Geopolitical Risk and Global Banking*

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Abstract

How do banks respond to geopolitical risk, and is this response distinct from other macroeconomic risks? Using U.S. supervisory data and new geopolitical risk indices, we show that banks reduce cross-border lending to countries with elevated geopolitical risk but continue lending to those markets through foreign affiliates—unlike their response to other macro risks. Furthermore, banks reduce domestic lending when geopolitical risk rises abroad, especially when they operate foreign affiliates. A simple banking model featuring geopolitical risk and differences in funding structures across modes of operating abroad can explain these findings: Foreign funding through affiliates limits downside losses, making affiliate divestment less attractive and amplifying domestic spillovers.

Keywords: geopolitical risk, bank lending, credit risk, international spillovers

JEL-Codes: F34, F36, G21

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1 Introduction

Geopolitical risk has escalated in recent years, fueled by Russia's invasion of Ukraine, rising tensions between China and the West, and conflicts in the Middle East. The economic consequences of heightened geopolitical risk have become a top concern for policymakers and businesses.[1] Yet the academic literature on this subject remains nascent. In particular, the financial and international channels through which geopolitical risk affects economies are not well understood. This paper addresses this gap by analyzing how global banks respond to rising geopolitical risk and how their responses transmit the risk across borders. Operating across multiple jurisdictions, global banks are inherently exposed to a range of geopolitical shocks, which, unlike conventional macroeconomic risks, can entail catastrophic outcomes. Because global banks' credit supply decisions have material effects on firm investment and employment (see, e.g., Peek and Rosengren 2000; Khwaja and Mian 2008; Schnabl 2012; Kalemli-Özcan et al. 2013; Huber 2018), they can serve as critical conduits for the propagation of geopolitical risk, including to countries not directly involved in conflict.

This paper investigates how U.S. global banks manage their exposure to geopolitical risk abroad and the consequences for domestic credit supply. We show that when geopolitical risk rises in a foreign country, banks withdraw from cross-border operations—operations conducted from the home country with residents of the foreign country—while maintaining local operations conducted through foreign branches and subsidiaries. This asymmetric response does not arise under conventional macro risks. Moreover, higher geopolitical risk abroad leads banks to reduce domestic loan origination, especially when they maintain local operations in the affected country.

To explain the asymmetric response and resulting spillover, we highlight two novel and interconnected mechanisms. First, geopolitical tensions heighten the risk of targeted political interventions—such as capital controls, profit-repatriation restrictions, or expropriations—against foreign institutions, especially those from less geopolitically aligned countries. Sec-

[1] Geopolitical risk has been a recurring focus of key central bank policy meetings and speeches since 2019. See, for example, the Federal Reserve's FOMC meeting minutes and Christine Lagarde's speech, "Central Banks in a Fragmenting World," from April 17, 2023. In a 2022 speech, JPMorgan CEO Jamie Dimon stated, "The most important [risk] is the geopolitics around Russia and Ukraine, America and China, relationships of the Western world. That to me would be far more concerning than whether there is a mild or slightly severe recession."

ond, differences in funding structure between cross-border and local operations shape banks' incentives under such risks: local affiliates rely partly on host-country deposits that act as loss absorbers when political actions occur, reducing the parent bank's effective exposure and making affiliate divestment less appealing. We formalize these mechanisms in a simple model of global banking under geopolitical risk and show that foreign funding of local operations reduces downside losses when risk materializes, making affiliate divestment less attractive and amplifying domestic spillovers.

The first part of the paper empirically analyzes banks' responses to geopolitical risk. We begin by compiling and constructing indices for country-specific geopolitical risk (CGPR) and bank-specific geopolitical risk (BGPR). For the former, we draw on Caldara and Iacoviello (2022)'s index for 44 countries, which is based on a count of mentions of war and related terms in newspaper articles. To complement this measure, we construct a new CGPR index by applying textual analysis with similar terms to firms' earnings-call transcripts, following the methodology outlined in Hassan et al. (2019, 2023). The earnings-call-based index captures the geopolitical risks most salient to firms' perception. Compared with broader macro-level risk indicators—such as Hassan et al. (2019, 2023)'s country risk index (CRI) and Ahir et al. (2022)'s World Uncertainty Index—the CGPR indices reveal distinct patterns that more precisely track geopolitical events and exposures.

Using the CGPR indices, we construct BGPR indices to capture individual banks' exposure to CGPR through their foreign operations. Specifically, we calculate BGPR by weighting each bank's share of assets in a given country by that country's CGPR index, then summing across all foreign countries (excluding the United States). Data on banks' foreign exposures by country are drawn from confidential FFIEC 009 reports submitted to the Federal Reserve.

Using these indices, we first examine the effects of geopolitical risk on banks' credit risk, drawing on FR Y-14Q reports that provide loan-level data on the amount and terms of C&I lending by all banks participating in Federal Reserve stress tests. Regressions at the bank-country-time level show that the probability of default on loans to a given country—as assigned by the banks—increases with that country's geopolitical risk. Building on this result, we assess whether the increase in credit risk is large enough to materially affect banks' aggregate loan portfolios. Indeed, as exposure to foreign geopolitical risk (captured

by BGPR) rises, the average probability of default in banks' loan portfolios rises significantly.

Next, we investigate how banks adjust their foreign lending in response to rising credit risk, using the FFIEC 009 data on banks' foreign exposures by country. Regressions at the bank-country level show that banks reduce their cross-border lending to countries experiencing elevated geopolitical risk, while lending through local affiliates remains largely unchanged. This pattern aligns with anecdotal evidence from Russia's invasion of Ukraine, when several Western banks continued local operations despite the conflict. Notably, banks do not adjust cross-border and local exposures asymmetrically in response to broad country risk, suggesting that geopolitical risk elicits a distinct response.

To analyze whether foreign geopolitical risk spills over to banks' domestic credit supply, we draw on data on banks' domestic corporate loan origination from the FR Y-14Q reports. We regress loan origination on BGPR at both the loan level—controlling for demand-side responses by firms using firm-time fixed effects—and the bank level to evaluate whether the effect is substantial enough to appear in banks' total C&I lending. Both analyses show that U.S. banks originate fewer domestic loans when BGPR increases. Further analysis reveals that this contraction is mainly driven by geopolitical risk in countries where banks operate branches and subsidiaries, rather than where they lend only cross-border. Moreover, better-capitalized and more profitable banks reduce domestic lending less. Using the longer Senior Loan Officer Opinion Survey (SLOOS) data, we find consistent results: Higher BGPR leads to tighter domestic lending standards, particularly for banks with affiliate exposure abroad.

The second part of the paper explains key mechanisms driving the empirical results. It emphasizes the role of foreign operations' funding structures in shaping banks' asymmetric divestment behavior under rising geopolitical tension. While various factors may contribute to the documented withdrawal patterns and spillover effects, evidence from Russia's invasion of Ukraine highlights Western banks' efforts to reduce cross-border exposures and sever funding dependencies between parent banks and affiliates. In their financial and earnings reports, banks underscored the strategic importance of self-funding in local operations to contain the adverse impacts of the geopolitical risk, illustrating the mechanism we identify. Local funding limits losses during periods of heightened geopolitical risk—when the risk of political interventions targeting foreign institution increases. For instance, if a bank is

expropriated, it is no longer liable for its foreign liabilities, whereas operations funded with domestic liabilities must still be repaid. Local deposits also mitigate losses under milder forms of government intervention, such as costly profit repatriation due to capital controls. Empirically, we find results consistent with this mechanism: Banks with a higher share of local liabilities relative to local assets withdraw less from a country when geopolitical risk rises, especially when that country is less geopolitically aligned with the bank's home country.

Building on the empirical findings, we develop a stylized model in which a bank allocates investment between domestic and foreign markets, where foreign activity takes one of two forms: cross-border lending or local affiliate operations. The key distinction between the two modes is funding: affiliates are at least partly funded with local deposits, while cross-border lending relies on domestic deposits. Local funding helps buffer losses when geopolitical risk materialize. As a result, net losses from a geopolitical event are smaller under affiliate-based lending, leading banks to reduce cross-border lending but maintain local lending when geopolitical risk rises. When foreign exposures are not fully adjusted given the increased risk, banks must curtail domestic lending to meet regulatory capital constraints, making the spillover effects on domestic lending particularly strong under the affiliate mode.

Our empirical analysis and theoretical model highlight that geopolitical risk abroad can reduce domestic credit supply through the global operations of internationally active banks. However, this should not be interpreted as evidence that global banking is inherently harmful. The other side of this dynamic is that international linkages allow domestic shocks to be absorbed through foreign operations, so shocks are naturally transmitted in both directions (Shen and Zhang 2024). Furthermore, the international banking literature highlights several benefits of cross-border banking. For instance, banks facilitate the efficient allocation of capital across countries (Niepmann 2015) and export advanced technologies to reduce the cost of financial services (Niepmann 2023).

Related Literature. A growing body of literature explores the economic and financial effects of geopolitical risk, following the seminal work of Caldara and Iacoviello (2022), who introduce the geopolitical risk index used in this paper. They show that heightened geopolitical risk reduces aggregate investment and employment. At the firm level, Wang

et al. (2019) find that geopolitical risk lowers corporate investment. However, research on banks' responses to geopolitical risk remains limited.[2] The most closely related study, Pham et al. (2021), finds that Ukrainian banks operating in the conflict-affected regions after 2014 reduced lending elsewhere in Ukraine. De Haas et al. (2025) find that banks reduce cross-border lending in response to violent conflicts but increase lending to military-related sectors within the affected countries. Pradhan et al. (2025) also find a reduction in cross-border lending in response to geopolitical tensions between countries, highlighting interaction effects with monetary policy. Other studies show that geopolitical risk constrains bank credit growth (Demir and Danisman 2021), weakens bank stability (Phan et al. 2022), and reduces profitability (Alsagr and Almazor 2020), primarily by curbing household lending.

Related work examines the effects of sanctions—a specific policy response to geopolitical events—on bank lending, including Mamonov et al. (2022), Drott et al. (2024), and Danisewicz et al. (2025). Efing et al. (2023)'s particularly relevant study finds that German banks reduced lending to sanctioned countries from domestic operations but not necessarily from foreign affiliates, especially those in jurisdictions with weak enforcement, suggesting an enforcement-avoidance mechanism under targeted sanctions. By contrast, we find no evidence that U.S. banks increased intragroup lending to affiliates in countries with heightened geopolitical risk. Instead, we highlight that differences in funding structures across modes of operating abroad affect banks' tradeoffs in dealing with geopolitical risk and explain persistence in affiliate exposures.

Beyond banking, research on the economic effects of geopolitical power and risk has focused on the impact of geopolitical events—particularly the U.S.–China trade war—on global supply chains (see, e.g., Amiti et al., 2020, Fajgelbaum et al., 2020, Fajgelbaum et al., 2021, Alfaro and Chor, 2023). Clayton et al. (2023) develop a model explaining how geopolitical power and economic coercion shape global financial and real activity.

In addition to the literature on geopolitical risk, our paper contributes to research on the international transmission of shocks through global banks (see, e.g., Peek and Rosengren, 2000, Schnabl, 2012, Cetorelli and Goldberg, 2012a, Ivashina et al., 2015, Hale et al., 2020,

[2]In related work, Converse and Mallucci (2025) analyze how investment funds' portfolio allocations change in response to geopolitical risk.

Shen and Zhang, 2024). Methodologically, our approach is similar to that of Temesvary and Wei (2024), who show that U.S. banks with greater exposure to foreign markets affected by COVID-19 reduced domestic C&I lending more sharply. Related work also examines how different forms of global uncertainty influence credit supply. For instance, Correa et al. (2023) analyze how U.S. banks' exposure to trade uncertainty through their borrowers influences bank lending, while Federico et al. (2025) show that trade shocks can trigger broad contractions in lending by raising non-performing loans.

A relevant theme in this literature is that the mode of foreign operations influences the transmission of shocks. Fillat et al. (2023) find that shock transmission is stronger through branches than subsidiaries due to differences in funding structures. Dell'Ariccia and Marquez (2010) argue that higher expropriation risk makes subsidiaries less attractive in politically unstable countries. However, we find that the branch-versus-subsidiary distinction does not play a central role in shaping banks' responses to geopolitical risk. Instead, we highlight the broader distinction between cross-border and local affiliate lending—whereby the latter encompasses both branches and subsidiaries—as the key margin along which banks adjust exposures, with important implications for spillovers.[3]

Our paper also contributes to the literature on risk and capital flows (see, e.g., Rey, 2016, Kalemli-Özcan, 2019, Jiang et al., 2020, Akinci et al., 2022). Hassan et al. (2023) construct country risk measures from firms' earnings call transcripts and show that heightened risk reduces capital flows. We build on this approach by applying similar textual analysis to develop a new geopolitical risk measure. Related work examines how risk affects cross-border bank lending (e.g., Correa et al., 2022, Bruno and Shin, 2015). Choi and Furceri (2019) find that rising country-level uncertainty reduces both cross-border lending and borrowing from affected countries.

[3]Several papers examine how banks' responses to shocks differ depending on their mode of operating abroad and the importance of the lending market to banks. See, for example, Cetorelli and Goldberg (2012b), De Haas and Van Horen (2013), Claessens and Van Horen (2012), and Claessens and Van Horen (2015). Schnabl (2012) finds that the transmission of liquidity shocks from the parent bank is weaker to its foreign subsidiaries than through its direct cross-border lending to foreign banks.

