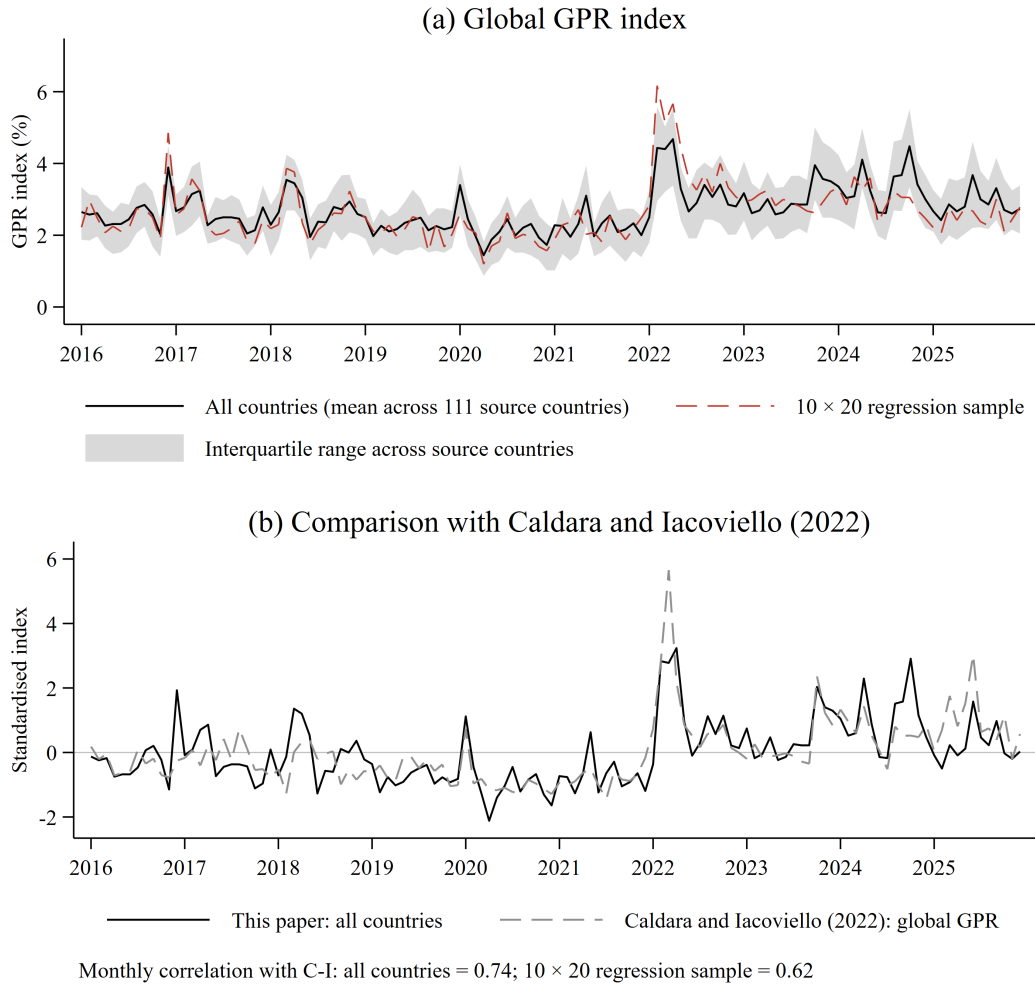
subsection first presents the global trend of the index and compares it with an existing GPR measure. We then examine whether the index captures major geopolitical events and, finally, document its most important feature: variation across source countries.

Global trends and comparison with an existing GPR index. Panel (a) of Figure 3 presents the global evolution of our GPR index. We first construct an aggregate index for each source country across all destination countries and then take a simple average across 111 source countries with sufficient media coverage. This prevents countries with especially large news volumes, particularly the United States, from dominating the global series. The shaded area shows the interquartile range across source countries. For comparison, the dashed line reports the corresponding index for the regression sample of 10 source countries and 20 destination countries. The two series follow broadly similar patterns. In particular, the overall level of geopolitical risk rises markedly after 2022 and does not return to its earlier level.

Panel (b) compares our full-sample index with the global GPR index of Caldara and Iacoviello (2022). The monthly correlation between the two series is 0.74. When we restrict our index to the regression sample, the correlation falls to 0.62. This difference mainly reflects differences in country coverage. The regression sample excludes countries such as Israel and Iran, whose geopolitical conflicts account for an important share of global geopolitical risk during the sample period.

The two indices also differ during some episodes. Our index tends to increase more during periods dominated by diplomatic accusations and sanctions, whereas the Caldara and Iacoviello (2022) index rises more sharply during large-scale wars. These differences are consistent with the way the two measures are constructed. Our index includes verbal conflict and is therefore more sensitive to lower-intensity diplomatic tensions. At the same time, because it is defined as a share of news coverage, its increase during major conflicts is mechanically bounded.

Figure 3. Global GPR Index and Comparison with Caldara and Iacoviello (2022)

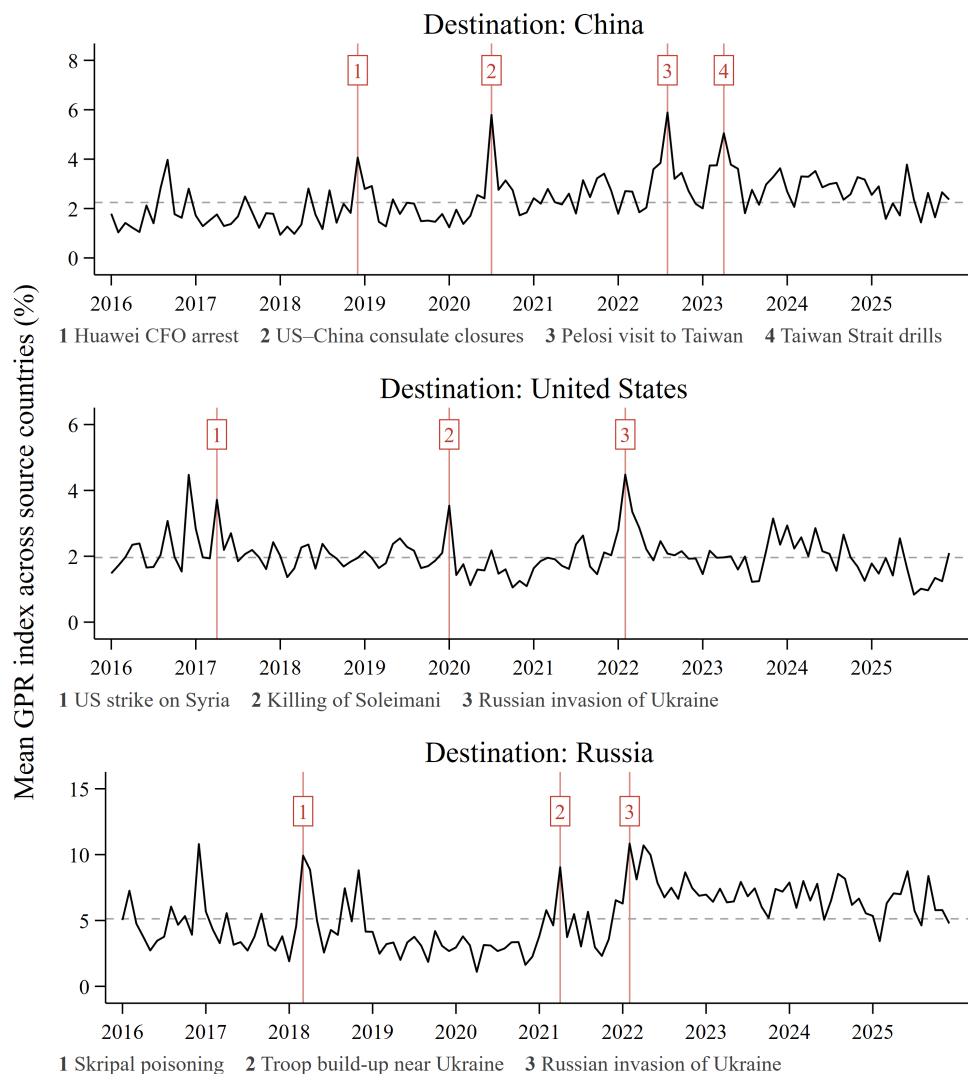


Notes: Monthly data from January 2016 to December 2025. Panel (a): for each source country, we compute the share of geopolitical-risk articles among all articles reporting on any destination country, and then take the simple average across 111 source countries with an average of at least 1,000 articles per month and complete monthly coverage. The shaded area shows the interquartile range across source countries. The dashed line shows the corresponding index constructed from the regression sample of 10 source countries and 20 destination countries. Panel (b): both series are standardized to have zero mean and unit variance. The Caldara and Iacoviello (2022) series is their global GPR index.

Correspondence with major geopolitical events. Figure 4 shows the average GPR index for China, the United States, and Russia across the 10 source countries in the regression sample. We also mark major geopolitical events that occurred during the corresponding periods. The main peaks in the index closely coincide with these events. For China, the index rises sharply around the detention of Huawei’s chief financial officer in December 2018, the reciprocal closure of Chinese and U.S. consulates in July 2020, the visit of the Speaker of the U.S. House of Representatives to Taiwan in August 2022, and military exercises around Taiwan in April 2023. For Russia, clear increases occur around the Skripal poisoning in March 2018, the buildup of Russian troops near the Ukrainian border in April 2021, and Russia’s invasion of Ukraine in February 2022.

Appendix Figure A1 also reports the monthly number of risk articles (the numerator of the GPR index) for China, the United States, and Russia. The most striking pattern is the sharp increase in risk coverage of Russia in early 2022, when the number of risk articles rose to more than 20,000 per month, roughly eight times its median level over the sample period. This surge coincides with Russia's invasion of Ukraine.

Figure 4. GPR Index and Major Geopolitical Events: China, the United States, and Russia



Notes: Each panel shows the monthly GPR index for the destination country, averaged across the 10 source countries in the regression sample. The dashed horizontal line indicates the median over the sample period. Vertical lines mark the months of the numbered events listed below each panel.

Variation across source countries. Figure 5 shows a key feature of our index: the same destination country can be portrayed differently across source-country media. In each panel, the grey line shows the simple average across 10 source countries in the regression sample, while the black line shows the index for a particular source country. The red and blue areas indicate periods in which that source country's index lies above and below the cross-source average,

respectively.