2 U.S. Banks' Exposure to Geopolitical Risk

2.1 U.S. Banks' Foreign Operations

U.S. banks are exposed to geopolitical risk abroad through their foreign operations. To understand the extent of this exposure, we examine data from the FFIEC 009 report, which provides detailed information on U.S. banks' foreign assets and liabilities by country.[4] The FFIEC 009 reporters consist of U.S. banks, bank holding companies (BHCs), and intermediate holding companies (IHCs) holding $30 million or more in claims on residents of foreign countries. We focus on reporters whose ultimate parent bank is in the United States, relying on information from the National Information Center to identify each reporter's ultimate parent bank and its location. Our sample runs from 1986:Q1 to 2022:Q4 and consists of 67 banks in an average period.

Figure 1 illustrates the size, mode, and geographical distribution of U.S. banks' foreign operations. Panel (a) of Figure 1 shows that the share of U.S. banks' foreign assets in total assets averages about 20 percent over the sample period. Larger banks tend to be the most internationally active (Buch et al., 2011; Niepmann, 2023), contributing disproportionately to this aggregate share.

Panel (b) illustrates the mode of U.S. banks' foreign operations. It displays the share of foreign exposures held in foreign offices (either branches or subsidiaries), referred to as "local exposures." The remaining share, known as "cross-border exposures," represents the share of foreign exposures whereby the U.S. parent offices lend directly to foreign residents.[5] The figure shows that approximately half of U.S. banks' operations are conducted through offices abroad, while the other half comprises cross-border operations. The share of foreign operations conducted through local operations increased up to the Global Financial Crisis and declined to about 45 percent in the subsequent years.

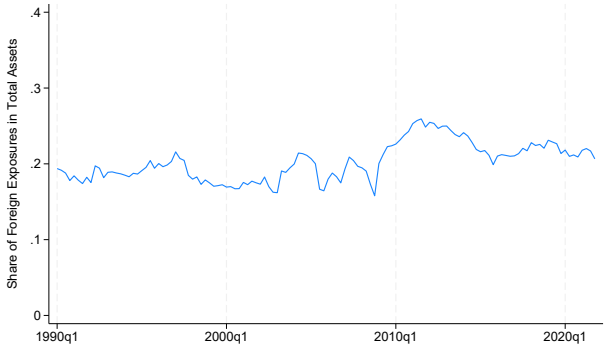
Panels (c) through (f) of Figure 1 provide snapshots of the geographical distribution

[4] In this paper, we use the terms 'foreign claims,' 'foreign exposures,' and 'foreign assets' interchangeably.

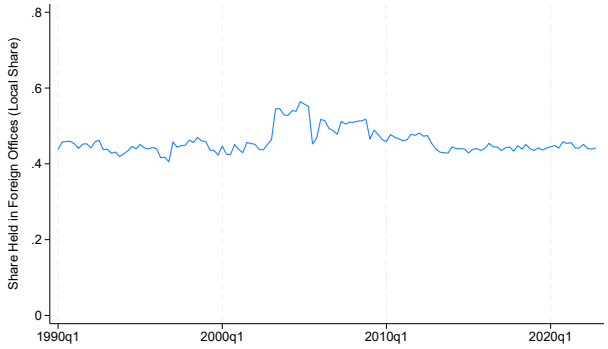
[5] To be more precise, cross-border exposures are claims held by bank offices that are outside the country of residence of its counterparty. For example, U.S. Bank A generates a cross-border claim on Mexico when it extends a loan from its U.S. office to a Mexican resident. Local exposures are claims extended by a bank's local offices, whether subsidiary or branch, in a foreign country to residents of that country. For example, Bank A generates a local claim on Russia when it lends to a Russian resident through its Russian subsidiary.

Figure 1: U.S. Banks' Foreign Operations

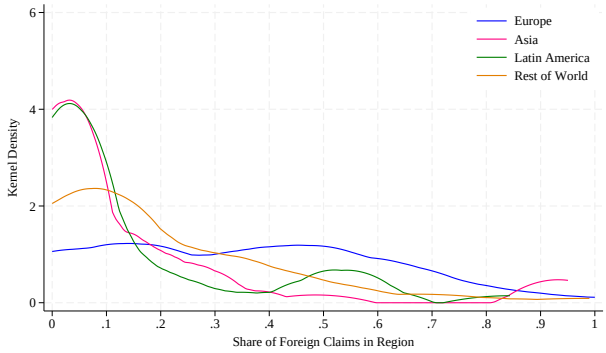
(a) Foreign Exposures as a Share of Total Assets



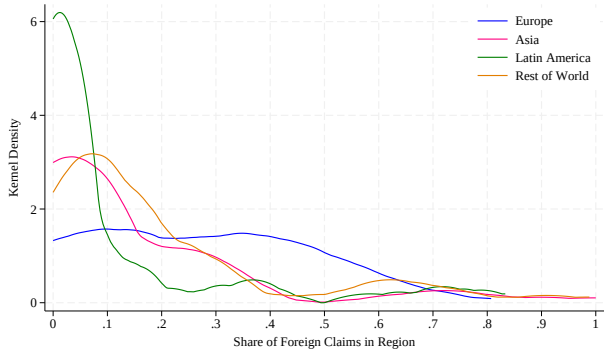
(b) Local Exposures as a Share of Foreign Exposures



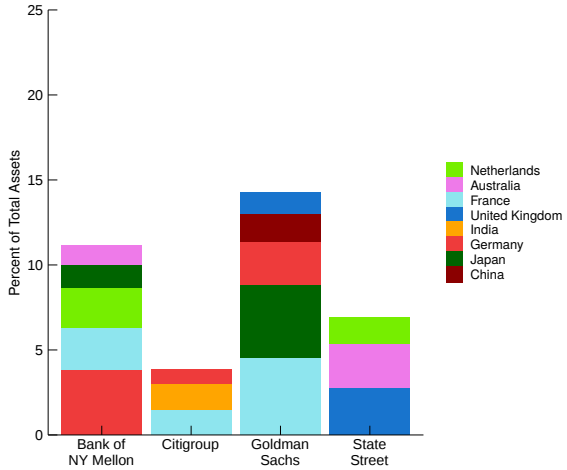
(c) Distribution of Foreign Exposure by Region, 2010:Q4



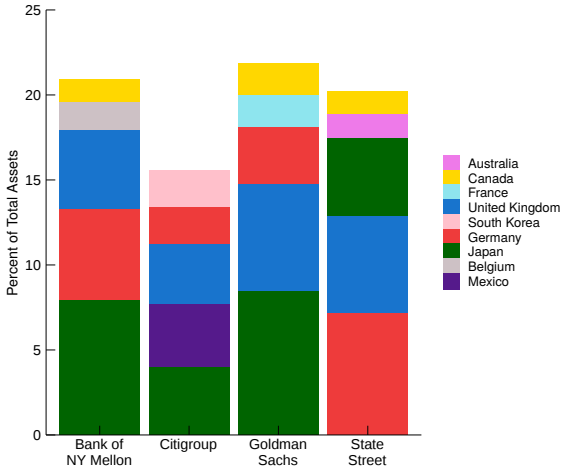
(d) Distribution of Foreign Exposure by Region, 2019:Q4



(e) Distribution of Foreign Claims by Country for Selected Banks, 2010:Q4



(f) Distribution of Foreign Claims by Country for Selected Banks, 2019:Q4



Note: Panel (a) of the figure shows U.S. banks' average foreign exposures as a share of total assets from 1990:Q1 to 2021:Q4. Panel (b) shows U.S. banks' local exposures, or exposures through foreign offices, as a share of their total foreign exposures. Panels (c) and (d) illustrate the kernel density of the share of foreign operations in four regions—Europe, Asia, Latin America, and the rest of the world—in 2010:Q4 and 2019:Q4, respectively, across U.S. banks. Panel (e) and (f) illustrate the top countries by foreign claims size (expressed as a share of total assets) in 2010:Q4 and 2019:Q4, respectively, for four selected U.S. banks. Data source(s): FFIEC 009, FR Y9-C, and Call Reports for Panels (a)–(d); public version of FFIEC 009/009a for Panels (e)–(f).

of U.S. banks' foreign operations around the world. Panels (c) and (d) display the kernel density of the share of foreign operations across four regions—Europe, Asia, Latin America, and the rest of the world—in 2010:Q4 and 2019:Q4, respectively, across U.S. banks. Across all regions, there is significant heterogeneity in the extent of exposure among banks. For example, in 2010:Q4, roughly the same number of banks had nearly zero exposure as had 60 percent of their total exposure to Europe. Moreover, this degree of heterogeneity changes over time. By 2019:Q4, fewer banks had more than 60 percent of their exposure in Europe.

Panels (e) and (f) provide more granular snapshots of the geographical distribution of foreign claims for selected banks, displaying their top five countries of exposure in 2010:Q4 and 2019:Q4, using the public version of the FFIEC 009/009a data.[6] These snapshots reveal substantial variation across banks in both the geographical composition and the magnitude of their foreign exposure. Moreover, both the origins and magnitudes of exposure shift over time within individual banks, reflecting the fluid nature of foreign banking operations.

Overall, Figure 1 demonstrates that U.S. banks have substantial exposure to a diverse range of countries worldwide, with a significant portion of this exposure stemming from their operations within these countries. These foreign operations expose them to global geopolitical risks. Moreover, since the origin and magnitude of these exposures vary markedly among banks, there is considerable variation in their exposure to geopolitical risk, and this variation also changes over time with each bank. These cross-sectional and time-series variations in foreign exposure are incorporated into the bank-specific measures of geopolitical risk we subsequently construct and play a key role in the identification strategy we apply in the empirical analysis.

2.2 Constructing and Dissecting Geopolitical Risk Indices

Constructing the BGPR index. To measure the extent of U.S. banks' exposure to geopolitical risk through their foreign operations, we construct a bank-specific geopolitical risk index. This BGPR index captures the geopolitical risk each bank faces based on the

[6]The public version of the FFIEC 009/009a data provides information on material foreign country exposures, defined as exposures exceeding 1 percent of total assets or 20 percent of capital, whichever is lower, for U.S. banks filing the FFIEC 009 report. Reporting institutions must also disclose a list of countries where their lending exposures exceed 0.75 percent of total assets or 15 percent of total capital, whichever is lower.

geography of its foreign lending activities. For each bank b and quarter t, we calculate the index by weighting the geopolitical risk of country c (CGPR) by the share of the bank's total assets exposed to that country. We then sum the weighted CGPR indices over all countries. Specifically, we compute:

$$BGPR_{bt} = \sum_{c} \omega_{bct-1} CGPR_{ct}, \tag{1}$$

where

$$\omega_{bct-1} = \frac{1}{4}\left(\sum_{i=1}^{4} \frac{exp_{bct-i}}{\sum_c asset_{bct-i}}\right),$$

and exp_{bc} denotes bank b's total exposure in country c, encompassing both cross-border and local claims that the bank has toward the residents of the respective country. As defined in Equation (1), the BGPR index is more sensitive to changes in geopolitical risk in country c when bank b has a larger operation in that country.[7]

CGPR indices. A key component of the BGPR index is CGPR, for which we use two measures. The first is from Caldara and Iacoviello (2022), who construct a country-specific geopolitical risk index for 44 countries (including the United States). We use the authors' recent CGPR index, which is based on ten newspapers and begins in 1985, rather than the "historical" index, which is based on three newspapers and available from 1900 onward. This set of indices captures perceptions of geopolitical risk from media coverage, reflecting how geopolitical events are reported and emphasized across different news sources over time. We denote Caldara and Iacoviello (2022)'s CGPR index as $CGPR^N$.

We construct a second measure of CGPR to capture firms' perceptions of geopolitical risk, building on Hassan et al. (2019, 2023)'s natural language processing method. This approach uses the NL Analytics platform, developed by the authors' team, to apply textual analysis to nearly 400,000 earnings-call transcripts from about 14,000 public companies worldwide, starting in 2002. A crucial step in constructing the CGPR index involves identifying instances in which conference call discussions focus on geopolitical risk in particular countries. To do

[7]We have also used variants of this index to assess the robustness of our results. We alter the way of computing the weights (ω_{bct}) by normalizing the exposure of bank b in a country by total foreign claims (instead of total assets) and by using one-quarter lagged exposure shares as weights (instead of averaging bank exposure shares over the previous four quarters). When normalizing by total foreign claims, we use exposure to all 43 foreign countries for which Caldara and Iacoviello (2022)'s CGPR index is available.

this, we compile a dictionary of words associated with geopolitical threats and actions, as well as a database of terms identifying the 43 foreign countries of interest, primarily major cities. To count toward our measure of geopolitical risk for a given country, words from both sets must appear in the same sentence. The dictionary of geopolitical risk-related words is extracted from Caldara and Iacoviello (2022) to allow for a close alignment with $CGPR^N$. Appendix Table A.1 lists the search query for geopolitical risk, which is organized into eight categories. Following Caldara and Iacoviello (2022), each category includes a search query consisting of two sets of words: The first set contains topic words (e.g., "war," "military," "terrorist"), and the second set contains "threat" words for five categories and "act" words for three categories.