For China, the index based on Japanese media is above the cross-source average for much of the sample period, whereas the index based on Korean media is generally below it. For Russia, the index based on U.K. media remains relatively high, while those based on Chinese, Korean, and Italian media fall well below the cross-source average after 2022. These patterns are consistent with the discussion in Section 2.1: differences in audience preferences, government influence, and bilateral relations may lead media outlets in different countries to portray the same destination country differently.

The red and blue areas in Figure 5 remove the component of geopolitical risk that is common to all source countries for a given destination and period. They therefore highlight relative differences across source countries. The empirical analysis below is identified precisely from this cross-source variation.

3.4 Measurement Issues

News-based indices may be subject to several measurement issues. This subsection discusses how we address these concerns and the related robustness checks.

Accuracy of event identification. GDELT relies on automated text analysis to identify events, which may introduce classification errors. For each event mention, the Mentions table provides a confidence score ranging from 0 to 100. When constructing the index, we retain only event mentions with a confidence score above 60.

Media quality. In addition to major commercial news outlets, GDELT covers a wide range of online sources, including news portals and other web-based media. In the baseline analysis, we retain all media sources covered by GDELT for two reasons. First, these sources jointly form part of the broader information environment in each source country and may therefore contribute to how economic agents assess risks associated with foreign countries. Second, restricting the sample to a selected set of outlets may itself introduce selection bias.

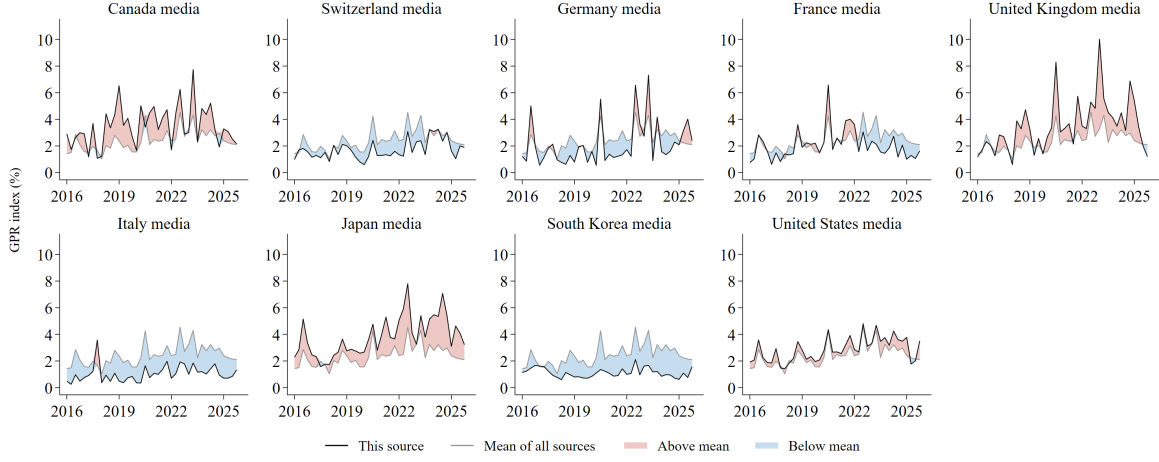
Small denominators. Because the GPR index is defined as a ratio, a small denominator may generate extreme values when only a few conflict-related articles are observed. Aggregating the data to the quarterly and annual levels substantially reduces this concern. At the quarterly level, the median number of articles for a source–destination–quarter observation is 828, and approximately 3.8% of observations contain fewer than 30 articles. At the annual level, the median is 3,484.5 articles, and only around 0.3% of observations contain fewer than 30 articles.

3.5 FDI, Trade, and Other Variables

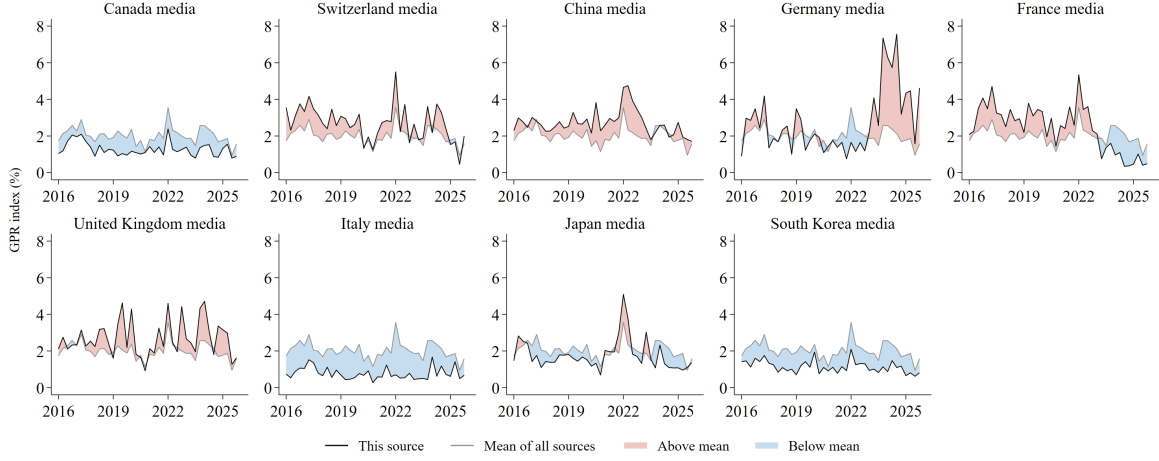
FDI data. FDI data come from Moody’s Orbis Crossborder Investment (CBI) database, which tracks newly announced cross-border greenfield investment projects worldwide at the project level. The source country is identified using the location of the investing firm’s global ultimate owner.

Figure 5. GPR Index by Source-Country Media: China, the United States, and Russia

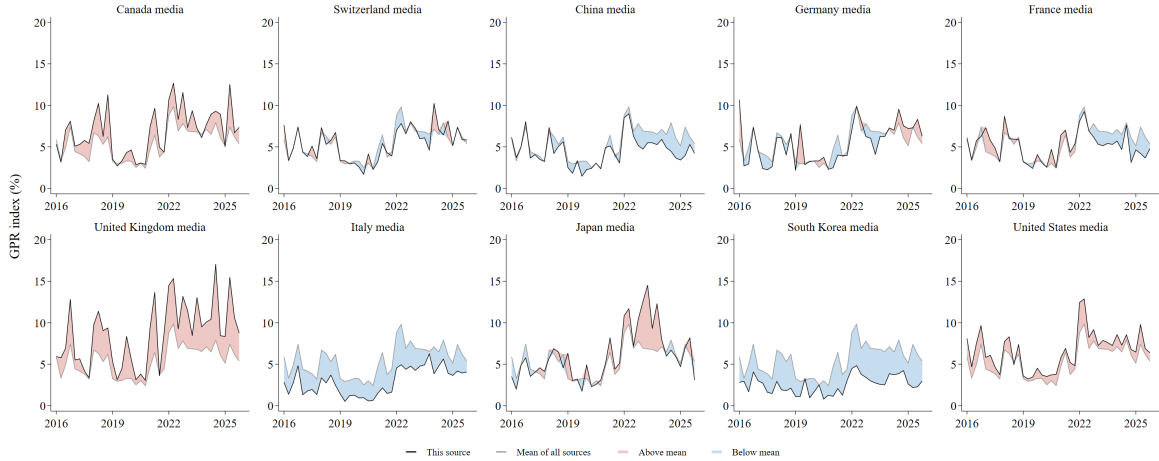
(a) Destination: China



(b) Destination: United States



(c) Destination: Russia



Notes: Quarterly data. In each small panel, the black line shows the GPR index for the destination country based on media coverage in the indicated source country, while the grey line shows the simple average across all 10 source countries in the regression sample, excluding the destination country itself. Red and blue areas indicate periods in which the source-country index lies above and below this average, respectively. Quarterly indices are constructed by summing the monthly numerators and denominators before taking their ratio. Vertical scales differ across panels (a)–(c).

Industries are classified using the two-digit NACE Rev. 2 code of the project’s primary activity, which reflects the economic activity of the newly established facility. We focus on the 24 manufacturing industries in divisions 10–33. The sample period is 2017–2025. Our main FDI analysis uses annual data because greenfield FDI is a relatively long-term investment decision and, at the source–destination–industry level, quarterly counts of new projects contain a large number of zeros and relatively little variation. Results using quarterly data are reported in Appendix Table A1.

To focus the analysis on countries with substantial greenfield FDI activity, we select the 10 countries with the largest numbers of outward greenfield investment projects and the 20 countries with the largest numbers of inward projects during the pre-sample period 2014–2016 (Table 2). This sample choice is motivated by three considerations. First, global greenfield FDI is highly concentrated in a relatively small number of countries. Including countries with very limited investment activity would introduce a large number of structural zeros that provide little identifying variation. Second, the selected countries account for a large share of global greenfield investment activity. During 2014–2016, the 10 source countries accounted for approximately 68.5% of outward greenfield investment projects worldwide, while the 20 destination countries accounted for approximately 69.6% of inward projects. Third, the sample is selected using investment activity before the estimation period, so the selection is not mechanically related to the relationship between GPR and FDI during the sample period. Six countries (Canada, China, France, Germany, the United Kingdom, and the United States) appear in both the source and destination lists. After excluding country pairs in which the source and destination are the same country, the sample contains 194 source–destination pairs. Three country pairs with no new projects during the sample period are dropped in PPML estimation, so the FDI estimation sample covers 191 country pairs.

Table 2. Sample Countries

Source countries	Destination countries	
Canada*	Belgium	Malaysia
China*	Brazil	Mexico
France*	Canada*	Poland
Germany*	China*	Russia
Italy	Czech Republic	Spain
Japan	France*	Thailand
South Korea	Germany*	Turkey
Switzerland	Hungary	United Kingdom*
United Kingdom*	India	United States*
United States*	Indonesia	Vietnam

Notes: Source countries are the 10 countries with the largest numbers of outward greenfield FDI projects during 2014–2016, while destination countries are the 20 countries with the largest numbers of inward greenfield FDI projects over the same period, based on Orbis Crossborder Investment. Countries are listed in alphabetical order. * denotes the six countries that appear in both lists. Pairs in which the source and destination are the same country are excluded, leaving 191 source–destination pairs.

The baseline FDI outcome is the number of newly announced greenfield investment projects from source country i to destination country j in industry s and year t . As an alternative outcome in the robustness analysis, we use the total announced capital expenditure of new projects. Some project-level investment values in CBI are estimated rather than directly reported, which should be kept in mind when interpreting these results. CBI also reports the main market served by each project, distinguishing the destination country’s domestic market from regional or global markets. We use this information in the mechanism analysis to distinguish projects serving the local market from those serving export markets.

Trade data. Trade data come from UN Comtrade. We obtain monthly import and export values at the six-digit Harmonized System (HS) product level for 2017–2024 and aggregate them to the quarterly level. Both imports and exports are measured from the perspective of source country i : imports are the value reported by i as imports from destination country j , while exports are the value reported by i as exports to j .

To make the trade results comparable with the FDI analysis, we map six-digit HS products through ISIC classifications to two-digit NACE Rev. 2 industries and retain the same 24 manufacturing industries in divisions 10–33. Unlike FDI, trade can adjust over a shorter horizon, so the main trade analysis uses quarterly data. Results using annual data are reported in Appendix Table A1.

Other variables. The regressions include several bilateral control variables. The regional trade agreement (RTA) indicator comes from Mario Larch’s Regional Trade Agreements Database based on Egger and Larch (2008) and equals one if any regional trade agreement between the two countries is in force in period t . Bilateral political distance is measured using the distance between the source and destination countries’ ideal points in United Nations General Assembly voting, following Bailey, Strezhnev, and Voeten (2017).

We also include directional bilateral sanction indicators from Version 5 of the Global Sanctions Data Base Global Sanctions Data Base (2026). The indicator for sanctions from i to j equals one if at least one sanction imposed by source country i on destination country j is in force in year t ; the reverse-direction indicator is defined analogously.

For the heterogeneity analysis, we use the average UN ideal-point distance over 2014–2016 as a measure of baseline political distance. We also use the OECD Trade in Value-Added (TiVA) indicator VALU_FFDDVA, averaged over 2014–2016, to measure the share of sectoral value added absorbed by foreign final demand and thus the sector’s dependence on foreign demand (OECD, 2025).

Table 3 reports descriptive statistics for the main variables. The FDI estimation sample is constructed at the source–destination–industry–year level and contains 35,619 observations. The average number of newly announced projects per cell is 0.29, and most observations are zero. The trade sample is constructed at the source–destination–industry–quarter level and contains 122,996 observations. At the annual level, the GPR index has a mean of 2.12 and a standard deviation of 1.89.

Table 3. Descriptive Statistics

	Obs.	Mean	SD	Min	Median	Max
<i>Panel A: FDI sample (source × destination × sector × year)</i>						
FDI projects	35,619	0.29	1.07	0	0	36
Announced capex (USD mn)	35,619	47.04	482.59	0	0	44,004
<i>Panel B: Trade sample (source × destination × sector × quarter)</i>						
Imports (USD mn)	122,996	259.5	1,100.1	0	20.3	70,076
Exports (USD mn)	122,996	266.3	991.6	0	22.4	51,563
<i>Panel C: GPR index and bilateral variables</i>						
<i>Source × destination × year</i>						
GPR index	1,508	2.124	1.886	0	1.669	15.32
Risk articles (numerator)	1,508	533.9	2,036.7	0	50	38,269
Total articles (denominator)	1,508	18,898	52,574	25	3,484.5	636,012
<i>Source × destination × quarter</i>						
GPR index	6,014	2.136	2.636	0	1.367	33.33
Risk articles (numerator)	6,014	154.8	732.2	0	11	26,400
Total articles (denominator)	6,014	4,897.5	14,001.5	1	828	212,286
<i>Source × destination pair</i>						
Baseline UN ideal point distance	191	1.129	0.800	0.026	1.047	3.495
<i>Source × destination × year</i>						
RTA	1,508	0.571	0.495	0		1
Sanction ($i \rightarrow j$)	1,508	0.173	0.378	0		1
Sanction ($j \rightarrow i$)	1,508	0.098	0.298	0		1

Notes: All statistics are computed for the estimation samples of the baseline regressions (column 5 of Tables 4–6). The FDI sample covers 24 manufacturing sectors (NACE Rev. 2 divisions 10–33) over 2017–2025, and the trade sample covers the same sectors over 2017–2024 at quarterly frequency. The GPR index and its components are lagged by one period, as in the regressions, and are reported at the source–destination–period level. Trade values are reported in millions of U.S. dollars. Medians are omitted for binary variables.

4 Empirical Strategy

Our main FDI outcome is the number of newly announced greenfield investment projects. Because source countries do not invest in every destination and industry in every year, the outcome contains a large number of zeros. We therefore estimate the model using Poisson pseudo-maximum likelihood (PPML) following Santos Silva and Tenreyro (2006). PPML naturally accommodates zero-valued observations and is well suited to highly skewed non-negative outcomes. We implement PPML with multiple high-dimensional fixed effects using the method of Correia, Guimarães, and Zylkin (2020). Our baseline specification is

$$E[Y_{ijst} \mid X] = \exp(\beta GPR_{ij,t-1} + \gamma_{ij} + \mu_{it} + \nu_{st} + \eta_{jt}), \quad (2)$$

where i denotes the source country, which is both the country of the reporting media and the origin of FDI; j denotes the destination country, which is both the country being reported on and the destination of FDI; s denotes industry; and t denotes year. Y_{ijst} is the number of newly announced greenfield investment projects from source country i to destination country j in industry s and year t . $GPR_{ij,t-1}$ is the one-year lagged GPR index, which measures the intensity of media coverage in country i of geopolitical risk involving country j .

We use the lagged GPR index for two reasons. First, investment decisions typically take time from planning to announcement, so firms may respond to risk-related information with a delay. Second, using lagged GPR reduces concerns about contemporaneous reverse causality, whereby current investment activity may itself affect media coverage of the destination country.

The specification includes four sets of fixed effects to control for omitted factors that may jointly affect media coverage and investment decisions. Source–destination pair fixed effects, γ_{ij} , are defined for ordered $i \rightarrow j$ pairs and absorb time-invariant bilateral characteristics such as geographic distance, common language and colonial ties. Source-country–year fixed effects, μ_{it} , absorb shocks common to all destinations for a given source country and year, including shifts in the overall tendency of media in country i to report geopolitical conflict. Industry–year fixed effects, ν_{st} , control for global industry-specific shocks, such as technological change and shifts in global demand. Finally, destination-country–year fixed effects, η_{jt} , absorb factors common to all source countries investing in destination j at time t , including its macroeconomic conditions, policies toward foreign investment, and overall level of geopolitical risk. Standard errors are clustered at the source–destination pair level.

With these fixed effects, β captures whether, for the same destination country and period, source countries whose media place relatively greater emphasis on geopolitical risk in country j subsequently show different investment patterns in j . For example, even when the United States is exposed to the same geopolitical events in a given year, Chinese and Japanese media may report those events with different intensity. Our specification uses precisely this cross-source variation to examine its association with subsequent FDI.

However, this specification does not absorb all time-varying bilateral factors. For example, a deterioration in bilateral relations may affect both media coverage and investment decisions. In the robustness analysis, we therefore further control for time-varying bilateral variables, including regional trade agreements, UN ideal-point distance, and bilateral sanctions.

The trade analysis follows the same specification, except that t denotes quarters rather than years. The GPR index is lagged by one quarter, and the source-time, industry-time, and destination-time fixed effects are correspondingly defined at the quarterly level. The trade sample covers 2017–2024. We estimate

$$E[M_{ijst} | X] = \exp(\beta GPR_{ij,t-1} + \gamma_{ij} + \mu_{it} + \nu_{st} + \eta_{jt}), \quad (3)$$

where M_{ijst} denotes either the value of imports by source country i from destination country j , or the value of exports from i to j , in industry s and quarter t .

5 Baseline Results

5.1 FDI

Table 4 reports the baseline estimates of the relationship between the GPR index and FDI. The columns progressively add fixed effects. Column (1) includes no fixed effects. Column (2) adds source–destination pair fixed effects and year fixed effects. Column (3) replaces year fixed effects with source-country–year fixed effects. Column (4) further adds industry–year fixed

effects. Column (5) additionally includes destination-country-year fixed effects and corresponds to the full specification in Equation (2). Column (6) further adds time-varying bilateral controls, including regional trade agreements, UN ideal-point distance, and directional bilateral sanction indicators. As discussed above, these controls are included because they may affect both media coverage and investment decisions.

Table 4. Baseline Results: FDI (PPML)

	(1)	(2)	(3)	(4)	(5)	(6)
GPR _{<i>ij,t-1</i>}	-0.0277 (0.0260)	-0.0099 (0.0209)	-0.0052 (0.0182)	-0.0052 (0.0182)	0.0358** (0.0158)	0.0347** (0.0158)
RTA						0.1590 (0.1606)
Ideal point distance						-0.2528 (0.2020)
Sanction (<i>i</i> → <i>j</i>)						-0.0016 (0.1463)
Sanction (<i>j</i> → <i>i</i>)						0.2444** (0.1199)
Pair FE		Yes	Yes	Yes	Yes	Yes
Year FE		Yes				
Source × Year FE			Yes	Yes	Yes	Yes
Sector × Year FE				Yes	Yes	Yes
Destination × Year FE					Yes	Yes
Observations	35,619	35,619	35,619	35,619	35,619	35,379

Notes: The dependent variable is the number of newly announced greenfield FDI projects from source country *i* to destination country *j* in sector *s* and year *t*. All columns are estimated by PPML. Standard errors, clustered at the country-pair level, are reported in parentheses. Columns (1)–(5) are estimated on the same sample as column (5). Column (6) excludes observations for Türkiye in 2025, for which UN ideal point data are unavailable. Sanction variables are directional: *i* → *j* indicates that the source country sanctions the destination country. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

In columns (1)–(4), the coefficient on the GPR index is negative but statistically insignificant. In these specifications, variation in the GPR index still reflects factors that are common to all source countries for a given destination and period, including the destination country’s macroeconomic conditions and overall geopolitical risk. Existing studies typically rely on risk measures that mainly vary along this dimension and generally find that higher geopolitical risk reduces FDI (Bussy and Zheng, 2023; Aiyar, Malacrino, and Presbitero, 2024). The negative coefficients in columns (1)–(4) are consistent with this pattern.

Once destination-country-year fixed effects are added in column (5), common destination-specific factors are absorbed. The coefficient on the GPR index turns positive, with an estimate of 0.0358, and is statistically significant at the 5% level. This implies that, for the same destination country and year, source countries whose media report relatively more geopolitical risk involving country *j* subsequently announce more greenfield investment projects in *j*.

This positive association does not contradict the existing evidence that geopolitical risk can reduce FDI. Our result does not imply that firms invest more when the destination country itself becomes riskier. Instead, it shows that, holding constant the destination country’s common risk conditions, source countries whose media report relatively more risk associated with that

destination tend to invest more. The two patterns can therefore coexist: higher destination-level geopolitical risk may discourage investment overall, while cross-source differences in risk reporting may be positively associated with FDI.