Specifically, we construct the CGPR index based on earnings-call transcripts, denoted as $CGPR^T$, as follows:

$$CGPR_{ct}^T = \frac{1}{F_{ct}} \sum_f \frac{GPRCount_{fct}}{N_{ft}},$$

where $GPRCount_{fct}$ denotes the number of geopolitical risk-related sentences in the transcript of firm f pertaining to country c at time t, N_{ft} denotes the total number of sentences in the earnings-call transcript of firm f at time t, and F_{ct} denotes the number of firms in country c at time t. The index flexibly captures different aspects of geopolitical risk for each country. For supplementary analysis, we decompose the index into two components—geopolitical risk arising from threats ($CGPR_{ct}^{T(Threat)}$) and from acts ($CGPR_{ct}^{T(Act)}$)—and construct a sub-index capturing the geopolitical risk perceived by financial firms ($CGPR_{ct}^{Tfin}$).

We construct BGPR indices using both $CGPR^N$ and $CGPR^T$. The index based on $CGPR^N$ serves as our baseline measure of geopolitical risk due to its longer sample period starting in 1985. The index based on $CGPR^T$ is used to assess the robustness of our results and to further explore how the components of geopolitical risk drive these results, utilizing the various sub-indices of $CGPR^T$ that we construct.

Panel (a) of Figure 2 shows the two CGPR indices, aggregated to the global level (GGPR) and normalized by their respective standard deviations within the sample, from 2002:Q1 to 2023:Q4. $GGPR^N$ (top) and $GGPR^T$ (bottom) both spike around the onset of three major geopolitical events: the Iraq War in 2003:Q1, the Russia–Ukraine War in 2022:Q1, and

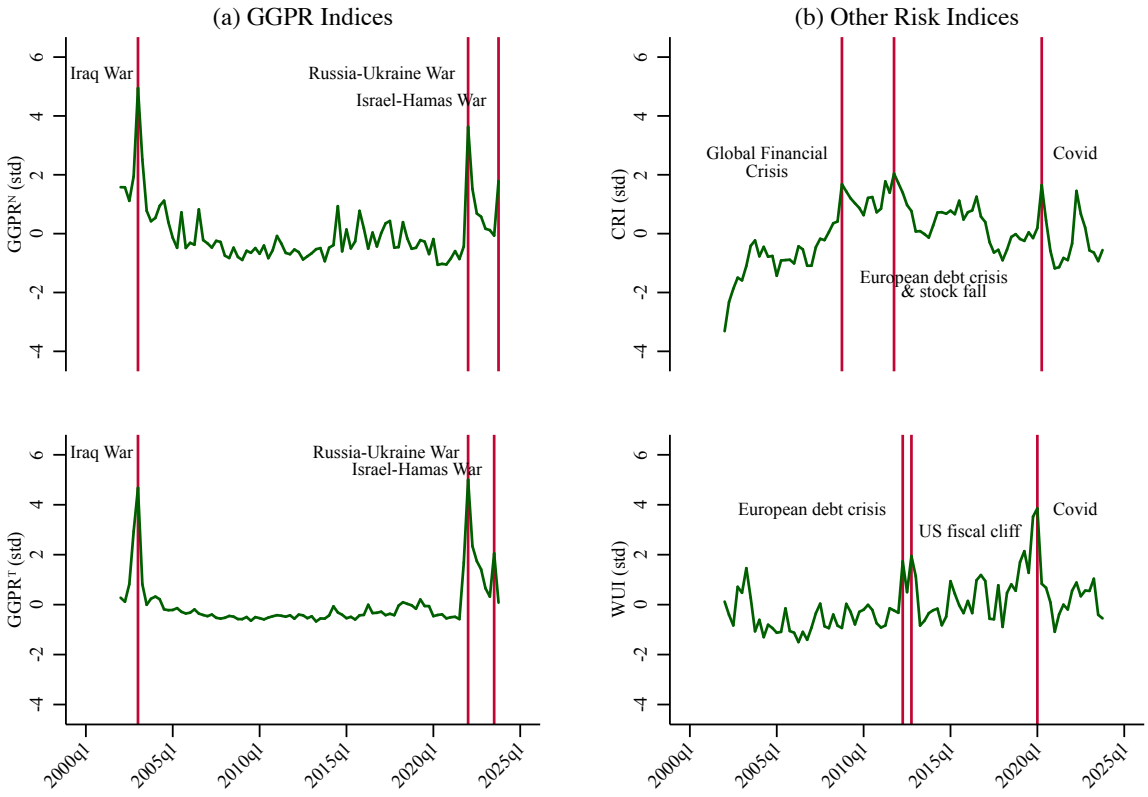
the Israel–Hamas War in 2023:Q4. We compare these geopolitical risk indices to two well-known risk indices: Hassan et al. (2023)'s CRI and Ahir et al. (2022)'s WUI. The CRI is a measure of broad risk perception constructed using the same data and methodology as our $CGPR^T$ index; the WUI is a measure of uncertainty constructed by counting the frequency of synonyms for risk or uncertainty using the country reports of the Economist Intelligence Unit. As shown in Panel (b) of Figure 2, both the CRI and WUI spike primarily during periods of significant economic uncertainty, including the height of the Global Financial Crisis around 2008:Q4, the peak of the European sovereign debt crisis in 2011, and the onset of COVID-19 in 2022:Q1. The correlations between the GGPR indices and these two broad risk indices are either low or negative, suggesting that the geopolitical risk captured by $CGPR^N$ and $CGPR^T$ is a distinct form of risk.

We also compare the CGPR indices to other risk indices at the country level. Appendix Figure A.1 shows these indices for three countries: Hong Kong (Panel (a)), Poland (Panel (b)), and South Korea (Panel (c)). Charts in the left panel illustrate $CGPR^N$ (top), $CGPR^T$ (middle), and $CGPR^{T(Fin)}$ (bottom), while the right panel displays three broad risk indices for these countries: CRI, WUI, and 5-year sovereign CDS spreads. Similarly to the aggregated global indices, the CGPR indices show sharp increases around significant adverse global and local geopolitical events.

Conceptually, CGPR captures multiple ways geopolitical risk could affect a country. First, it reflects heterogeneous exposure to global geopolitical shocks—events that heighten geopolitical uncertainty worldwide, such as the 9/11 attacks, the Iraq War, or escalations in U.S.–China tensions. These shocks transmit broadly through channels like energy prices, trade disruptions, and shifts in global risk sentiment, affecting countries to varying degrees depending on their economic structure and global integration. Second, CGPR captures exposure to foreign-country geopolitical shocks, where geopolitical events in one country affect others through trade, financial, or geographic connections. For example, Poland's CGPR spikes following Russia's invasion of Ukraine, reflecting its close regional exposure. Finally, CGPR encompasses idiosyncratic, country-specific geopolitical risks, such as the surge in Hong Kong's CGPR after China's imposition of the national security law in 2019, or South Korea's responses to local and regional security tensions.

Compared with broad risk indicators such as the CRI, WUI, or sovereign CDS spreads, which mainly track macroeconomic or financial stress, CGPR isolates the geopolitical dimension of risk, encompassing both global and country-specific sources and capturing their direct and indirect effects.

Figure 2: Global Geopolitical Risk and Other Risk Indices



Note: Panel (a) shows two global geopolitical risk (GGPR) indices, which are aggregated from country-specific geopolitical risk (CGPR) indices, covering the period from 2002:Q1 to 2023:Q4. The top chart displays GGPR from Caldara and Iacoviello (2022) ($GGPR^N$), and the bottom chart displays GGPR constructed by applying textual analysis to earnings-call transcripts using the NL Analytics platform ($GGPR^T$). Panel (b) shows the aggregated country risk index (CRI) by Hassan et al. (2023) (top), and the World Uncertainty Index (WUI) by Ahir et al. (2022) (bottom). All the indices are standardized by their respective standard deviations within the sample.

Based on Equation (1), we construct BGPR indices using $CGPR^N$ and $CGPR^T$, producing $BGPR^N$ and $BGPR^T$, respectively. Appendix Figure A.2 illustrates these two indices at the 25th, 50th, and 75th percentiles over time. The differences among these percentiles reveal significant variation in the level of the index across banks, driven by the heterogeneity in the geography of U.S. banks' foreign operations. Furthermore, these cross-sectional

differences evolve substantially over time across banks.

2.3 Additional Data Sources

Given that the goal of our analysis is to understand the effect of geopolitical risk on U.S. banks' foreign and domestic operations, we construct variables that capture the outcomes of interest. To do this, we utilize a variety of regulatory datasets collected by the Federal Reserve, together with country-level macroeconomic, financial, and geopolitical data.

Bank foreign exposure by country. We use the FFIEC 009 data, which were also employed to construct our geopolitical risk indices, to capture the margins of foreign exposure adjustment in response to geopolitical risk. These margins of adjustment include exposure through cross-border and local claims.

Loan-level data. For more granular information on U.S. banks' foreign and domestic operations, we use quarterly loan-level data from the FR Y-14 reports. These reports have been filed confidentially by all BHCs participating in official Federal Reserve bank stress tests since late 2012. The participating institutions report detailed information on individual C&I loans exceeding $1 million, including the borrower's name, country, and industry, as well as the loan amount, origination date, and the probability of default assigned by the bank.[8] The probability of default information allows us to study how geopolitical risk affects U.S. banks' assessment of credit risk for exposed loans. Additionally, the loan origination data enables us to analyze the transmission of geopolitical risk to domestic lending.

Bank lending standards. We use data from the Federal Reserve's Senior Loan Officer Opinion Survey to construct additional outcome variables related to U.S. banks' lending standards. In the quarterly survey, the Federal Reserve asks banks about changes in their lending standards and the demand for credit over the previous three months. The aggregate results are published on the Federal Reserve's website, while bank-level responses from 1990

[8]Notably, this dataset includes loans extended through banks' foreign offices, including foreign subsidiaries. However, we cannot distinguish between loans held by the parent bank and those held by foreign subsidiaries. As a result, we are unable to separate loan exposures into cross-border and local exposures in this dataset.

onward are available to researchers in the Federal Reserve System. Banks' responses are recorded on a scale of one to five. Following standard practice in the literature, we transform these responses into three outcome categories: 1 = loosening, 0 = unchanged, and -1 = tightening. To map SLOOS reporters with corresponding FFIEC 009 reporters, we identify whether a SLOOS-reporting entity is a subsidiary of a BHC that reports the FFIEC 009. If so, we aggregate the responses of all loan officers within that BHC. We focus on lending standards for C&I loans to large and medium-sized enterprises, in line with the predominant loan composition in the FR Y-14 data.

Bank balance sheet information. We supplement our database with quarterly balance sheet data from FR Y-9C and Call Reports, which provide detailed information on the income statements and balance sheets of all U.S. banks. Using these data, we construct a set of bank-level control variables for our regressions, including a bank's Tier 1 capital ratio and liquid-asset ratio.[9]

Macro, financial, and other data. In addition to bank-level information, we construct a set of country-level macroeconomic and financial variables from various sources to serve as control variables. These include countries' stock price indices and exchange rates from Bloomberg, sovereign CDS spreads from IHS Markit, and sanction status from the Global Sanctions Database. In one part of the analysis, we also use a measure of geopolitical distance from Bailey et al. (2017), derived from countries' voting patterns in the United Nations General Assembly (UNGA) using ideal point estimates, to capture the degree of geopolitical alignment between countries.

3 Main Results

In this section, we examine how geopolitical risk abroad shapes the foreign operations of U.S. global banks and the resulting implications for domestic credit supply. We establish three key findings: (i) Geopolitical risk increases the credit risk of U.S. banks with foreign

[9]The liquid-asset ratio is calculated as (Cash and Balances Due from Depository Institutions + Available-for-sale Debt Securities + Held-to-maturity Securities at Amortized Cost) / Total Assets.

operations; (ii) these banks maintain lending to high-risk countries through their foreign branches and subsidiaries, while reducing cross-border lending to those same countries—unlike their response to other forms of risk; and (iii) when geopolitical risk rises abroad, U.S. global banks curtail domestic lending, particularly when they operate affiliates in the affected countries.

3.1 Geopolitical Risk and Credit Risk

Geopolitical conflicts can have a range of economic consequences, from a general economic downturn driven by heightened uncertainty to direct losses from destruction, expropriation, and political confrontation. Regardless of the specific form of impact, an increase in a country's geopolitical risk is likely to raise the credit risk associated with banks' claims on that country. As a result, we expect banks to assign a higher probability of default to their exposures to borrowers from that country. We begin our analysis by testing this conjecture, using quarterly data from the FR Y-14 reports for the sample period 2013:Q1 through 2022:Q4.

Bank-country level evidence. We first conduct the analysis at the bank-country level, computing the average probability of default (PD) of C&I loans to country c held by bank b in quarter t. The PDs are weighted by loan size, using the committed loan amounts. To isolate changes in the probability of default for existing loans—rather than shifts driven by banks originating safer loans—we exclude loans originated in quarter t.

With the weighted-average PD variable, we study the relationship between CGPR indices and credit risk at the bank-country-time level using the specification:

$$ln(PD_{bct}) = \beta CGPR_{ct} + \alpha_{bt} + \alpha_{bc} + \epsilon_{bct}, \tag{2}$$

where PD_{bct} denotes the weighted average probability of default assigned by bank b to loans to residents of country c at time t, $CGPR$ denotes $CGPR^N$ or $CGPR^T$, and α_{bt} and α_{bc} denote bank-time and bank-country fixed effects, respectively. Standard errors are clustered at the country-time level.

Table 1: Geopolitical Risk and Credit Risk

	Bank-country Level		Bank Level	
$ln(PD_{bct/bt})$	(1)	(2)	(3)	(4)
$CGPR^N_{ct}$	0.103**			
	(0.042)			
$CGPR^T_{ct}$		0.080**		
		(0.034)		
$BGPR^N_{bt}$			0.181***	
			(0.035)	
$BGPR^T_{bt}$				0.136***
				(0.024)
Bank-country FE	Yes	Yes	No	No
Bank-time FE	Yes	Yes	No	No
Bank FE	No	No	Yes	Yes
Time FE	No	No	Yes	Yes
Observations	9588	8967	411	411
R^2	0.680	0.679	0.870	0.871

Note: This table reports regressions with log average weighted probability of default (PD) as the dependent variable using data from FR Y-14 for the sample period 2013:Q1 through 2022:Q4. Columns (1) and (2) report results from regressions at the bank-country-time level based on Equation (2). $CGPR^N$ denotes the (recent) country-specific geopolitical risk index from Caldara and Iacoviello (2022). $CGPR^T$ denotes the country-specific geopolitical risk index constructed based on earnings call transcripts using the NL Analytics platform. Columns (3) and (4) report results from regressions at the bank-time level based on Equation (4). $BGPR^N$ and $BGPR^T$ denote the bank-specific geopolitical risk indices based on $CGPR^N$ and $CGPR^T$, respectively. All the geopolitical risk indices are standardized by their respective standard deviations within the sample. Standard errors, shown in parentheses, are clustered at the country and time level in Columns (1) and (2) and the bank and time level in Columns (3) and (4). $^*p < .1$; $^{**}p < .05$; $^{***}p < .01$.

Columns (1) and (2) of Table 1 present the results. Banks assign higher probabilities of default to existing loans made to borrowers in countries with increasing geopolitical risk, as measured by either $CGPR^N$ or $CGPR^T$. A one-standard-deviation increase in $CGPR$ raises the weighted average probabilities of default of these loans by 8 to 11 percent. At the mean PD of 3.6 percent, this is an increase of 30 to 39 basis points. These results support the conjecture that banks perceive higher credit risk in loans to borrowers from countries facing rising geopolitical risk.

Event study. To further investigate how banks adjust their assigned probabilities of default in response to increasing geopolitical risk, we conduct an event study focused on Russia's invasion of Ukraine in 2022:Q1, when $CGPR^N$ for Russia reached 4.6 standard deviations of the average $CGPR^N$ over the sample period of 2013:Q1 through 2022:Q4. This geopolitical shock provides a natural setting to analyze how banks reassess the credit risk of their outstanding exposures to Russia relative to other countries.

Specifically, we run the regression:

$$ln(PD_{bct}) = \sum_{k \geq -m} \delta_{0k} D_t^k + \sum_{k \geq -m} \delta_{1k} D_t^k \times R_c + \theta_{bc} + \gamma_{bt} + \epsilon_{bct}, \tag{3}$$

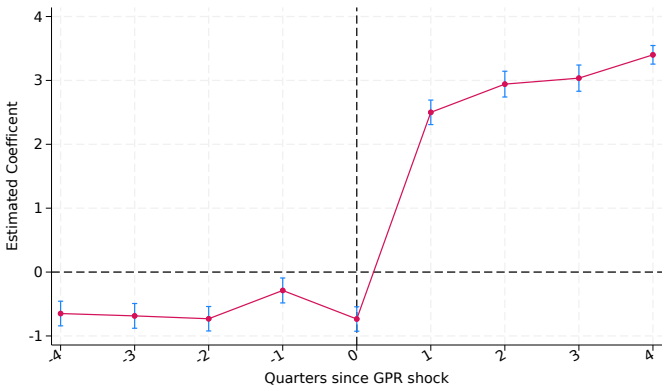
where PD_{bct} denotes the average probability of default of loans of bank b in country c at time t. D_t^k denotes dummy variables that take the value 1 if the geopolitical risk shock occurred k quarters following the event and 0 otherwise. R_c denotes dummy variables that take the value 1 if the borrower country is Russia and 0 otherwise. θ_{bc} denotes bank-country dummies, and γ_{bt} denotes bank-time dummies.[10] The coefficients δ_{1k} capture the differential effect of the geopolitical risk shock on the average probability of default of loans to Russia compared with loans to other countries in the k quarters following the shocks. For this analysis, we restrict the sample to all loans outstanding at the time of the shock made by U.S. banks with foreign claims on Russia.

Figure 3 plots the estimated coefficients δ_{1k} from Equation (3). The figure shows that the credit risk of loans to Russian borrowers rose sharply following Russia's invasion of Ukraine,

[10] We also ran the regression with R_c taking the value 1 if the borrower country is either Russia or Ukraine. The results remain largely unchanged, primarily because U.S. banks have limited exposure to Ukraine.

far exceeding that of loans to borrowers from other countries. The estimated coefficient for one quarter after the shock (2022:Q2) implies that the average PD on Russian exposures increased by roughly twelvefold relative to other foreign exposures. Anchoring this change to the pre-shock mean PD for Russian exposures of 1.2 percent, the implied PD one quarter after the shock rises to about 14 percent. Four quarters after the shock, the estimated effect corresponds to PDs nearly thirty times higher than before the conflict, or approximately 33 percent, indicating that banks perceived these exposures as carrying extremely high default risk. This result further confirms that banks attribute greater credit risk to their exposures to borrowers from countries facing escalating geopolitical risk.

Figure 3: Geopolitical Risk and Credit Risk: 2022 Russia-Ukraine War



Note: The figure illustrates the effect of geopolitical risk shocks from the Russia-Ukraine war in 2022:Q1 on the log average probability of default of loans to Russian borrowers relative to loans to borrowers in other countries. It plots the coefficients δ_{1k} from Equation (3). Standard errors, shown in parentheses, are clustered at the country-time level. Data source: FR Y-14.

Aggregate bank-level evidence. Given the bank-country-level and event study evidence, a key question is whether the increases in credit risk following adverse geopolitical risk shocks are substantial enough to materially affect banks' aggregate loan portfolios. To address this, we assess whether an increase in BGPR predicts a rise in the probability of default of a bank's aggregate C&I loan portfolio. Specifically, we compute the loan size weighted-average probability of default for each bank b's entire C&I loan portfolio in quarter t. We then regress the measure (in log) on the BGPR indices, controlling for bank characteristics,

bank fixed effects, and time fixed effects:

$$ln(PD_{bt}) = \beta BGPR_{bt} + \gamma X_{bt} + \alpha_b + \alpha_t + \epsilon_{bt}, \tag{4}$$

where $BGPR_{bt}$ denotes $BGPR^N_{bt}$ or $BGPR^T_{bt}$, and X_{bt} denotes bank-level control variables including a bank's lagged Tier 1 capital ratio and liquid-asset ratio.

Columns (3) and (4) of Table 1 report the results. An increase in BGPR, as measured by either $BGPR^N$ or $BGPR^T$, significantly increases the aggregate probability of default of bank loans. A one-standard-deviation increase in BGPR raises the probability of default of a bank's C&I loan portfolio by 15 to 20 percent. At the mean default probability of 1.7 percent, this implies an increase of about 25 to 33 basis points.

Taken together, the evidence at the bank-country level, from specific events, and at the bank level shows robustly that banks assign a higher probability of default to their exposures to borrowers from countries experiencing increasing geopolitical risk, and that the increase in credit risk is substantial enough to materially affect banks' aggregate loan portfolios.

3.2 Geopolitical Risk and Banks' Foreign Operations

How does geopolitical risk affect banks' lending decisions? Next, we investigate how banks adjust their foreign exposures in response to increasing geopolitical risk in the countries where they operate, using the FFEIC 009 data for the sample period 1986:Q1 through 2022:Q4.

Specifically, we run the following regression:

$$\ln(exp_{bct}) = \beta_1 CGPR_{ct} + \beta_2 CGPR_{ct-1} + \beta_2 X_{ct} + \beta_3 X_{ct-1} + \alpha_{bt} + \alpha_{bc} + \epsilon_{bct}, \tag{5}$$

where exp_{bct} represents a measure of bank b's exposure to country c in quarter t, and $CGPR_{ct}$ stands for $CGPR^N$ or $CGPR^T$. We include both the contemporaneous and one-quarter lagged values of $CGPR$.[11] X_{ct} captures country-level macro control variables, including the log of the exchange rate of country c's currency vis-à-vis the U.S. dollar, the log of country c's main stock price index, and an indicator variable equal to 1 if the country faces

[11] Coefficients for additional lags of $CGPR$ are not statistically significant.

any sanctions from the United States. We also control for bank-time fixed effects (α_{bt}) to account for changes in banks' foreign exposures common to all countries, and bank-country fixed effects (α_{bc}) to account for level differences in exposures of banks across countries. Standard errors are clustered by country and time.

Table 2 reports the results with $CGPR^N$ as the main regressor. As described in Section 2, banks can extend credit to foreign borrowers through two modes of operation: from an office outside the borrower's country of residence, resulting in cross-border claims, or from an office located in the borrower's country, resulting in local claims. Columns (1) and (2) present results from regressions with banks' log total cross-border exposures as the dependent variable. Columns (3) and (4) are based on log local exposures as the dependent variables. The odd-numbered columns show the baseline results, and the even-numbered columns add country-level macro controls.

The results show that banks' responses vary significantly by mode of operation in the affected country. While banks reduce cross-border exposures to countries facing escalating geopolitical risk, their operations through local offices in those countries remain largely unchanged.[12] A one-standard-deviation increase in $CGPR^N$ reduces cross-border exposure by 6 percent (Column 2). By contrast, the corresponding coefficients for local claims are small and not statistically significant (Column 4).[13] The results are similar with $CGPR^T$ as the main regressor, as shown in Appendix Table B.1.

In columns (5) and (6), cross-border and local exposures are pooled. We introduce a dummy variable indicating whether an exposure is local and interact it with the CGPR measure. This allows us to include country-time fixed effects, which absorb changes in loan demand at the country-time level. They help address the concern that exposures might

[12]Total foreign exposures fall as country-level geopolitical risk rises (not shown).

[13]Appendix Table B.2 further separates local claims exposures into those denominated in local currency and in foreign currency (primarily U.S. dollars) to examine whether they respond differently to geopolitical risk. Local claims in foreign currency show no significant response to geopolitical risk, while there is some evidence that local currency-denominated claims decline, likely due to exchange rate effects. We also examine how the mode of banks' local operations in foreign countries (branch versus subsidiary) influences their response to rising geopolitical risk. We find that banks with a higher share of assets in subsidiaries, relative to branches, reduce local claims less but cut cross-border claims more. However, further analysis of how geopolitical risk affects the size of branch versus subsidiary assets suggests that this distinction does not play a central role in shaping banks' responses to geopolitical risk. In addition, we find no evidence that banks respond by increasing intragroup lending to affiliates in countries with heightened geopolitical risk.

decline because of lower demand for loans as geopolitical risk rises. The results from this empirical specification confirm that local exposures fall significantly less in response to rising country-level geopolitical risk.

Additional evidence. This pattern—the retrenchment of cross-border lending alongside the persistence of local operations in response to geopolitical risk—also emerges in aggregate data. We track the evolution of cross-border and local claims on Russia around three major geopolitical events: the conflict with Georgia in 2008:Q3, the annexation of Crimea in 2013:Q4, and the invasion of Ukraine in 2022:Q1. Panel (a) of Appendix Figure B.3 presents the claims by the U.S. banking sector on Russia, and Panel (b) presents those for all BIS-reporting banking sectors. Notably, while both local and cross-border claims on Russia declined after these geopolitical shocks, local exposures fell significantly less, in percentage terms, than cross-border exposures.

This distinction between cross-border retrenchment and local operation persistence is particularly evident in banks' responses to Russia's 2022 invasion of Ukraine. At the time of the invasion, several large global banks were running significant operations in Russia, including operations through local subsidiaries. UniCredit, RBI, Société Générale, and Citigroup were among those with the largest exposures. Despite the geopolitical turmoil, most continued operating their local affiliates.[14] UniCredit, RBI, and Citigroup deliberately reduced their cross-border activities with Russia while continuing to operate their Russian subsidiaries, consistent with the empirical evidence presented earlier. UniCredit's and RBI's 2022:Q2 earnings presentations explicitly describe this strategy. As UniCredit's CEO stated, "Our Russia exposure has been reduced further at minimum cost. [...] Net cross-border exposures were reduced...mainly as a result of proactive discussions with clients producing early repayment at nominal value. The [Russian] subsidiary is robust and performing well."[15]

[14] An exception is Société Générale, which was the only major global bank to fully exit Russia soon after the invasion. Before the war, the bank derived approximately 3 percent of its net income from Russian operations. In April 2022, it sold its Russian subsidiary, Rosbank, to a business group linked to a Russian oligarch, incurring a $3.3 billion loss. By acting quickly, Société Générale completed the sale before the oligarch in question was sanctioned by the European Union.

[15] In recent years, these banks have faced mounting regulatory and political pressure—including a 2024 ECB directive requiring banks to present plans for exiting or reducing their Russian operations. Despite these measures, both UniCredit and RBI have continued to maintain their subsidiaries. Following the ECB directive, UniCredit took legal action while RBI halted brokerage account openings at its Russian subsidiary.