In terms of magnitude, a one-percentage-point increase in the GPR index is associated with about a 3.6% increase in the expected number of new FDI projects. A one-standard-deviation increase corresponds to an increase of about 7%. The magnitude is therefore economically moderate.

This result supports Hypothesis 1b over Hypothesis 1a, suggesting that the localization effect outweighs the deterrence effect. More intensive risk reporting may signal greater future frictions in cross-border supply, encouraging firms to establish local production capacity in the destination country. We examine this mechanism in later sections.

Column (6) adds the bilateral control variables. The coefficient on the GPR index remains positive and statistically significant at the 5% level, with an estimate of 0.0347, which is very close to the estimate in column (5). This suggests that the positive effect is not explained by regional trade agreements, changes in bilateral political relations, or existing sanctions. However, some of these controls, especially sanctions and political alignment, may themselves respond to geopolitical tensions and absorb part of the relevant variation. We therefore treat column (6) as a robustness check and use column (5) as our baseline specification.

5.2 Trade

This section examines the relationship between the GPR index and bilateral trade flows. We estimate Equation (3) using quarterly data, with the GPR index lagged by one quarter. Following our framework, imports and exports correspond to different roles of destination country j . For imports, j serves as a source of supply; for exports, j serves as a market. Tables 5 and 6 report the results for imports and exports, respectively. The specifications across columns follow those used in the baseline FDI regressions.

We first examine imports, with the results reported in Table 5. In columns (2)–(4), the coefficient on the GPR index is negative and statistically significant, ranging from about -0.012 to -0.014 . Once destination-quarter fixed effects are added in column (5), the coefficient falls in magnitude to -0.0060 , but remains statistically significant at the 5% level. This suggests that part of the negative effect in columns (2)–(4) reflects factors common to all source countries for a given destination and quarter. Even after these common factors are absorbed, cross-source differences in GPR reporting remain negatively associated with imports. In other words, for the same destination country and quarter, source countries whose media report relatively more geopolitical risk involving country j subsequently import less from j . Column (6) adds the bilateral controls, and the coefficient remains almost unchanged at -0.0061 .

In terms of magnitude, a one-percentage-point increase in the GPR index is associated with about a 0.6% decline in imports. A one-standard-deviation increase in the quarterly GPR index corresponds to a decline of about 1.6%. The magnitude is modest but consistent with our framework, as predicted by Hypothesis 4. When country j serves as a source of supply, greater risk reporting may signal a higher likelihood of future disruption or policy restrictions, encouraging buyers to reduce their reliance on j .

It is also useful to compare the change from column (4) to column (5) for FDI and imports. For both outcomes, common destination-level factors are associated with a negative relationship. However, once these factors are absorbed, cross-source differences in GPR reporting are positively associated with FDI but negatively associated with imports. This contrast is consistent with the two roles of the destination country in our framework. When j serves as a market, greater risk reporting may encourage firms to move production closer to that market. When j serves as a source of supply, it may instead encourage buyers to reduce their reliance on j .

Table 5. Baseline Results: Imports (PPML)

	(1)	(2)	(3)	(4)	(5)	(6)
GPR _{ij,t-1}	-0.0062 (0.0178)	-0.0140** (0.0069)	-0.0124** (0.0057)	-0.0124** (0.0057)	-0.0060** (0.0030)	-0.0061** (0.0027)
RTA						-0.0348 (0.0903)
Ideal point distance						-0.2772** (0.1219)
Sanction ($i \rightarrow j$)						-0.0018 (0.0437)
Sanction ($j \rightarrow i$)						-0.1692** (0.0844)
Pair FE		Yes	Yes	Yes	Yes	Yes
Quarter FE		Yes				
Source $\times$ Quarter FE			Yes	Yes	Yes	Yes
Sector $\times$ Quarter FE				Yes	Yes	Yes
Destination $\times$ Quarter FE					Yes	Yes
Observations	122,996	122,996	122,996	122,996	122,996	122,996

Notes: The dependent variable is the value of imports by source country i from destination country j in sector s and quarter t . All columns are estimated by PPML on the same sample, defined as the estimation sample of column (5). Standard errors, clustered at the country-pair level, are reported in parentheses. Sanction variables are directional: $i \rightarrow j$ indicates that the source country sanctions the destination country. RTA, ideal-point distance, and sanction variables are measured annually and assigned the same value to all quarters within a year. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

We next examine exports, with the results reported in Table 6. The pattern is markedly different from that for imports. Across all specifications, the coefficient on the GPR index is close to zero and statistically insignificant. In column (5), the coefficient is -0.0003 , with a standard error of 0.0023 , indicating a precisely estimated null relationship.

This result does not support Hypothesis 2. Over a longer horizon, local production may substitute for exports from the source country. But in the short run, newly announced greenfield projects have not yet started production, while their construction may increase demand for equipment and intermediate inputs from the source country. In addition, exports depend largely on demand from buyers in destination country j , whose information environment is not directly captured by our source-country media measure. These opposing forces may help explain the near-zero effect on exports.

Table 6. Baseline Results: Exports (PPML)

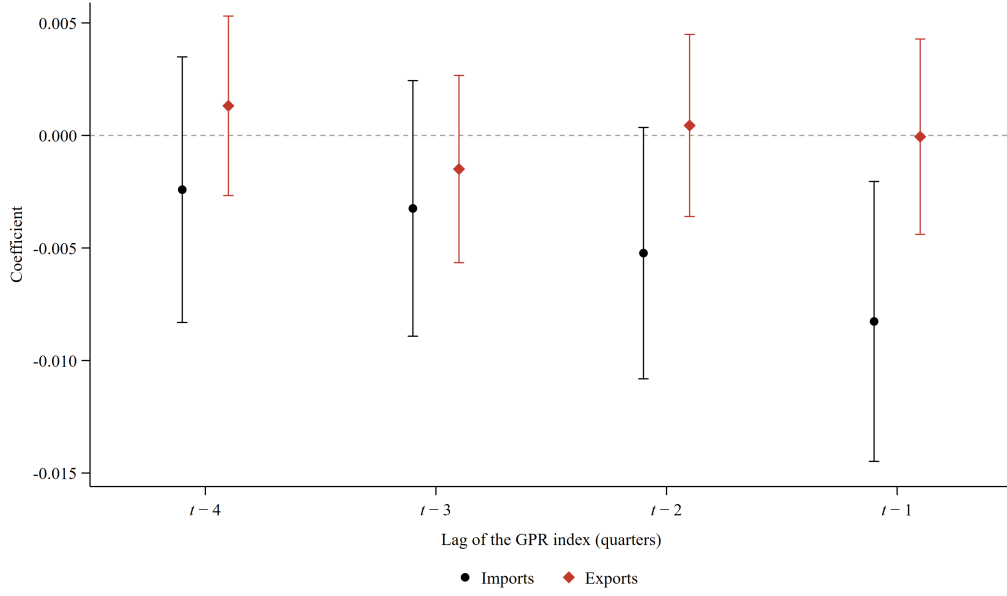
	(1)	(2)	(3)	(4)	(5)	(6)
GPR _{<i>ij,t-1</i>}	-0.0151 (0.0199)	-0.0051 (0.0034)	-0.0032 (0.0027)	-0.0032 (0.0027)	-0.0003 (0.0023)	-0.0005 (0.0019)
RTA						-0.0359 (0.0558)
Ideal point distance						-0.3368*** (0.0870)
Sanction (<i>i</i> → <i>j</i>)						-0.2124*** (0.0460)
Sanction (<i>j</i> → <i>i</i>)						0.0364 (0.0872)
Pair FE		Yes	Yes	Yes	Yes	Yes
Quarter FE		Yes				
Source × Quarter FE			Yes	Yes	Yes	Yes
Sector × Quarter FE				Yes	Yes	Yes
Destination × Quarter FE					Yes	Yes
Observations	122,996	122,996	122,996	122,996	122,996	122,996

Notes: The dependent variable is the value of exports from source country *i* to destination country *j* in sector *s* and quarter *t*. All columns are estimated by PPML on the same sample, defined as the estimation sample of column (5). Standard errors, clustered at the country-pair level, are reported in parentheses. Sanction variables are directional: *i* → *j* indicates that the source country sanctions the destination country. RTA, ideal-point distance, and sanction variables are measured annually and assigned the same value to all quarters within a year. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

We also examine the dynamic effects of GPR index. The baseline specification includes only one quarterly lag and therefore does not show the timing of trade adjustment. We address this by including four quarterly lags of the GPR index simultaneously in the same regression, as shown in Figure 6 and Appendix Table A2.

For imports, all four coefficients are negative and decline in magnitude with the lag length. The coefficient at one quarter is -0.0083 ($p = 0.009$), while the coefficient at two quarters is -0.0052 ($p = 0.067$). The coefficients at three and four quarters are smaller and statistically insignificant. This pattern suggests that most of the import adjustment occurs within one to two quarters after an increase in GPR reporting. This is consistent with sourcing decisions being relatively easy to adjust and more reversible than investment decisions. For exports, all four coefficients remain close to zero and alternate in sign. We also examine the dynamic relationship between the GPR index and FDI by including four annual lags simultaneously (Appendix Table A3). Because the annual GPR index is highly persistent and the effective sample is limited to 2021–2025, the individual lag coefficients are estimated imprecisely and alternate in sign.

Figure 6. Dynamic Effects of GPR Index on Trade



Notes: The figure reports coefficients on four quarterly lags of the GPR index, estimated jointly in a single PPML regression with pair, source $\times$ quarter, sector $\times$ quarter, and destination $\times$ quarter fixed effects. Bars indicate 95% confidence intervals based on standard errors clustered at the country-pair level.

In sum, the trade results are consistent with the framework in Section 2. When destination country j serves as a source of supply, greater GPR reporting is associated with a relatively rapid decline in imports from j , consistent with buyers reducing their reliance on j . Most of this adjustment occurs within one to two quarters. By contrast, when j serves as a market, the effect on exports is close to zero. Any longer-run substitution from exports toward local production may take time to emerge, while the construction of new local capacity may temporarily increase demand for equipment and intermediate inputs from the source country.

6 Localization Channel and Heterogeneity

The baseline results show that, after controlling for common destination-level risk, greater GPR coverage is positively associated with FDI, negatively associated with imports, and unrelated to exports. This section uses four heterogeneity analyses to further examine the mechanisms behind these patterns.