Table 2: Response of Banks' Foreign Operations to Geopolitical Risk

	Cross-border		Local		Total	
	(1)	(2)	(3)	(4)	(5)	(6)
$ln(exp_{bct})$	Baseline	Controls	Baseline	Controls	Pooled	Pooled
$CGPR^N_{ct}$	-0.026***	-0.031***	0.011	-0.010	-0.031***	
	(0.008)	(0.008)	(0.015)	(0.015)	(0.009)	
$CGPR^N_{ct-1}$	-0.014	-0.013	0.012	0.009	-0.014	
	(0.009)	(0.009)	(0.014)	(0.014)	(0.010)	
$CGPR^N_{ct} \times \mathbf{1}$(Local)					0.048***	0.042***
					(0.012)	(0.012)
$CGPR^N_{ct-1} \times \mathbf{1}$(Local)					0.025*	0.028**
					(0.013)	(0.013)
$\mathbf{1}(Sanction)_t$		-0.020		-0.009	-0.003	
		(0.018)		(0.027)	(0.016)	
$ln(Exch.Rate)_t$		0.004		-0.187*	-0.003	
		(0.025)		(0.109)	(0.028)	
$ln(StockIndex)_t$		-0.117**		-0.113	-0.115**	
		(0.046)		(0.088)	(0.045)	
$ln(Exch.Rate)_{t-1}$		-0.068**		0.129	-0.060*	
		(0.032)		(0.106)	(0.033)	
$ln(StockIndex)_{t-1}$		0.146***		0.213**	0.156***	
		(0.049)		(0.086)	(0.048)	
Macro Controls	No	Yes	No	Yes	Yes	No
Bank-time FE	Yes	Yes	Yes	Yes	Yes	Yes
Bank-country FE	Yes	Yes	Yes	Yes	No	No
Bank-country-exp mode FE	No	No	No	No	Yes	Yes
Country-time FE	No	No	No	No	No	Yes
Observations	135803	106891	34801	31039	138755	171355
R^2	0.875	0.887	0.878	0.885	0.890	0.895

Note: This table reports results from regressions at the bank-country-time level based on Equation (5) using the FFEIC 009 data for the sample period 1986:Q1 through 2022:Q4. $CGPR^N$ denotes the (recent) country-specific geopolitical risk index from Caldara and Iacoviello (2022). The dependent variable is log cross-border claims in Columns (1) and (2) and log local claims in Columns (3) and (4). Columns (1) and (3) show the baseline results for each dependent variable. Columns (2) and (4) add country-level macro controls, including a country's log exchange rate vis-à-vis the U.S. dollar, log domestic stock price index, and an indicator variable equal to 1 if the country faces any sanctions from the United States. Columns (1)–(4) include bank-country and bank-time fixed effects. Columns (5)–(6) pool total foreign exposure as the dependent variable and include an interaction between $CGPR^N$ and an indicator for local claims (equal to one for local claims, zero otherwise). Both specifications include bank-country-exposure mode type fixed effects, and Column (6) further adds country-time fixed effects. $CGPR^N$ is standardized by its respective standard deviation within the sample. Standard errors, shown in parentheses, are clustered at the country and time level. *$p < .1$; **$p < .05$; ***$p < .01$.

These developments underscore that even under acute geopolitical stress, global banks tend to preserve affiliate-based lending while retreating from cross-border exposures.[16]

Other risks and banks' foreign operations. Do banks adjust their foreign operations similarly to other forms of country risk? Or is geopolitical risk distinct? Table 3 explores whether broad country-specific economic risks generate similar asymmetric adjustments in the foreign operations of U.S. banks. Columns (1)–(2), (3)–(4), and (5)–(6) correspond to specifications using CRI, WUI, and log CDS spreads as the key regressors, respectively. Odd-numbered columns use log cross-border claims as the dependent variable, while even-numbered columns use log local claims. The results for CRI suggest a positive relationship with cross-border and local claims, though the effect of country risk on cross-border claims is not statistically significant. For WUI, the coefficients on both cross-border and local claims are small and statistically insignificant, suggesting that foreign exposures exhibit little sensitivity to broad country-level uncertainty. The results for CDS spreads show a negative relationship with cross-border and local claims, though only the effect on local claims is significant, while the effect on cross-border claims remains insignificant.[17]

Overall, the results suggest that country risk, broad uncertainty, and sovereign credit risk do not have strong or consistent effects on banks' cross-border and local exposures, in contrast to the clear and asymmetric response observed with geopolitical risk. While banks reduce cross-border exposures but maintain local exposures in response to geopolitical risk, their adjustments to other types of risk do not display this pattern.

Although both banks are reportedly still seeking opportunities to sell their Russian subsidiaries, any sale now requires approval from the Russian president and is likely to come at a hefty cost, further complicating their potential exit strategies. Citigroup responded to similar pressures by allowing business to run off over several years. In November 2025, the Russian president finally approved the sale of Citigroup's Russian unit for an undisclosed amount.

[16]For more information on the post-invasion operations of global banks in Russia, see articles including "Why Are Raiffeisen and Unicredit still in Russia?," Euromoney, October 4, 2022; "Western Banks Struggle to Exit Russia after Putin Intervention," Financial Times, January 16, 2023; and "Citigroup Expects $190 mln of Costs Tied to Russia Wind-down," Reuters, February 27, 2023. For a summary article on global banks' operations in Russia since the outbreak of the Russia–Ukraine War, see "European Banks Still in Russia: Should They Stay or Should They Go?" The Banker, March 17, 2023. Related information can also be found in the JPMorgan report titled "Global Banks: Russian Risk Assessment" from January 22, 2022, and in banks' quarterly earnings presentations and annual filings (see, e.g., Citigroup's 2022 10-K filing with the U.S. Securities and Exchange Commission.)

[17]Results remain consistent when alternative risk variables are included in log and level form, respectively.

Table 3: Other Country Risks and Banks' Foreign Operations

	(1)	(2)	(3)	(4)	(5)	(6)
$ln(exp_{bct})$	Cross-border	Local	Cross-border	Local	Cross-border	Local
CRI_{ct}	-0.004	0.021				
	(0.017)	(0.017)				
CRI_{ct-1}	0.008	0.036**				
	(0.016)	(0.018)				
WUI_{ct}			0.004	0.003		
			(0.005)	(0.007)		
WUI_{ct-1}			-0.007	0.004		
			(0.005)	(0.007)		
$ln(CDS_{ct})$					0.040	-0.037
					(0.039)	(0.042)
$\ln(CDS_{ct-1})$					-0.053	-0.145***
					(0.037)	(0.042)
Bank-country FE	Yes	Yes	Yes	Yes	Yes	Yes
Bank-time FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	53655	18940	127821	33810	60464	19961
R^2	0.917	0.904	0.876	0.877	0.914	0.903

Note: This table reports results from regressions at the bank-country-time level based on Equation (5) with alternative country-specific risk indices as the main regressor (instead of $CGPR$). The alternative indices include CRI by Hassan et al. (2023) (Columns (1) and (2)), WUI by Ahir et al. (2022) (Columns (3) and (4)), and log sovereign CDS spreads (Columns (5) and (6)). The dependent variable is the log cross-border claims in Columns (1), (3), and (5), and log local claims in Columns (2), (4), and (6). All regressions include bank-country and country-time fixed effects. All the risk indices are standardized by their respective standard deviations within the sample. Standard errors, shown in parentheses, are clustered at the country and time level. *$p < .1$; **$p < .05$; ***$p < .01$.

3.3 Geopolitical Risk and Banks' Domestic Lending

What are the implications of U.S. global banks' increased exposure to geopolitical risk through their foreign operations for domestic credit supply? To address this question, we examine the spillover effects of geopolitical risk abroad on banks' domestic lending. We also test whether banks' mode of operating abroad matters for these effects. In principle, when credit risk rises and banks do not divest from risky exposures, they need to adjust new lending to remain compliant with risk-based regulatory capital requirements.[18]

Loan-level analysis on origination. To assess how exposure to heightened geopolitical risk in banks' foreign operations relates to their domestic lending behavior, we first estimate the following specification at the loan level using the FR Y-14 data for the period 2014:Q1 through 2022:Q4:

$$ln(orig_{bit}) = \beta BGPR_{bt} + \delta Z_{bt} + \delta X_{bit} + \gamma_{it} + \alpha_b + \epsilon_{bit}, \tag{6}$$

where $orig_{bit}$ denotes the amount of loan origination by bank b to domestic firm i at time t, $BGPR_{bt}$ denotes $BGPR_{bt}^{N}$ or $BGPR_{bt}^{T}$, Z_{bt} denotes bank-level controls including liquid-asset ratio and Tier 1 capital ratio, X_{bit} denotes loan-level controls including maturity and interest rate, γ_{it} denotes firm-time fixed effects, and α_b denotes bank fixed effects. The regression sample is restricted to loans by U.S.-headquartered banks to U.S. firms.

Our coefficient of interest, β, measures the extent to which banks that experience an increase in geopolitical risk through their foreign exposures, as captured by the BGPR indices, adjust their loan origination to domestic firms, conditioning on the specified controls and fixed effects. As described in Section 2, the BGPR indices contain considerable variation, both across banks and over time, due to differences in the geographical origin and magnitude of their exposures, both of which fluctuate over time. Our estimation relies exclusively on cross-bank within-firm variation for identification, given the inclusion of firm-time fixed effects. This alleviates concerns about confounding factors from the demand side, such as changes in credit demand by firms in response to geopolitical risk.

[18]The model in Section 4.2 highlights the mechanisms through which rising geopolitical risk in foreign exposures leads banks to adjust their domestic lending.

Panel (a) of Table 4 reports the results. Columns (1) through (4) presents estimates using $BGPR^N$ as the main regressor, while Columns (5) through (8) use $BGPR^T$. Columns (1) and (5) include bank and firm-time fixed effects and incorporate both bank- and loan-level controls. The remaining columns further include alternative risk controls including bank-specific risk indices based on CRI (Columns (2) and (6)), WUI (Columns (3) and (7)), and sovereign CDS spread (Columns (4) and (8)), which are constructed following Equation (1).

The results show that U.S. banks significantly reduce loan origination to domestic firms in response to an increase in BGPR, whether measured by $BGPR^N$ or $BGPR^T$. The inclusion of firm-time fixed effects indicates that changes in credit demand are not a significant confounding factor. The coefficients remain stable when alternative risk controls are included, indicating that the effect of geopolitical risk on loan origination is not confounded by broader measures of financial and economic risk. This finding is consistent with our illustrations and results from Sections 2 and 3.2, respectively, which highlight that geopolitical risk is distinct from other types of risk. The consistency of these estimates across the two measures and various model specifications further reinforces the robustness of the results, confirming the significant impact of geopolitical risk on lending through banks' adjustments in credit supply. Based on the estimates in Columns (1) and (5), a one-standard-deviation increase in $BGPR$ reduces U.S. banks' loan origination to U.S. firms by 8 to 9 percent.[19]

Role of local versus cross-border foreign exposures. Next, we examine whether the reduction in domestic lending is more pronounced when geopolitical risk rises in markets where banks operate through affiliates relative to markets where banks only have cross-border operations. Since banks quickly reduce their cross-border exposures but keep lending through local affiliates (see Section 3.2), we conjecture that the effects on domestic lending are likely larger when risk rises in countries where banks have local affiliates.

We estimate Equation (6) using BGPR indices decomposed into two components that

[19]We also conducted analysis to test to which extend spillover results are driven by acts versus threats of geopolitical risk, using subcomponents of $CGPR^T$ indexes to construct $BGPR^{T(Act)}$, $CGPR^{T(Threat)}$, $BGPR^{T^{fin}(Act)}$, and $BGPR^{T^{fin}(Threat)}$. The results, presented in Appendix Table B.4, show that effects of foreign geopolitical risk on domestic lending are driven by geopolitical threats.

Table 4: Geopolitical Risk and U.S. Domestic Loan Origination, Loan Level

(a) Baseline

	$BGPR^N$				$BGPR^T$			
$ln(orig_{bit})$	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$BGPR^N_{bt}$	-0.093***	-0.066**	-0.095***	-0.093***				
	(0.029)	(0.031)	(0.029)	(0.029)				
$BGPR^T_{bt}$					-0.077***	-0.059***	-0.080***	-0.077***
					(0.019)	(0.021)	(0.019)	(0.019)
$BCRI_{bt}$		0.074**				0.071**		
		(0.033)				(0.033)		
$BWUI_{bt}$			-0.047				-0.049	
			(0.032)				(0.032)	
$BCDS_{bt}$				0.001				0.005
				(0.024)				(0.024)
Bank Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Loan Controls	No	Yes	Yes	No	Yes	Yes	Yes	Yes
Bank FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm-time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	175943	175943	175943	175943	175943	175943	175943	175943
R^2	0.617	0.617	0.617	0.617	0.617	0.617	0.617	0.617

(b) Cross-border vs. Local Exposure

$ln(orig_{bit})$	(1)	(2)	(3)	(4)	(5)	(6)
$BGPR^N_{bt}$(**1**(Local))	-0.064**	-0.064**			-0.063**	-0.062**
	(0.028)	(0.027)			(0.028)	(0.028)
$BGPR^N_{bt}$(**1**(Cross-border))			-0.009	-0.017	-0.004	-0.012
			(0.018)	(0.018)	(0.018)	(0.018)
R^2	0.594	0.594	0.594	0.594	0.594	0.594
$BGPR^T_{bt}$ (**1**(Local))	-0.065***	-0.062***			-0.071***	-0.068***
	(0.023)	(0.022)			(0.022)	(0.021)
$BGPR^T_{bt}$ (**1**(Cross-border))			-0.002	-0.002	0.013	0.013
			(0.017)	(0.017)	(0.017)	(0.016)
R^2	0.594	0.595	0.594	0.594	0.594	0.595
Bank Controls	No	Yes	No	Yes	No	Yes
Bank FE	Yes	Yes	Yes	Yes	Yes	Yes
Firm-time FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	205642	199753	205642	199753	205642	199753

Note: This table reports results from loan-level regressions with log loan origination amount ($orig$) as the dependent variable, using FR Y-14 data from 2014:Q1 through 2022:Q4. Panel (a) reports results from Equation (6). $BGPR^N$ denotes the bank-specific geopolitical risk index, constructed from $CGPR^N$ or the (recent) country-specific geopolitical risk index from Caldara and Iacoviello (2022) according to Equation (1). $BGPR^T$ denotes the bank-specific geopolitical risk index derived from $CGPR^T$, which is based on earnings call transcripts processed through the NL Analytics platform, capturing geopolitical risk perception by firms worldwide. Bank controls include Tier 1 capital ratio, liquid-asset ratio. Loan controls include interest rate and maturity. Alternative risk controls include bank-specific risk indices based on the country risk index ($BCRI$) by Hassan et al. (2023) and the World Uncertainty Index ($BWUI$) by Ahir et al. (2022), and sovereign CDS spread ($BCDS$). Panel (b) reports results from Equation (6) using $BGPR_{bt}$(**1**(Local)) and $BGPR_{bt}$(**1**(Cross-border)), constructed based on Equation (7). All the geopolitical risk indices are standardized by their respective standard deviations within the sample. Standard errors, shown in parentheses, are clustered at the bank and time level. *$p < .1$; **$p < .05$; ***$p < .01$.

separately capture exposure from local and cross-border claims:

$$BGPR_{bt}(\mathbf{1}(\text{Cross-border})) = \sum_{c} \mathbf{1}(\text{Cross-border})_{bct-1} \times \omega_{bct-1} CGPR_{ct}, \tag{7a}$$

$$BGPR_{bt}(\mathbf{1}(\text{Local})) = \sum_{c} \mathbf{1}(\text{Local})_{bct-1} \times \omega_{bct-1} CGPR_{ct}, \tag{7b}$$

where $\mathbf{1}(\text{Cross-border})_{bct}$ denotes a dummy variable equal to 1 if bank b has no local claims on country c at time t and 0 otherwise, and $\mathbf{1}(\text{Local})_{bct}$ is a dummy variable equal to 1 if bank b has non-zero local claims on country c at time t and 0 otherwise. All other variables are consistently defined as in Equation (1). If continued lending to risky countries is a key channel why foreign geopolitical risk affects domestic lending, the coefficients on $\mathbf{1}_(\text{Local})_{bct}$ should be negative and statistically significant, while those on $\mathbf{1}(\text{Cross-border})_{bct}$ are expected to be smaller in magnitude or insignificant.

Panel (b) of Table 4 presents the results. The top and bottom sections of the panel use $BGPR^N$ and $BGPR^T$ as the main regressor, respectively. Columns (1) and (2) include $BGPR_{bt}(\mathbf{1}(\text{Local}))$ as the regressor, without and with bank-level controls, respectively; Columns (3) and (4) include $BGPR_{bt}(\mathbf{1}(\text{Cross-border}))$ as the regressor; and Columns (5) and (6) include both as regressors. As shown in the top section of Columns (1) and (2), the coefficients on $BGPR^N_{bt}(\mathbf{1}(\text{Local}))$ are negative and significant, indicating that geopolitical risk, through banks' local exposure, plays a significant role in reducing domestic loan origination and driving the spillover effects. By contrast, the coefficients on $BGPR^N_{bt}(\mathbf{1}(\text{Cross-border}))$ are not statistically significant in Columns (3) and (4), suggesting that geopolitical risk transmits to domestic credit supply primarily through local affiliate exposure rather than cross-border operations. When both indices are included in the regression (Columns (5) and (6)), the coefficient on $BGPR^N_{bt}(\mathbf{1}(\text{Local}))$ continues to be negative and significant, confirming the role of foreign exposure through local claims in driving the spillover effects.

The results are both quantitatively and qualitatively similar when $BGPR^T$ is used as the main regressor, underscoring the robustness of the finding: Global banks with local affiliate exposure react more significantly to geopolitical shocks abroad, leading to a greater contraction in domestic lending. The distinction between affiliate-based and cross-border

exposure highlights the role of global banks' mode of operating abroad in shaping their responses to geopolitical risk and influencing its transmission to the domestic economy.

Bank-level analysis. In addition to the loan-level analysis, which allows us to control for potential demand-side responses by firms and isolate the supply effect, we conduct a bank-level analysis to assess whether this effect is substantial enough to be observed at the aggregate level. We estimate the following specification:

$$ln(orig_{bt}) = \beta_1 BGPR_{bt} + \beta_2 BGPR_{bt-1} + \delta Z_{bt-1} + \gamma_t + \alpha_b + \epsilon_{bit}, \tag{8}$$

where $orig_{bt}$ denotes the total amount of loan origination by bank b at time t, $BGPR_{bt}$ denotes $BGPR^N_{bt}$ or $BGPR^T_{bt}$, and the lagged BGPR indices are included to capture any persistent effects. Z_{bt} denotes bank-level controls including contemporaneous and lagged liquid-asset ratio and Tier 1 capital ratio, γ_t denotes time fixed effects, and α_b denotes bank fixed effects. The coefficients of interest, β_1 and β_2, capture the total spillover effects of foreign geopolitical risk on U.S. banks' domestic loan origination on average.

Panel (a) of Appendix Table B.3 shows that both $BGPR^N$ and $BGPR^T$ have negative and statistically significant coefficients of similar magnitude. Based on the estimates in Columns (1) and (5), a one-standard-deviation increase in $BGPR$ reduces U.S. banks' loan origination to U.S. firms by 22 to 25 percent on average.[20] This indicates that the spillover effects of foreign geopolitical risk on domestic credit markets through global banks are sizable enough to be observed at the aggregate level.

To shed light on the mechanism underlying these bank-level spillovers, Panel (b) of Appendix Table B.3 decomposes banks' geopolitical risk exposure into local and cross-border components, as done earlier for the loan-level regressions in Panel (b) of Table 4. The results show that only the local component is negatively and significantly associated with domestic loan origination, whereas the cross-border component is economically small and statistically insignificant. Consistent with the loan-level evidence, these findings indicate further that the transmission of geopolitical risk to U.S. credit supply occurs largely through banks' foreign affiliates rather than through direct cross-border lending.

[20]This appears large but only corresponds to 10 percent of one standard deviation of log loan origination.

Role of capital and profitability positions. Banks with stronger capitalization and higher profitability are expected to better buffer the spillover effects of geopolitical risk. Additional capital, including through retained earnings, improves banks' lending capacity potentially and offsets negative effects from higher risk-weighted assets due to geopolitical risk. To test this, we estimate bank-level regressions where domestic loan origination is the dependent variable, and the BGPR indices and their interactions with either a bank's lagged Tier 1 capital ratio or lagged return on average assets (ROAA) are the key regressors. If capital strength or profitability mitigates the spillover effect of geopolitical risk on domestic lending, the coefficients on these interaction terms should be positive, indicating that better-capitalized or more profitable banks reduce loan origination less when geopolitical risk abroad increases.

Table 5 reports the results. Columns (1) and (2) present estimates for the role of capital positions using $BGPR^N$ and $BGPR^T$ as the regressor, respectively, while Columns (3) and (4) present the results for profitability. The positive coefficients on the interaction terms support the conjecture that stronger capital and profitability positions help banks absorb the spillover effects of geopolitical risk.

Domestic lending standards. To complement the loan origination analysis, we also examine how geopolitical risk influences U.S. banks' domestic lending standards using data from the SLOOS. This dataset provides a longer time series and broader bank coverage than the FR Y-14, enabling us to evaluate the robustness and persistence of the spillover effects over more than three decades, beginning in 1990. The details of the analysis are provided in Appendix Section B.2. As shown in Appendix Table B.5, higher bank-specific geopolitical risk is associated with a significant tightening of lending standards for domestic C&I loans. This tightening is driven primarily by banks' exposure through foreign affiliates rather than through cross-border operations, consistent with the loan origination results.

Table 5: Role of Capital and Profitability Positions

$ln(orig_{bt})$	(1)	(2)	(3)	(4)
$BGPR^N_{bt}$	-0.881**		-0.107	
	(0.366)		(0.103)	
$BGPR^T_{bt}$		-0.281		-0.271***
		(0.234)		(0.079)
$BGPR^N_{bt}$ x Capital_{bt-1}	0.053**			
	(0.023)			
$BGPR^T_{bt}$ x Capital_{bt-1}		0.011		
		(0.015)		
$BGPR^N_{bt}$ x ROAA_{bt-1}			0.011	
			(0.038)	
$BGPR^T_{bt}$ x ROAA_{bt-1}				0.153***
				(0.039)
Bank Control	Yes	Yes	Yes	Yes
Bank FE	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes
N	477	477	477	477
R^2	0.952	0.953	0.952	0.954

Note: This table reports regression results with log loan origination amount ($orig$) as the dependent variable using data from FR Y-14 for the sample period 2014:Q1 through 2022:Q4. Columns (1) and (2) of Panel (a) include $BGPR^N$ or $BGPR^T$, lagged Tier 1 capital ratio, and their respective interactions as key regressors in bank-level regressions. Columns (3) and (4) includes $BGPR^N$ or $BGPR^T$, lagged return on average assets (ROAA), and their respective interactions as key regressors. $BGPR^N$ denotes the bank-specific geopolitical risk index, constructed from $CGPR^N$ or the (recent) country-specific geopolitical risk index from Caldara and Iacoviello (2022) according to Equation (1). $BGPR^T$ denotes the bank-specific geopolitical risk index derived from $CGPR^T$, which is based on earnings call transcripts processed through the NL Analytics platform, capturing geopolitical risk perception by firms worldwide. Bank control includes lagged liquid-asset ratio for Columns (1) and (2) and, in addition, lagged Tier 1 capital ratio in Columns (3) and (4). All the geopolitical risk indices are standardized by their respective standard deviations within the sample. Standard errors, shown in parentheses, are clustered at the bank and time level. *$p < .1$; **$p < .05$; ***$p < .01$.

4 Understanding Mechanisms

This section sheds light on key mechanisms that help explain why banks respond differently across foreign operation modes when geopolitical risk rises, and how these differences shape the transmission of that risk to domestic lending. While other factors may also play a role, we highlight two novel elements: (i) the potential for political interventions targeting foreign institutions when geopolitical tensions intensify, which makes geopolitical risk distinct from other risks; and (ii) differences in funding structures between cross-border and local operations, with local affiliates relying in part on local deposits. Local deposits act as loss absorbers under political actions against banks, making affiliate operations more viable under geopolitical risk. After presenting qualitative and quantitative evidence that these two elements matter for bank behavior, we develop a theoretical model of global banking under rising geopolitical risk that formalize these mechanisms and helps rationalize our empirical findings.

4.1 Qualitative and Quantitative Evidence

The risk of political actions against foreign banks Historical evidence shows that geopolitical risk increases the risk of political intervention against foreign banks, especially when the banks' home countries are not politically aligned with the country in conflict. Such interventions include capital controls, restrictions on profit repatriation, windfall taxes, asset freezes, and, in extreme cases, the expropriation of foreign banks. Appendix C.2 summarizes historical episodes of such interventions, ranging from capital and profit-transfer restrictions in Russia following the 2014 annexation of Crimea and in Iran during the 2012 and 2018 sanctions episodes, to the expropriation of foreign banks in Egypt after the 1956 Suez Crisis, in Cuba after the 1960 Revolution, and, more recently, in Russia following the 2022 invasion of Ukraine. The possibility of these targeted and sometimes extreme actions distinguishes geopolitical risk from conventional economic risks.

The role of foreign liabilities in mitigating losses When geopolitical actions target banks, funding structures matter for the actual losses banks incur. Discussions of potential

losses of Western banks operating in Russia around the time of its invasion of Ukraine make this clear. For instance, JPMorgan's report *Global Banks: Russian Risk Assessment* (January 25, 2022) analyzes Western banks' funding dependencies between parent banks and their Russian operations. It notes that, at the onset of the Russia-Ukraine war, UniCredit was a net borrower from its Russian subsidiary. This arrangement would limit potential losses in a worst-case scenario of expropriation, since the parent bank would not be required to repay the intragroup loan.[21]

While cross-border operations are typically funded by the parent bank, foreign affiliates also raise funds in local markets. This local funding helps limit losses when geopolitical tensions intensify and political actions are taken. RBI's 2022:Q1 financial report emphasizes the strategic importance of self-funding in local operations for limiting the bank's exposure to geopolitical risks:

> *Naturally, we did not foresee a military conflict such as the one we are currently witnessing. We have however...ensured that [RBI's subsidiaries] are self-financing, allowing only a restricted amount of cross-border financing.*

UniCredit's 2022 earnings presentations also explicitly outline a strategy that minimizes net exposure to Russia by reducing cross-border operations, as discussed in Section 3.2, while allowing its subsidiary to operate on a stand-alone basis.

To summarize, geopolitical risk increases the risk of political interventions targeting foreign banks, particularly when these banks are from geopolitically opposed countries. When banks operate through affiliates, they tend to be less exposed to these actions because affiliate activities are typically funded with local liabilities, which can help limit potential losses. This mechanism helps explain why banks continue operating local affiliates but withdraw cross-border operations when geopolitical risk rises.