The first two analyses focus on market orientation and the localization channel. Section 6.1 asks for whom firms produce at the project level, while Section 6.2 asks where the industry's output is ultimately sold at the industry level. The two exercises provide complementary evidence. Sections 6.3 and Section 6.4 turn to other dimensions. Sections 6.3 examines the role of bilateral political relations and whether the results are consistent with friend-shoring, while Section 6.4 compares responses to geopolitical conflicts of different intensities.

6.1 Market Served by FDI Projects

The localization channel implies that, if greater risk coverage encourages firms to invest in destination country j in order to preserve market access, the increase in FDI should be more evident among projects serving the local market of j , rather than among projects using j as a production base for other markets.

Orbis CBI reports the main market served by each project, classified as the destination country's domestic market, a regional market, or a global market. Based on this information, we construct two alternative outcomes. The first is the number of newly announced projects from source country i to destination country j in sector s and year t that primarily serve the domestic market of j . The second is the number of projects that primarily serve regional or global markets. We estimate the two outcomes separately using the same specification as in the baseline FDI regression.

Table 7 reports the results. For host-market-serving projects, the coefficient on the GPR index is 0.0552 and is statistically significant at the 10% level. This implies that a one-percentage-point increase in the GPR index is associated with about a 5.7% increase in the expected number of such projects, which is larger than the baseline estimate.

For export-market-serving projects, the coefficient is 0.0141 and statistically insignificant, with a magnitude roughly one-quarter of that for host-market-serving projects. This pattern is consistent with the localization channel: the positive association between GPR coverage and FDI appears stronger for projects serving the destination country's local market. If export-market-serving projects are viewed as a proxy for supply-oriented FDI, the insignificant coefficient supports neither Hypothesis 3a nor Hypothesis 3b, consistent with the two opposing forces offsetting each other.

However, this evidence should be interpreted cautiously. A stacked-regression test cannot reject the null hypothesis that the two coefficients are equal. We therefore view the pattern as directionally consistent with the localization mechanism, but not as evidence of a statistically significant difference between the two types of projects.

Table 7. GPR Index and FDI by Market Served (PPML)

	(1)	(2)
	Host-market-serving	Export-market-serving
$\text{GPR}_{ij,t-1}$	0.0552* (0.0328)	0.0141 (0.0199)
Pair FE	Yes	Yes
Source $\times$ Year FE	Yes	Yes
Sector $\times$ Year FE	Yes	Yes
Destination $\times$ Year FE	Yes	Yes
Difference test (p -value)		0.280
Observations	27,601	30,159

Notes: The dependent variable is the number of newly announced greenfield FDI projects from source country i to destination country j in sector s and year t , classified by the market served as reported in Orbis Crossborder Investment. Column (1) counts projects primarily serving the domestic market of the destination country, while column (2) counts projects primarily serving regional or global markets. The difference test reports the p -value for the null hypothesis that the two coefficients are equal. The number of observations differs across columns because observations separated by the fixed effects are dropped in PPML estimation. Standard errors, clustered at the country-pair level, are reported in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

6.2 Sectoral Reliance on Foreign Demand

The previous subsection examines the localization channel at the project level. We now examine it at the industry level. Industries differ in the extent to which production needs to take place close to the final market. When a larger share of an industry's value added is absorbed by domestic final demand, its output is less dependent on cross-border sales, and serving a market may rely more on local production. For such industries, potential disruptions to market access may create stronger incentives to localize production. By contrast, industries that depend more heavily on foreign final demand are generally more oriented toward producing in a limited number of locations and exporting to other markets.

We measure this difference using the foreign-final-demand (FFD) share from the OECD Trade in Value Added (TiVA) database. The measure is the share of an industry's domestic value added that is ultimately absorbed by foreign final demand. We use the global average over 2014–2016 to capture relatively stable industry characteristics and map the measure to two-digit NACE Rev. 2 industries (Table 8). A higher FFD share indicates stronger dependence on foreign demand, while a lower share indicates stronger dependence on domestic demand. Among the manufacturing industries in our sample, other non-metallic mineral products and food, beverages, and tobacco have the lowest shares, at around 28%, while basic metals and chemicals have the highest shares, at about 64% and 60%, respectively. We test for heterogeneity by interacting the GPR index with the FFD share in the baseline specification.

Table 8. Foreign-Final-Demand Share by Manufacturing Sector

NACE	Industry	TiVA sector	FFD share (%)
10	Food products	C10T12	28.79
11	Beverages	C10T12	28.79
12	Tobacco products	C10T12	28.79
13	Textiles	C13T15	44.58
14	Wearing apparel	C13T15	44.58
15	Leather and related products	C13T15	44.58
16	Wood and products of wood and cork, except furniture	C16	41.91
17	Paper and paper products	C17T18	41.88
18	Printing and reproduction of recorded media	C17T18	41.88
19	Coke and refined petroleum products	C19	50.24
20	Chemicals and chemical products	C20	60.42
21	Basic pharmaceutical products and preparations	C21	37.27
22	Rubber and plastic products	C22	48.86
23	Other non-metallic mineral products	C23	28.40
24	Basic metals	C24	64.12
25	Fabricated metal products, except machinery	C25	40.15
26	Computer, electronic and optical products	C26	53.03
27	Electrical equipment	C27	52.39
28	Machinery and equipment n.e.c.	C28	52.42
29	Motor vehicles, trailers and semi-trailers	C29	42.64
30	Other transport equipment	C30	43.43
31	Furniture	C31T33	40.07
32	Other manufacturing	C31T33	40.07
33	Repair and installation of machinery and equipment	C31T33	40.07

Notes: The foreign-final-demand (FFD) share is the share of a sector's domestic value added that is ultimately absorbed by foreign final demand (OECD TiVA indicator VALU_FFDDVA), averaged over 2014–2016. A higher share indicates stronger dependence on foreign demand. OECD TiVA reports some industries only at an aggregated level (C10T12, C13T15, C17T18, and C31T33); NACE Rev. 2 divisions within these aggregates are assigned the same value.

Column (1) of Table 9 reports the FDI results. The interaction between the GPR index and the FFD share is -0.0032 and statistically significant at the 5% level. This indicates that the positive association between the GPR index and FDI becomes weaker as an industry's dependence on foreign demand increases.

To illustrate the magnitude of this heterogeneity, we calculate the marginal effect of the GPR index at representative values of the FFD share. For food, beverages, and tobacco, which have a relatively low FFD share of 28.8%, the marginal effect is 0.091 ($p = 0.002$). This corresponds to about a 9.5% increase in the expected number of FDI projects for a one-percentage-point increase in the GPR index, around 2.5 times the baseline estimate. At the median FFD share of 42.3%, the marginal effect falls to 0.048 ($p = 0.006$), close to the baseline estimate. For basic metals, which have the highest FFD share at 64.1%, the marginal effect is -0.023 and statistically insignificant ($p = 0.381$).

This pattern suggests that the positive association between the GPR index and FDI is concentrated in industries that depend more heavily on domestic demand. In these industries, producing close to the destination market may be particularly important for maintaining market

access, which is consistent with the localization channel.

Columns (2) and (3) report the corresponding results for trade. The export results in column (3) provide little evidence of substitution between local production and exports. If higher FDI reflects a shift from cross-border supply toward local production, we might expect exports to decline more strongly in industries that depend on domestic demand. However, the interaction coefficient is close to zero and statistically insignificant (-0.0005).

For imports, shown in column (2), the interaction coefficient is 0.0025 and statistically significant at the 5% level. This implies that the negative association between the GPR index and imports is stronger in industries with lower FFD shares. For food, beverages, and tobacco, the marginal effect is -0.055 ($p = 0.008$), corresponding to about a 5.4% decline in imports for a one-percentage-point increase in the GPR index. At the median FFD share, the marginal effect is -0.022 ($p = 0.009$). For basic metals, the marginal effect turns positive at 0.032 ($p = 0.018$). Thus, the decline in imports is concentrated in industries that depend more heavily on domestic demand, while imports increase in the most foreign-demand-dependent industries.

Several mechanisms may account for this pattern. First, industries with low FFD shares include many consumer-oriented products for which alternative suppliers may be easier to find, allowing buyers to reduce their reliance on country j when risk coverage increases. Second, because these industries contain a larger share of consumer goods, media coverage may also affect consumer attitudes toward products from the destination country and reduce import demand. Third, the increase in imports of basic metals is consistent with a precautionary-purchasing channel: when critical inputs are difficult to substitute, buyers may import earlier or build inventories in anticipation of future supply disruptions. The available data do not allow us to distinguish among these mechanisms.

Table 9. Heterogeneity by Sectoral Reliance on Foreign Demand: FDI and Trade (PPML)

	FDI	Trade	
	(1)	(2)	(3)
	FDI projects (annual)	Imports (quarterly)	Exports (quarterly)
$GPR_{ij,t-1}$	0.1846*** (0.0663)	-0.1261*** (0.0484)	0.0225 (0.0512)
$GPR_{ij,t-1} \times \text{FFD share}$	-0.0032** (0.0013)	0.0025** (0.0010)	-0.0005 (0.0010)
Pair FE	Yes	Yes	Yes
Source $\times$ Time FE	Yes	Yes	Yes
Sector $\times$ Time FE	Yes	Yes	Yes
Destination $\times$ Time FE	Yes	Yes	Yes
Observations	35,619	122,996	122,996

Notes: In column (1), t denotes years: the dependent variable is annual FDI project counts, GPR is lagged by one year, and fixed effects are year-based. In columns (2) and (3), t denotes quarters: the dependent variables are quarterly trade values, GPR is lagged by one quarter, and fixed effects are quarter-based. The foreign-final-demand (FFD) share is the share of a sector's domestic value added absorbed by foreign final demand (OECD TiVA indicator VALU_FFDDVA), expressed in percentage points and averaged over 2014–2016, and mapped to NACE Rev. 2 two-digit sectors. A higher share indicates stronger dependence on foreign final demand. The main effect of the FFD share is absorbed by the sector $\times$ time fixed effects. The coefficient on $GPR_{ij,t-1}$ is evaluated at an FFD share of zero, which lies outside the sample range and should not be interpreted directly. Standard errors, clustered at the country-pair level, are reported in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

6.3 Political Distance

The previous two subsections examine the localization channel. We now turn to another dimension and ask whether bilateral political relations shape the relationship between geopolitical risk and cross-border economic decisions. This analysis has two purposes. First, we examine whether the results are consistent with friend-shoring. If greater risk coverage encourages firms to shift investment toward politically close countries, the positive association between the GPR index and FDI should be strongest among politically aligned country pairs. Second, we examine whether risk information is more consequential when the source and destination countries are politically distant, because such information may be more likely to signal future policy frictions.