Testing the role of local liabilities in withdrawal decisions Motivated by the anecdotal evidence, we examine whether local funding systematically influences how banks adjust their local and cross-border exposures in response to rising geopolitical risk. If local funding

[21]Specifically, the JPMorgan report states: "For UniCredit Group the capital impact would be non-material as they benefit from the write-back on the intragroup funding of the subsidiary to the group."

provides a buffer, then banks with a larger share of local liabilities in a market should be less likely to scale back operations when geopolitical risk increases. To test this conjecture, we gather data on local liabilities from FFIEC 009 reports and augment Equation (5) with interaction terms between $CGPR$ and each bank's lagged local liability shares (local liabilities divided by total claims), calculated as four-quarter moving averages. The coefficients on these interactions measure how local funding affects the sensitivity of foreign exposure to geopolitical risk.

Panel (a) of Table 6 reports the results. Columns (1)–(2) present results from regressions with banks' log total foreign exposures as the dependent variable. Columns (3)–(4) and Columns (5)–(6) use log local and cross-border exposures as the dependent variables, respectively. Even-numbered columns include macro control variables.

When total foreign exposures are used as the dependent variable, the coefficients on the interaction terms are positive and statistically significant, indicating that banks with larger local funding shares reduce their overall foreign exposures less in response to heightened geopolitical risk. This mitigating effect is primarily driven by local exposures: in Columns (3) and (4), the interaction coefficients remain positive and significant. By contrast, in Columns (5) and (6), where cross-border exposures are the dependent variable, the interaction coefficients are not statistically different from zero, indicating that the cushioning effect of local funding is specific to local operations rather than cross-border positions.[22]

We also test whether local funding influences banks' foreign lending responses to other types of risk. As discussed, political actions against banks arise primarily under escalating geopolitical tension, so local funding should matter less under other risk scenarios. Panel (b) of Table 6 reports the results, using the CRI, WUI, and sovereign CDS spreads as alternative measures of country-level risk. The findings show that, unlike in the case of geopolitical risk, local funding positions do not significantly affect how banks adjust their foreign exposures when facing these other risks. This is consistent with local funding serving a loss-absorbing role mainly when political actions against banks are plausible, as is the case under geopolitical

[22]We also test the robustness of these results in Panel (a) of Appendix Table C.1 using an alternative measure of local liabilities: for each bank, we interact $CGPR$ with the lagged local liability position, measured as a four-quarter moving average (in logs). The coefficient on this interaction term estimates the extent to which a larger local funding position affects the sensitivity of foreign exposures to geopolitical risk. The results are qualitatively similar.

risk.

Finally, political actions against U.S. banks are more likely when geopolitical risk increases in countries that are political adversaries of the United States. Accordingly, we expect local liabilities to play a more important role in banks' withdrawal decisions when geopolitical risk rises in countries that are not politically aligned with the United States. To test this hypothesis, we examine whether the role of local funding in shaping U.S. global banks' responses to geopolitical risk abroad depends on the degree of geopolitical alignment between the United States and the host countries. We construct a measure of *alignment distance* based on countries' ideal points from UNGA voting provided by Bailey et al. (2017). Following Gopinath et al. (2025) and Ayyagari et al. (2025), for each country c and quarter t, we compute the absolute difference between the U.S. and country c's ideal points, $|\text{IPD}_{\text{US},t} - \text{IPD}_{c,t}|$, and classify countries as *less aligned* when this distance exceeds the 75th percentile of the cross-country distribution in that period:

$$\text{LessAligned}_{ct} = \mathbf{1}\left(|\text{IPD}_{\text{US},t} - \text{IPD}_{c,t}| > \text{P}_{75,t}\right).$$

We replicate the regression specification from Table 6—which relates $CGPR$ and each bank's lagged local liability share to changes in local and cross-border exposures—but estimate it separately for more and less aligned countries.[23] Table 7 presents these results. Columns (1) and (3) report results for countries more geopolitically aligned with the United States, and Columns (2) and (4) for less aligned countries. Comparing across these groups allows us to assess whether the possible stabilizing role of local funding is concentrated in geopolitically unaligned markets, where the risk of political intervention is greater.

Consistent with the proposed mechanism, we find that the interaction between local funding and geopolitical risk is significantly stronger in geopolitically unaligned countries. Banks are less likely to withdraw from these markets when their operations are funded through local liabilities, indicating that local funding mitigates potential losses associated with political intervention measures under heightened geopolitical risk.

[23]Appendix Table C.2 reports results from an alternative specification where the *less aligned* indicator is incorporated as a triple interaction with $CGPR$ and each bank's lagged local liability share within a single regression. The results are qualitatively similar.

Table 6: Banks' Foreign Response to Risks, by Ex Ante Local Liability Share

(a) Geopolitical Risk

	Total Exp.		Local		Cross-border	
	(1)	(2)	(3)	(4)	(5)	(6)
$CGPR^N_{ct}$	-0.018**	-0.021**	0.003	0.001	-0.027***	-0.030***
	(0.009)	(0.010)	(0.015)	(0.016)	(0.010)	(0.010)
$CGPR^N_{ct} \times LL^{Shr}_{bct-1}$	0.003	0.001	0.013	0.015	-0.013	-0.013
	(0.005)	(0.005)	(0.011)	(0.011)	(0.009)	(0.009)
$CGPR^N_{ct-1}$	-0.014	-0.019*	0.004	0.001	-0.019*	-0.023**
	(0.009)	(0.010)	(0.014)	(0.015)	(0.010)	(0.012)
$CGPR^N_{ct-1} \times LL^{Shr}_{bct-2}$	0.015***	0.014***	0.026**	0.027**	-0.005	-0.004
	(0.006)	(0.006)	(0.012)	(0.012)	(0.008)	(0.009)
Macro Controls	No	Yes	No	Yes	No	Yes
Bank-country FE	Yes	Yes	Yes	Yes	Yes	Yes
Bank-time FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	94336	77649	30303	27420	93173	76556
R^2	0.911	0.919	0.886	0.894	0.891	0.900

(b) Other Risks

	CRI		WUI		CDS	
	(1) LC	(2) XB	(3) LC	(4) XB	(5) LC	(6) XB
CRI_t	0.022	-0.014				
	(0.018)	(0.016)				
$CRI_t \times LL^{Shr}_{bct-1}$	-0.003	0.002				
	(0.012)	(0.008)				
CRI_{t-1}	0.029	-0.006				
	(0.019)	(0.015)				
$CRI_{t-1} \times LL^{Shr}_{bct-2}$	0.016	0.005				
	(0.014)	(0.007)				
WUI_t			0.003	0.007		
			(0.008)	(0.005)		
$WUI_t \times LL^{Shr}_{bct-1}$			0.007	-0.006**		
			(0.006)	(0.003)		
WUI_{t-1}			0.004	-0.004		
			(0.008)	(0.005)		
$WUI_{t-1} \times LL^{Shr}_{bct-2}$			0.002	0.001		
			(0.006)	(0.003)		
$ln(CDS_t)$					-0.012	0.033
					(0.049)	(0.051)
$ln(CDS_t) \times LL^{Shr}_{bct-1}$					0.027*	-0.003
					(0.015)	(0.012)
$ln(CDS_{t-1})$					-0.199***	0.050
					(0.049)	(0.046)
$ln(CDS_{t-1}) \times LL^{Shr}_{bct-2}$					-0.002	-0.000
					(0.016)	(0.011)
Macro Controls	Yes	Yes	Yes	Yes	Yes	Yes
Bank-country FE	Yes	Yes	Yes	Yes	Yes	Yes
Bank-time FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	16049	39752	26518	73944	17056	43803
R^2	0.913	0.925	0.893	0.900	0.911	0.924

Note: This table reports results from bank-country-time level regressions based on an augmented version of Equation (5), using the FFEIC 009 data for 1986:Q1 through 2022:Q4. Panel (a) uses $CGPR^N$, the (recent) country-specific geopolitical risk index from Caldara and Iacoviello (2022), and the share of local liabilities in total claims, $LL^{Shr}bct-1$ and $LL^{Shr}bct-2$, calculated as four-quarter moving averages, along with their interactions as the main regressors. The dependent variable is the log total foreign claims in Columns (1) and (2), log local claims in Columns (3) and (4), and log cross-border claims in Columns (5) and (6). Columns (1), (3), and (5) show the baseline results for each dependent variable. Even-numbered columns add country-level macro controls, including a country's log exchange rate vis-à-vis the U.S. dollar, log domestic stock price index, and a U.S. sanctions indicator. Panel (b) replaces $CGPR^N$ with alternative country-specific risk indices—Hassan et al. (2023)'s CRI (Columns (1)–(2)), Ahir et al. (2022)'s WUI (Columns (4)–(6)), and log sovereign CDS spreads (Columns (7)–(9))—and their interactions as the main regressors. The dependent variable is log local claims in Columns (1), (3), and (5), and log cross-border claims in Columns (2), (4), and (6). All regressions include bank-country and country-time fixed effects. All risk indices are standardized by their respective standard deviation within the sample. Standard errors, shown in parentheses, are clustered at the country and time level. *$p < .1$; **$p < .05$; ***$p < .01$.

Table 7: Banks' Foreign Response to Risks, by Ex Ante Local Liability Share and Geopolitical Alliance

	Local		Cross-border	
	(1) More Aligned	(2) Less Aligned	(3) More Aligned	(4) Less Aligned
$CGPR^N_{ct}$	0.000	0.047**	-0.026***	0.023
	(0.016)	(0.021)	(0.008)	(0.023)
$CGPR^N_{ct} \times LL^{Shr}_{bct-1}$	0.012	0.204***	-0.010	-0.070*
	(0.010)	(0.044)	(0.009)	(0.038)
$CGPR^N_{ct-1}$	0.000	0.049**	-0.021**	0.010
	(0.015)	(0.021)	(0.009)	(0.019)
$CGPR^N_{ct-1} \times LL^{Shr}_{bct-2}$	0.028**	0.134***	-0.004	-0.018
	(0.012)	(0.046)	(0.008)	(0.033)
LL^{Shr}_{bct-1}	-0.008	0.258	-0.020**	-0.189
	(0.011)	(0.222)	(0.010)	(0.197)
LL^{Shr}_{bct-2}	0.025*	0.043	0.011	-0.148
	(0.013)	(0.225)	(0.009)	(0.199)
Macro Controls	Yes	Yes	Yes	Yes
Bank-country FE	Yes	Yes	Yes	Yes
Bank-time FE	Yes	Yes	Yes	Yes
Observations	20511	6409	59859	15014
R^2	0.895	0.938	0.906	0.913

Note: This table reports results from subsample regressions at the bank-country-time level based on an augmented version of Equation (5), using the FFEIC 009 data for the sample period 1986:Q1 through 2022:Q4. Columns (1) and (3) ((2) and (4)) use subsamples of countries more (less) geopolitically aligned with the U.S., based on ideal point distance from Bailey et al. (2017) according to UN voting patterns. More (less) alignment is defined as countries with an absolute ideal point difference $\leq$ ($>$) 75th percentile from the U.S. in each period. The regressors are $CGPR^N$, the (recent) country-specific geopolitical risk index from Caldara and Iacoviello (2022), LL^{Shr}_{bct-1}, the local liabilities for bank b from country c as a share of its total lending to that country, calculated as a four-quarter moving average from $t-4$ to $t-1$, and their interactions. The dependent variable is the log local claims in Columns (1) and (2) and log cross-border claims in Columns (3) and (4). All regressions include bank-country and country-time fixed effects, and country-level macro controls, including a country's log exchange rate vis-à-vis the U.S. dollar, log domestic stock price index, and an indicator variable equal to 1 if the country faces any sanctions from the United States. All risk indices are standardized by their respective standard deviation within the sample. Standard errors, shown in parentheses, are clustered at the country and time level. *$p < .1$; **$p < .05$; ***$p < .01$.

To be clear, we do not claim that the risk of political intervention against banks along with differences in funding structure fully explain the the empirical findings presented in Section 3. We highlight this mechanism because it reveals a previously overlooked yet important channel through which geopolitical tensions affect global banking. In the following subsection, we incorporate this feature into a stylized model to illustrate how the mechanism operates.

4.2 A Model of Global Banking under Geopolitical Risk

Setup. The model consists of three periods and a global bank that makes investment decisions. At $t = 0$, the bank decides how much to invest abroad and at home. It can invest a fixed amount L^* abroad for two periods and a variable amount L domestically for one

period, with the option to reinvest in domestic assets at $t = 1$.

The return on the foreign two-period investment is uncertain. At $t = 0$, the probability of success is high (p^G) with probability $(1 - \phi)$ and low (p^B) with probability ϕ. These good (G) and bad (B) states correspond to states of low and high geopolitical risk, respectively. At $t = 1$, the bank learns whether geopolitical risk is high or low, which determines the probability of success of its foreign investment: If geopolitical risk is high, the probability of success is low and $p = p^B$; if geopolitical risk is low, the probability of success is high and $p = p^G$. At $t = 2$, geopolitical risk either materializes or does not. If it does not materialize, the foreign investment succeeds and pays R^*. If geopolitical risk materializes, the investment yields a lower return τR^{W*}, where $R^{W*} < R^*$ and $0 \leq \tau < 1$. R^{W*} may result from a wide range of geopolitical disruptions including an economic downturn from rising uncertainty. τ captures the degree of intervention by the foreign country that affects the bank's payout in this state of the world, as discussed in Section 4.1 and Appendix Section C.2. For simplicity, we do not model domestic geopolitical risk. Domestic investment is assumed to be risk-free, yielding a guaranteed return of R at both $t = 1$ and $t = 2$.