We measure political distance using the distance between the source and destination countries' ideal points in United Nations General Assembly voting (Bailey, Strezhnev, and Voeten, 2017). We use the average distance over 2014–2016 so that the measure is determined before the estimation period. Table 10 reports two specifications. Panel A interacts the GPR index with the continuous measure of political distance. In Panel B, we divide country pairs into terciles of political distance and estimate separate GPR coefficients for politically aligned, intermediate, and politically distant pairs.

Column (1) reports the FDI results. In Panel A, the interaction between the GPR index and political distance is 0.0088 and statistically insignificant. The tercile results in Panel B show that the positive association is not concentrated among the most politically aligned country pairs. The coefficient is close to zero for the aligned group (0.0039), while the coefficients for

the intermediate and distant groups are 0.0528 and 0.0498, significant at the 5% and 10% levels, respectively. This pattern does not support a simple friend-shoring interpretation.

The weak response among politically aligned pairs may instead be consistent with the localization channel. When bilateral political relations are stable, greater risk coverage may be less likely to signal future restrictions on market access, reducing the incentive for firms to establish local production in advance. Conversely, when political relations are less close, risk coverage may be more likely to signal future policy frictions, and FDI may respond more strongly. However, this interpretation should be treated cautiously. The continuous interaction is statistically insignificant, and the null hypothesis that all three coefficients are equal cannot be rejected.

Columns (2) and (3) report the trade results. For imports, the interaction between the GPR index and political distance is -0.0107 and statistically significant at the 5% level. This indicates that the negative association between the GPR index and imports becomes stronger as political distance increases. The tercile results show a similar pattern: the coefficients become more negative from the aligned group (-0.0026) to the intermediate group (-0.0072) and the distant group (-0.0088), although none of the three group-specific coefficients is individually significant. This pattern is consistent with buyers responding more cautiously to risk coverage when bilateral political relations are more distant, as such information may be more likely to signal future supply disruptions or policy restrictions.

For exports, both the continuous interaction and the tercile-specific coefficients are close to zero and statistically insignificant.

Table 10. Heterogeneity by Baseline Political Distance: FDI and Trade (PPML)

	FDI	Trade	
	(1)	(2)	(3)
	FDI projects (annual)	Imports (quarterly)	Exports (quarterly)
<i>Panel A: Continuous interaction</i>			
$GPR_{ij,t-1}$	0.0261 (0.0254)	0.0059 (0.0051)	0.0031 (0.0034)
$GPR_{ij,t-1} \times \text{UN distance}$	0.0088 (0.0198)	-0.0107** (0.0048)	-0.0033 (0.0026)
<i>Panel B: By tercile of UN distance</i>			
$GPR_{ij,t-1} \times \text{Aligned}$	0.0039 (0.0239)	-0.0026 (0.0039)	0.0004 (0.0031)
$GPR_{ij,t-1} \times \text{Neutral}$	0.0528** (0.0219)	-0.0072 (0.0064)	0.0024 (0.0046)
$GPR_{ij,t-1} \times \text{Rival}$	0.0498* (0.0258)	-0.0088 (0.0057)	-0.0051 (0.0039)
Equality test (p -value)	0.226	0.556	0.443
Pair FE	Yes	Yes	Yes
Source $\times$ Time FE	Yes	Yes	Yes
Sector $\times$ Time FE	Yes	Yes	Yes
Destination $\times$ Time FE	Yes	Yes	Yes
Observations	35,619	122,996	122,996

Notes: In column (1), t denotes years: the dependent variable is annual FDI project counts, GPR is lagged by one year, and fixed effects are year-based. In columns (2) and (3), t denotes quarters: the dependent variables are quarterly trade values, GPR is lagged by one quarter, and fixed effects are quarter-based. UN distance is the 2014–2016 average of the absolute difference in UN General Assembly ideal points between the source and destination countries, based on final-passage votes (Bailey, Strezhnev, and Voeten, 2017). In Panel B, country pairs are divided into terciles of UN distance at the pair level: Aligned (lowest tercile), Neutral (middle tercile), and Rival (highest tercile). The main effects of UN distance and the tercile indicators are absorbed by the pair fixed effects. In Panel A, the coefficient on $GPR_{ij,t-1}$ is evaluated at a UN distance of zero, which lies outside the sample range and should not be interpreted directly. The equality test reports the p -value for the joint null hypothesis that the three tercile-specific coefficients are equal. Standard errors, clustered at the country-pair level, are reported in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

6.4 Conflict Intensity

The baseline GPR index treats all conflict events equally, although conflicts of different intensities may imply different risks for firms. Verbal disputes, such as condemnations or threats, may signal future policy frictions, whereas violent conflict is more likely to cause actual supply disruptions or asset losses. This subsection examines whether the relationship between GPR coverage and FDI and trade differs across conflict intensity.

CAMEO classifies conflict events into 11 root categories, with codes ranging from 10 to 20 and higher codes generally indicating more intense conflict. We divide these categories into three groups based on their substantive meaning: mild conflict (codes 10–13, including demands, disapproval, rejection, and threats), moderate conflict (codes 14–16, including protests, displays of force posture, and reductions in relations), and severe conflict (codes 17–20, including coer-

cion, assault, fighting, and unconventional mass violence). The full classification is reported in Appendix Table A4.

Based on this classification, we construct three GPR sub-indices. For each sub-index, the numerator is the number of articles containing at least one event of the corresponding intensity, while the denominator is the same as in the baseline GPR index. We include all three sub-indices simultaneously in the baseline specification. The results are reported in Table 11.

Table 11. GPR Sub-indices by Conflict Intensity: FDI and Trade (PPML)

	FDI	Trade	
	(1) FDI projects (annual)	(2) Imports (quarterly)	(3) Exports (quarterly)
GPR mild _{ij,t-1} (CAMEO 10–13)	0.0409* (0.0232)	−0.0046 (0.0046)	0.0013 (0.0034)
GPR moderate _{ij,t-1} (CAMEO 14–16)	0.0271 (0.0499)	0.0125 (0.0089)	0.0099 (0.0082)
GPR severe _{ij,t-1} (CAMEO 17–20)	0.0359 (0.0304)	−0.0126*** (0.0049)	−0.0060 (0.0049)
Pair FE	Yes	Yes	Yes
Source × Time FE	Yes	Yes	Yes
Sector × Time FE	Yes	Yes	Yes
Destination × Time FE	Yes	Yes	Yes
Equality test (<i>p</i> -value)	0.968	0.052	0.264
Observations	35,619	122,996	122,996

Notes: In column (1), t denotes years: the dependent variable is annual FDI project counts, the sub-indices are lagged by one year, and fixed effects are year-based. In columns (2) and (3), t denotes quarters: the dependent variables are quarterly trade values, the sub-indices are lagged by one quarter, and fixed effects are quarter-based. In each column, the three intensity-specific GPR sub-indices, based on CAMEO root codes, enter jointly. The equality test reports the p -value of the joint null that the three coefficients are equal. Standard errors, clustered at the country-pair level, are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

For FDI, the coefficients on all three sub-indices are positive and similar in magnitude. The coefficient is 0.0409 for mild conflict and is statistically significant at the 10% level, while the coefficients for moderate and severe conflict are 0.0271 and 0.0359, respectively, and are statistically insignificant. The null hypothesis that the three coefficients are equal cannot be rejected ($p = 0.968$). Thus, we do not find statistically distinguishable differences in the FDI response across conflict intensities.

The positive coefficient for mild conflict is nevertheless consistent with the localization interpretation. Condemnations, demands, and threats may provide early signals of future policy frictions, potentially encouraging firms to establish local production before tensions escalate. However, given the lack of a statistically significant difference across the three coefficients, this interpretation should be viewed as suggestive rather than conclusive.

The import results show a clearer difference across conflict intensities. The coefficient on severe conflict is −0.0126 and statistically significant at the 1% level. The coefficients for mild and moderate conflict are −0.0046 and 0.0125, respectively, and are statistically insignificant.

The null hypothesis that the three coefficients are equal is rejected at the margin ($p = 0.052$). For exports, none of the three coefficients is statistically significant; the coefficient on severe conflict is -0.0060 , and the equality test yields $p = 0.264$.

This pattern is consistent with our framework. When destination country j serves as a source of supply, lower-intensity verbal conflict may not immediately disrupt trade flows. Expectations of future frictions may also induce precautionary purchasing, partly offsetting incentives to reduce reliance on j . By contrast, severe conflict is more likely to create actual disruptions to supply, which is consistent with the stronger decline in imports.

In sum, FDI and trade respond differently across conflict intensities. The decline in imports is concentrated in severe conflict, consistent with a response to actual supply disruptions. By contrast, the positive association for FDI does not differ significantly across conflict intensities. The positive coefficient for mild conflict also suggests that investment responses may emerge before tensions escalate into severe conflict, which is consistent with localization as a forward-looking and precautionary response.

7 Robustness Checks

This section examines the sensitivity of the baseline results to sample selection, omitted variables, and alternative outcome definitions. Table 12 reports four sets of robustness checks. All specifications follow the baseline regressions and are estimated by PPML with source–destination pair, source–time, sector–time, and destination–time fixed effects. Standard errors are clustered at the country-pair level.

Excluding Russia. Russia’s invasion of Ukraine in 2022 was one of the largest geopolitical events during our sample period, and Russia is also one of the destination countries receiving the most GPR coverage. To examine whether the results are driven by this single country, columns (1)–(3) exclude all observations with Russia as the destination country. Ukraine is not included in our sample.

The FDI coefficient is 0.0389 and remains statistically significant at the 5% level, slightly larger than the baseline estimate of 0.0358 . This indicates that the positive association between GPR and FDI is not driven by Russia. The import coefficient falls in magnitude from -0.0060 to -0.0029 and becomes statistically insignificant. This is consistent with the results in Section 6.4, where the decline in imports is concentrated in severe conflict. Russia’s invasion of Ukraine is the most prominent severe conflict in our sample period. The export coefficient remains close to zero and statistically insignificant.

Excluding the COVID-19 period. The COVID-19 pandemic substantially disrupted both cross-border economic activity and news coverage in 2020–2021. Columns (4)–(6) therefore exclude observations from these two years. The FDI coefficient increases to 0.0476 and is statistically significant at the 1% level. The import coefficient remains negative at -0.0039 , but is no longer statistically significant, while the export coefficient remains close to zero.

Across these two sample restrictions, the import point estimates remain negative, although they become less precisely estimated. The loss of significance partly reflects the smaller samples,

but it also suggests that the import result is more sensitive to particular periods and major geopolitical events than the FDI result.

Controlling for overall media coverage. One concern is that the GPR index may capture changes in overall media attention toward the destination country rather than geopolitical risk coverage itself. Greater media attention may reflect stronger economic or political ties with the destination, which could independently affect investment and trade.

The construction of the GPR index already mitigates this concern by measuring GPR articles as a share of total coverage. Pair fixed effects and destination–time fixed effects also absorb long-run bilateral attention and common changes in attention toward a destination. To further account for time-varying bilateral media attention, columns (7)–(9) control for the lagged logarithm of the denominator of the GPR index, that is, the total number of articles about the destination country.

The coefficients for FDI, imports, and exports are 0.0353, -0.0060 , and -0.0003 , respectively, almost identical to the baseline estimates. This suggests that our results are not driven by changes in the overall level of media attention toward the destination country.

Alternative FDI outcome: investment value. The baseline FDI outcome counts newly announced projects and therefore captures the extensive margin of investment, but not project size. In column (10), we replace the outcome with the total announced capital expenditure of new projects. The coefficient on the GPR index is 0.0614 and statistically significant at the 10% level. A one-percentage-point increase in the GPR index is therefore associated with approximately a 6.3% increase in announced investment value.

This result suggests that greater GPR coverage is associated not only with more investment projects but also with larger announced investment values. However, some project-level capital expenditure values in CBI are estimated rather than directly reported, so we treat this result as supplementary evidence.

Alternative data frequencies. Appendix Table A1 reports results using alternative data frequencies. When FDI is aggregated to the quarterly level, the coefficient remains positive at 0.0111 but is statistically insignificant. This is not surprising because quarterly project counts contain a large number of zeros at the source–destination–industry level, while investment decisions typically take time from planning to announcement.

When trade is aggregated to the annual level, neither the import nor export coefficient is statistically significant. This is consistent with the dynamic results in Section 5.2, which show that the import response is concentrated within one to two quarters after an increase in GPR coverage. Annual aggregation may therefore obscure this short-run adjustment.

Table 12. Robustness Checks (PPML)

	Excluding Russia			Excluding 2020–21			Controlling for ln(articles)			Capex
	(1) FDI	(2) Imp.	(3) Exp.	(4) FDI	(5) Imp.	(6) Exp.	(7) FDI	(8) Imp.	(9) Exp.	(10) FDI
$GPR_{ij,t-1}$	0.0389** (0.0159)	−0.0029 (0.0023)	0.0018 (0.0019)	0.0476*** (0.0166)	−0.0039 (0.0029)	0.0009 (0.0026)	0.0353** (0.0158)	−0.0060** (0.0029)	−0.0003 (0.0023)	0.0614* (0.0317)
Pair FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Source × Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector × Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Dest. × Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	34,028	116,656	116,656	26,690	91,956	91,956	35,619	122,996	122,996	35,240

Notes: Each column reports a separate PPML regression. Columns (1), (4), (7), and (10) use annual FDI data; the remaining columns use quarterly trade data. Columns (1)–(3) exclude all observations with Russia as the destination country. Columns (4)–(6) exclude observations from 2020 and 2021. Columns (7)–(9) add the lagged logarithm of the denominator of the GPR index. Column (10) replaces the outcome with the total announced capital expenditure of new projects; capital expenditure is estimated for some projects in Orbis Crossborder Investment. For reference, the baseline estimates are 0.0358 for FDI, −0.0060 for imports, and −0.0003 for exports. Standard errors, clustered at the country-pair level, are reported in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

8 Conclusion

This paper constructs a bilateral, directional index of geopolitical risk based on how the domestic media of each source country report on geopolitical conflicts involving each destination country. Drawing on the GDELT database, the index covers more than 200 source and destination countries and captures a dimension that existing measures do not: for the same destination at the same time, the media of different source countries can present very different levels of risk. We find that source countries whose media place greater emphasis on a destination’s geopolitical risk subsequently announce more greenfield FDI projects in that destination. A one-standard-deviation increase in the index is associated with about a 7% increase in the expected number of projects. This positive association is concentrated in projects serving the destination’s domestic market and in sectors whose value added is mainly absorbed by local demand, and it is weakest among politically aligned country pairs. These patterns are consistent with market localization, whereby firms interpret risk coverage as a signal of future market-access frictions and establish local production in advance. By contrast, imports decline shortly after an increase in risk coverage, mainly in response to severe conflicts, while exports show no detectable response.

These findings suggest that geopolitical risk affects cross-border activity not only through the common risk faced by all investors in a destination, but also through source-specific information environments, and that its effects depend on whether the destination serves as a market or as a source of supply. Several limitations point to directions for future research. Our estimates capture conditional associations rather than causal effects. Extending the analysis to a broader set of countries, to firm-level investment decisions, and to indices restricted to events involving both countries would help to clarify how media-based risk information shapes the decisions of multinational firms.

References

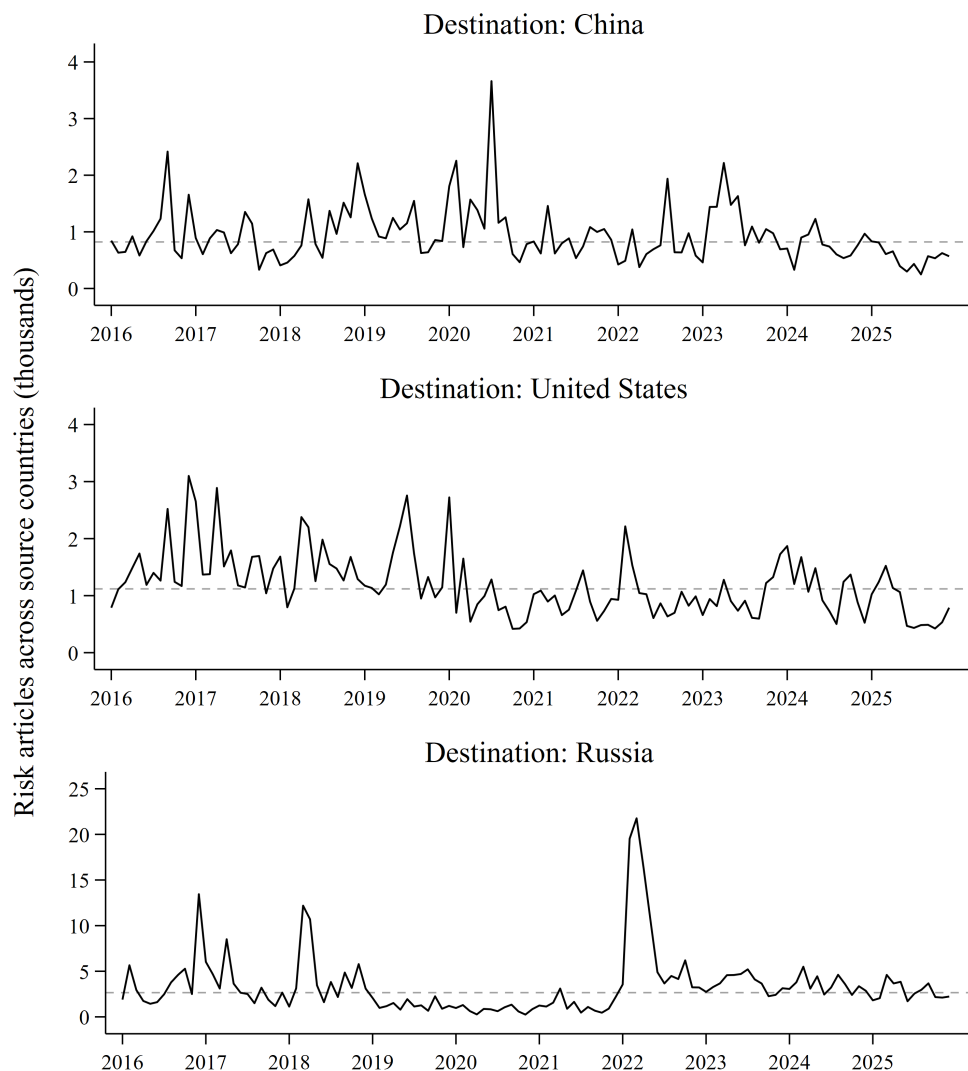
- Aiyar, Shekhar, Davide Malacrino, and Andrea F. Presbitero (2024). “Investing in Friends: The Role of Geopolitical Alignment in FDI Flows”. *European Journal of Political Economy* 83, p. 102508.
- Antràs, Pol and Elhanan Helpman (2004). “Global Sourcing”. *Journal of Political Economy* 112.3, pp. 552–580.
- Anwar, Sajid et al. (2025). “The Role of Media in Export Market Selection: Evidence From Chinese Firms”. *Review of International Economics*, roie.70014.
- Bailey, Michael A., Anton Strezhnev, and Erik Voeten (2017). “Estimating Dynamic State Preferences from United Nations Voting Data”. *Journal of Conflict Resolution* 61.2, pp. 430–456.
- Belderbos, René (1997). “Antidumping and Tariff Jumping: Japanese Firms’ DFI in the European Union and the United States”. *Review of World Economics* 133.3, pp. 419–457.
- Blonigen, Bruce A. (2001). “In Search of Substitution between Foreign Production and Exports”. *Journal of International Economics* 53.1, pp. 81–104.
- (2002). “Tariff-Jumping Antidumping Duties”. *Journal of International Economics* 57.1, pp. 31–49.
- Bondarenko, Yevheniia et al. (2024). “Geopolitical Risk Perceptions”. *Journal of International Economics* 152, p. 104005.
- Brainard, S. Lael (1997). “An Empirical Assessment of the Proximity-Concentration Trade-off between Multinational Sales and Trade”. *American Economic Review* 87.4, pp. 520–544.
- Bussy, Adrien and Huanhuan Zheng (2023). “Responses of FDI to Geopolitical Risks: The Role of Governance, Information, and Technology”. *International Business Review* 32.4, p. 102136.
- Caldara, Dario and Matteo Iacoviello (2022). “Measuring Geopolitical Risk”. *American Economic Review* 112.4, pp. 1194–1225.
- Chevalier, Nathan et al. (2026). *Trade under Tensions: Insights from Media-Reported Bilateral Events*. Working Paper 2026-02. CEPIL.
- Correia, Sergio, Paulo Guimarães, and Tom Zylkin (2020). “Fast Poisson Estimation with High-Dimensional Fixed Effects”. *The Stata Journal* 20.1, pp. 95–115.
- Crozet, Matthieu and Julian Hinz (2020). “Friendly Fire: The Trade Impact of the Russia Sanctions and Counter-Sanctions”. *Economic Policy* 35.101, pp. 97–146.
- Disdier, Anne-Célia and Thierry Mayer (2007). “Je t’aime, moi non plus: Bilateral Opinions and International Trade”. *European Journal of Political Economy* 23.4, pp. 1140–1159.
- Egger, Peter and Mario Larch (2008). “Interdependent Preferential Trade Agreement Memberships: An Empirical Analysis”. *Journal of International Economics* 76.2, pp. 384–399.
- Fan, Tianyu (2025). “Measuring Geopolitical Alignment and Economic Growth”. arXiv:2507.04833.
- Federle, Jonathan et al. (2026). “The Price of War”. *American Economic Review* 116.3, pp. 791–827.
- Felbermayr, Gabriel, Heider Kariem, and Yoto V. Yotov (2026). “Finanzsanktionen im Fokus: Stilisierte Fakten und Determinanten der Sanktionsverhängung”. *Perspektiven der Wirtschaftspolitik* 27.1. Introduces Version 5 of the Global Sanctions Data Base, pp. 77–91.

- Felbermayr, Gabriel et al. (2020). “The Global Sanctions Data Base”. *European Economic Review* 129, p. 103561.
- Gentzkow, Matthew and Jesse M. Shapiro (2010). “What Drives Media Slant? Evidence from U.S. Daily Newspapers”. *Econometrica* 78.1, pp. 35–71.
- Gerner, Deborah J. et al. (2002). “Conflict and Mediation Event Observations (CAMEO): A New Event Data Framework for the Analysis of Foreign Policy Interactions”. *Annual Meeting of the International Studies Association*. New Orleans, LA.
- Global Sanctions Data Base (2026). *Global Sanctions Data Base: Release 5*. URL: <https://www.globalsanctionsdatabase.com/>.
- Gong, Do Young et al. (2024). “Money Backfires: How Chinese Investment Fuels Anti-China Protests Abroad”. *World Development* 178, p. 106566.
- Grossman, Gene M., Elhanan Helpman, and Hugo Lhuillier (2023). “Supply Chain Resilience: Should Policy Promote International Diversification or Reshoring?” *Journal of Political Economy* 131.12, pp. 3462–3496.
- Guiso, Luigi, Paola Sapienza, and Luigi Zingales (2009). “Cultural Biases in Economic Exchange?” *The Quarterly Journal of Economics* 124.3, pp. 1095–1131.
- Hassan, Tarek A. et al. (2019). “Firm-Level Political Risk: Measurement and Effects”. *The Quarterly Journal of Economics* 134.4, pp. 2135–2202.
- Helpman, Elhanan, Marc J. Melitz, and Stephen R. Yeaple (2004). “Export Versus FDI with Heterogeneous Firms”. *American Economic Review* 94.1, pp. 300–316.
- Ilut, Cosmin L. and Martin Schneider (2014). “Ambiguous Business Cycles”. *American Economic Review* 104.8, pp. 2368–2399.
- International Monetary Fund (2023). “Goeconomic Fragmentation and Foreign Direct Investment”. *World Economic Outlook: A Rocky Recovery*. Washington, DC: International Monetary Fund. Chap. 4, pp. 91–114.
- Khan, Shafaat Yar and Armen Khederlarian (2021). “How Does Trade Respond to Anticipated Tariff Changes? Evidence from NAFTA”. *Journal of International Economics* 133, p. 103538.
- Kim, Sung Eun (2018). “Media Bias against Foreign Firms as a Veiled Trade Barrier: Evidence from Chinese Newspapers”. *American Political Science Review* 112.4, pp. 954–970.
- Larch, Mario (2026). *Regional Trade Agreements Database*. URL: <https://www.ewf.uni-bayreuth.de/en/research/RTA-data/index.html>.
- Leetaru, Kalev and Philip A. Schrodtt (2013). “GDELT: Global Data on Events, Location, and Tone, 1979–2012”. *International Studies Association Annual Convention*. San Francisco, CA.
- Lu, Yi, Xiang Shao, and Zhigang Tao (2018). “Exposure to Chinese Imports and Media Slant: Evidence from 147 U.S. Local Newspapers over 1998–2012”. *Journal of International Economics* 114, pp. 316–330.
- Michaels, Guy and Xiaojia Zhi (2010). “Freedom Fries”. *American Economic Journal: Applied Economics* 2.3, pp. 256–281.
- Moder, Isabella and Tajda Spital (2025). *The Protectionist Gamble: How Tariffs Shape Greenfield Foreign Direct Investment*. Working Paper Series 3144. European Central Bank.

- OECD (2025). *Trade in Value Added (TiVA) 2025 Edition: Principal Indicators*. Data revised January 2026. URL: <https://data-explorer.oecd.org/>.
- Qin, Bei, David Strömberg, and Yanhui Wu (2018). “Media Bias in China”. *American Economic Review* 108.9, pp. 2442–2476.
- Santos Silva, J. M. C. and Silvana Tenreyro (2006). “The Log of Gravity”. *The Review of Economics and Statistics* 88.4, pp. 641–658.
- Schrodt, Philip A. (2012). *CAMEO: Conflict and Mediation Event Observations Event and Actor Codebook*. Version 1.1b3. Event Data Project, Department of Political Science, Pennsylvania State University. University Park, PA.
- Shiraki, Maki (2025). *Toyota Weighs Adding US Production of New RAV4 in Response to Tariffs, Sources Say*. Reuters. URL: <https://www.reuters.com/business/autos-transportation/toyota-weighs-adding-us-production-new-rav4-response-tariffs-sources-say-2025-04-18/>.
- The GDELT Project (2018). *Mapping the Media: A Geographic Lookup of GDELT’s Sources*. URL: <https://blog.gdeltproject.org/mapping-the-media-a-geographic-lookup-of-gdelts-sources/>.
- United Nations Statistics Division (2026). *UN Comtrade Database*. Continuously updated database. URL: <https://comtrade.un.org/>.
- Yalcin, Erdal et al. (2025). “The Global Sanctions Data Base—Release 4: The Heterogeneous Effects of the Sanctions on Russia”. *The World Economy* 48.9, pp. 2003–2017.

A Appendix

Figure A1. Number of Geopolitical Risk Articles: China, the United States and Russia



Notes: Each panel shows the monthly number of articles that report at least one geopolitical conflict event involving the destination country, summed across the source countries in the regression sample. This number corresponds to the numerator of the GPR index. The dashed horizontal line indicates the median over the sample period. Unlike the GPR index, which is a share, these counts also reflect changes in overall media attention to the destination country and in the coverage of news sources in GDELT over time. Vertical scales differ across panels.

Table A1. Baseline Results at Alternative Frequencies (PPML)

	FDI	Trade	
	(1) FDI projects (quarterly)	(2) Imports (annual)	(3) Exports (annual)
$GPR_{ij,t-1}$	0.0111 (0.0076)	-0.0082 (0.0122)	-0.0041 (0.0084)
Pair FE	Yes	Yes	Yes
Source $\times$ Time FE	Yes	Yes	Yes
Sector $\times$ Time FE	Yes	Yes	Yes
Destination $\times$ Time FE	Yes	Yes	Yes
Observations	138,396	27,548	27,548

Notes: This table re-estimates the baseline specifications at frequencies different from those used in the main text. In column (1), t denotes quarters: the dependent variable is quarterly FDI project counts, GPR is lagged by one quarter, and fixed effects are quarter-based. In columns (2) and (3), t denotes years: the dependent variables are annual trade values, GPR is lagged by one year, and fixed effects are year-based. Standard errors, clustered at the country-pair level, are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A2. Dynamic Effects of GPR Index on Trade (PPML)

	(1)	(2)
	Imports	Exports
$GPR_{ij,t-1}$	-0.0083*** (0.0032)	-0.0001 (0.0022)
$GPR_{ij,t-2}$	-0.0052* (0.0028)	0.0004 (0.0021)
$GPR_{ij,t-3}$	-0.0032 (0.0029)	-0.0015 (0.0021)
$GPR_{ij,t-4}$	-0.0024 (0.0030)	0.0013 (0.0020)
Pair FE	Yes	Yes
Source $\times$ Quarter FE	Yes	Yes
Sector $\times$ Quarter FE	Yes	Yes
Destination $\times$ Quarter FE	Yes	Yes
Observations	110,192	110,192

Notes: Each column reports a single PPML regression including four quarterly lags of the GPR index. The dependent variable is the value of imports (column 1) or exports (column 2) between source country i and destination country j in sector s and quarter t . The sample is restricted to observations with four available lags. Standard errors, clustered at the country-pair level, are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A3. Dynamic Effects of GPR Index on FDI (PPML)

	FDI projects
$GPR_{ij,t-1}$	0.0006 (0.0225)
$GPR_{ij,t-2}$	0.0469* (0.0243)
$GPR_{ij,t-3}$	-0.0250 (0.0241)
$GPR_{ij,t-4}$	0.0522* (0.0267)
Pair FE	Yes
Source $\times$ Year FE	Yes
Sector $\times$ Year FE	Yes
Destination $\times$ Year FE	Yes
Observations	21,564

Notes: PPML regression including four annual lags of the GPR index. The dependent variable is the number of newly announced greenfield FDI projects from source country i to destination country j in sector s and year t . The sample is restricted to observations with four available lags (2021–2025), reducing the number of observations by about 40% relative to the baseline. Because the annual GPR index is highly persistent, individual lag coefficients are imprecisely estimated and should not be interpreted separately. Standard errors, clustered at the country-pair level, are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A4. Classification of CAMEO Conflict Events by Intensity

Intensity group	CAMEO root code	Event type
Mild conflict	10	Demand
	11	Disapprove
	12	Reject
	13	Threaten
Moderate conflict	14	Protest
	15	Exhibit force posture
	16	Reduce relations
Severe conflict	17	Coerce
	18	Assault
	19	Fight
	20	Use unconventional mass violence

Notes: The table lists the CAMEO root codes of conflict events used to construct the GPR index. The baseline index includes all root codes from 10 to 20. For the intensity-specific sub-indices, root codes are grouped into three categories according to the nature of the events described in the CAMEO codebook, with higher codes indicating greater conflict intensity. Each sub-index uses the number of articles containing at least one event in the corresponding group as the numerator and the same denominator as the baseline index.