The bank has an initial equity endowment E_1 at $t = 0$ and is subject to a leverage constraint that closely follows the formulation of minimum regulatory capital ratios under Basel III. Specifically, the bank's equity-to-risk-weighted assets ratio must remain above a constant threshold μ:

$$\frac{E_1}{L_1 + L^* \alpha(\phi, p^G, p^B)} \geq \mu, \tag{9}$$

where $\alpha(\phi, p^G, p^B) > 1$ is the risk weight on the foreign investment L^*, which decreases with ϕ, p^G, and p^B.

The effect of heightened geopolitical risk abroad on capital constraints in the model maps actual regulatory practice. As shown in Section 3.1, geopolitical risk increases the probability of default on loans extended to borrowers in affected countries. Since default probability directly influences the risk weights assigned to loans, rising geopolitical risk effectively results in higher capital requirements for foreign exposures.[24] By contrast, the

[24]This increase in risk-weighted assets applies to both modes of foreign exposure—cross-border lending and exposures held through foreign affiliates—because material foreign branches and subsidiaries are consolidated with the parent bank's balance sheet for capital regulation purposes. For U.S. banks, an increase in risk-weighted assets may also result in higher projected losses under regulatory stress tests, further increasing

risk weight on the domestic, risk-free investment is set to 1.

We assume $L^* < \frac{E_1}{\alpha\mu}$, ensuring that the fixed foreign investment L^* does not exceed the bank's total lending capacity given the risk weights on foreign assets and allowing room for domestic investment. Additionally, we assume that foreign investment is preferable to investing solely in the domestic asset, which holds if $(1-\phi)p^G R^*$ is sufficiently high.

Because L^* and E_1 are fixed, the equity constraint pins down L_1:

$$L_1 = \frac{E_1 - \mu L^* \alpha(\phi, p^G, p^B)}{\mu}.$$

To finance its investments, the bank borrows $D_1 = L_1 + L^* - E_1$ from depositors at an exogenous interest rate $i < R$.[25] The funding is for one period but can be rolled over at $t = 1$ at the same rate. At $t = 1$, the bank learns the probability of success of its foreign investment and may choose to liquidate early, recovering δL^*, where $\delta < 1$. This option allows the bank to withdraw from foreign operations in response to rising geopolitical risk, albeit at a cost. While early liquidation results in a direct loss, it eliminates risk exposure and reduces risk-weighted assets, thereby enhancing the bank's domestic lending capacity.

Two modes of foreign operations. The bank can choose between two modes of foreign operation: cross-border investment (X), whereby it lends directly from its home country, or local investment (A), whereby it lends through a locally established affiliate in the foreign country. Establishing a local affiliate entails a non-pecuniary fixed cost $\kappa > 0$.[26] When conducting cross-border operations, the bank raises funding domestically. By contrast, when operating as a local affiliate, it raises part of its funding, D_t^*, in the foreign market and the remainder, $D_t - D_t^*$, at home.[27] We assume that the foreign and domestic interest rates on deposits are equal.

We also assume identical liquidation costs for cross-border and local operations. In reality,

the parent bank's capital requirements.

[25] While we refer to the bank's external liabilities as "deposits," these can represent any form of debt, including wholesale funding.

[26] This fixed cost is consistent with the literature, such as Niepmann (2023), and helps explain why banks may prefer cross-border operations over establishing a foreign affiliate.

[27] D_t^* is assumed to be exogenous for simplicity. Alternatively, foreign funding could be modeled as proportionate to the amount of foreign lending.

they may differ, which could further explain differences in withdrawal behavior across modes under geopolitical risk.[28] We deliberately shut down other potential channels that might also differentiate the two modes in order to highlight the role of funding structure. In the model, differences in expected returns across modes arise only from the payoff at date $t = 2$, when the geopolitical risk event materializes. In that state, the existence of local deposits reduces the losses under the affiliate mode. This difference alone is sufficient to generate patterns consistent with the key empirical findings of this paper.

The role of foreign funding in mitigating losses When the foreign investment continues and is not liquidated (C), the bank's profits at $t = 2$, as expected at $t = 1$, under cross-border investment are:

$$\pi_2^{X,C} = pR^*L^* + (1-p)\tau R^{W*} + L_2^C R - D_2^C i. \tag{10}$$

The bank realizes a high (R^*) or a low (τR^{W*}) return on the foreign investment depending on whether geopolitical risk materializes at $t = 2$. $L_2^C R$ represents the return the bank earns on the domestic investment at $t = 1$, and the bank repays its domestic depositors in both states. Note that the superscript associated with p is suppressed because the expression applies to both the good and bad states of the world.

The bank's expected profits at date $t = 2$ when it continues operating through a local affiliate are:

$$\pi_2^{A,C} = pR^*L^* + (1-p)\tau R^{W*} + L_2^C R - D_2^C i + (1-p)D_2^* i(1-\tau) > \pi_2^{X,C}. \tag{11}$$

The expected return under the affiliate mode exceeds that of the cross-border mode by $(1-p)D_2^* i(1-\tau)$. If geopolitical risk materializes, the burden to repaying foreign depositors is reduced by a factor of $(1-\tau)$.

[28] We assume equal liquidation costs to isolate the role of differences in funding structures in shaping withdrawal decision when geopolitical risk rises. If local operations entail higher liquidation costs than cross-border operations, differences in withdrawal behavior would be even more pronounced. If liquidation costs were the only distinction between the two modes (in the absence of funding differences), most model predictions would still hold except for Proposition 1(b): When liquidation costs alone drive differences in withdrawal decisions, the difference in liquidation thresholds is no longer a function of p.

This algebraic formulation captures different forms of political intervention under geopolitical risk. As discussed in the previous subsection, historical evidence shows that the likelihood of political interventions targeting foreign institutions increases when geopolitical tensions intensify. In the extreme case of expropriation, assets are seized and the bank is no longer liable for foreign deposits, implying $\tau = 0$. Softer forms of state intervention, such as capital controls, profit repatriation limits, and windfall taxes targeting foreign institutions, imply $0 < \tau < 1$. For example, suppose repatriating funds becomes costly when geopolitical risk materializes, so that only τ units of funds reaches the home country. In this case, local deposits that can be repaid before profits are repatriated reduce the amount that must be transferred, saving the bank $D_2^* i(1-\tau)$. More broadly, any mechanism that lowers the bank's effective debt burden through local deposits during a geopolitical risk event can be subsumed within this model.

For simplicity, we set $\tau = 0$ from this point onward. The model's predictions remain intact for $0 < \tau < 1$ and sufficiently small, non-negative values of R^{W*}.

Foreign operations under geopolitical risk. Having established the key differences between the two modes of foreign operation, we now solve the model to analyze how the bank adjusts its cross-border and affiliate investments in response to heightened geopolitical risk, with the goal of clarifying the mechanisms that drive these responses and connecting them to the empirical patterns documented in the previous section.

As discussed earlier, period-2 payouts expected at $t = 1$ are higher by $(1-p)D_2^* i$ with $\tau = 0$ under the affiliate mode relative to the cross-border mode, owing to the loss-limiting role of foreign deposits. Under liquidation, however, profits realized at $t = 2$ are identical across both modes. This follows because δ is the same in both cases, and investments in the domestic asset at $t = 0$ and $t = 1$ are equal. Specifically, $\pi_2^{X,L} = \pi_2^{A,L} = RL_2^L - iD_2^L$, where L_2^L denotes the investment in the domestic asset at $t = 1$ under liquidation (L). Investment decisions are the same because they are governed by the leverage constraint, which is independent of D_t (and D_t^*).

Since expected profits under continuation are relatively higher than under liquidation when the bank operates through an affiliate, the bank has a stronger incentive to continue

with its foreign investment in this case. By contrast, liquidation is relatively more attractive under the cross-border mode. Proposition 1 summarize differences in liquidation incentives across the two modes.

PROPOSITION 1. *Let $\hat{\delta}$ denote the threshold value of δ at which the bank is indifferent between liquidating or continuing its foreign investment at $t = 1$.*

(a) Since $\pi_2^{A,C} > \pi_2^{X,C}$ and $\pi_2^{X,L} = \pi_2^{A,L}$, it follows that $\hat{\delta}^A > \hat{\delta}^X$. In other words, the threshold δ required for liquidation is higher when the bank operates through a foreign affiliate than when it invests cross-border.

(b) The difference in liquidation thresholds, $\Delta\hat{\delta} = \hat{\delta}^A - \hat{\delta}^X$, increases as p decreases. That is, the lower the probability of success p, the larger the difference between the two liquidation thresholds.

(c) The difference in liquidation thresholds, $\Delta\hat{\delta} = \hat{\delta}^A - \hat{\delta}^X$, increases as D_2^* increases. That is, the more funding the bank raises in the foreign market, the larger the difference between the two liquidation thresholds.

Proof. See Appendix C. □

Proposition 1 shows that, for the same liquidation cost δ, banks are less likely to liquidate investments in a foreign affiliate than in cross-border operations. The model can thus help explain the empirical finding from Section 3.2 that banks reduce exposures primarily through cross-border lending while maintaining affiliate-based lending when geopolitical risk increases.[29]

Furthermore, Proposition 1(b) stipulates that as geopolitical risk increases (reflected in a lower p), the divergence between liquidation decisions for cross-border and affiliate investments becomes more pronounced. This proposition helps clarify how geopolitical risk differs from other types of risk. When geopolitical risk increases, the loss-absorbing role of local liabilities becomes increasingly important, lending to greater divergence in withdrawal decisions between the cross-border and affiliate modes. By contrast, when sovereign or economic risk incrases, banks may incur losses, but their obligations to foreign creditors remain. Therefore,

[29] As discussed, while it is plausible that liquidating local affiliate operations is more costly than liquidating cross-border activities, the model predicts a higher likelihood of cross-border activities being liquidated even without this assumption.

banks' responses to sovereign and economic risk tend to be more symmetric across cross-border and local operations, with local liabilities playing no role in withdrawal decisions, consistent with the empirical evidence in Sections 3.3 and 4.1.

Spillovers of geopolitical risk into domestic operations Next, we use the model to analyze the implications of rising geopolitical risk abroad for domestic lending. The bank's equity position and the riskiness of its investments determine its domestic lending at $t = 1$. When the bank liquidates its foreign investment, its equity is given by $E_2^L = \delta L^* + R_1 L_1 - D_1 i$, where $R_1 L_1 - D_1 i$ captures earnings from domestic investment at $t = 1$. If the bank does not liquidate, its equity is $E_2^C = L^* + R_1 L_1 - D_1 i$, which satisfies $E_2^C > E_2^L$, indicating that liquidation results in a lower equity position.

Although liquidation reduces the bank's equity, it also frees up leverage capacity, as the risk weight on domestic investment is 1, whereas the risk weight on the riskier foreign investment is higher. As a result, domestic lending following liquidation is given by:

$$L_2^L = \frac{\delta L^* + R_1 L_1 - D_1 i}{\mu}.$$

If geopolitical risk turns out to be high at $t = 1$ and the bank does not liquidate, its borrowing capacity shrinks relative to the good state of the world due to the increase in foreign risk-weighted assets $L^* \alpha(p)$:

$$L_2^C = \frac{L^* + R_1 L_1 - D_1 i - \mu L^* \alpha(p)}{\mu}.$$

The effects of geopolitical risk on domestic lending are summarized in the following proposition:

PROPOSITION 2. *(a) $L_2^{G,C} > L_2^{B,C}$. Domestic lending under continuation is higher in the good state of the world with low geopolitical risk than in the bad state with high geopolitical risk.*

(b) $L_2^L > L_2^{B,C}$ if $\delta > 1 - \alpha(p)\mu$. Domestic lending is higher when the bank liquidates its foreign investment at $t = 1$ than when it continues its foreign operation, provided that the reduction in borrowing capacity from higher foreign risk-weighted assets due to geopolitical risk exceeds the combined effect of the equity loss and the decrease in risk-weighted assets under liquidation.

(c) $L_1 > L_2^{B,C}$ *if* $\frac{(R_1-1)L_1-(i-1)D_1}{\mu} < (\alpha(p^B) - \alpha(\phi, p^B, p^G))L^*$. $L_2^{G,C} > L_1$ *always holds. In other words, domestic lending contracts at* $t = 1$ *in the bad state of the world relative to* $t = 0$ *if the positive effect of increased equity from domestic investment realized in* $t = 1$ *on leverage is sufficiently small relative to the increase in foreign risk-weighted assets. Domestic lending always expands in the good state of the world.*

Proof. See Appendix C. □

Proposition 2 highlights that heightened geopolitical risk abroad reduces domestic lending when banks do not divest, generating spillover effects from foreign geopolitical risk into domestic credit supply. Whether domestic lending is higher under liquidation or continuation of the foreign investment depends on the cost of liquidation. When banks liquidate foreign investment, they free up lending capacity due to lower risk weights and reallocate lending capacity from the foreign to the home country. As long as the liquidation cost is relatively low and banks can recover sufficient capital, the negative spillover effects on domestic credit supply remain limited. As a result, spillovers to domestic lending are smaller under liquidation than under continuation. Since banks with foreign affiliates are less likely to liquidate, spillover effects tend to be stronger for banks operating through affiliates than those relying on cross-border lending.

Furthermore, when geopolitical risk increases, domestic lending declines relative to the previous period—unless banks generate sufficient domestic profits to counteract the negative spillover effects. Lower capital requirements (in the form of a lower μ) could further mitigate these spillovers. Banks typically hold capital buffers above the regulatory minimum, providing some flexibility to absorb shocks without immediately constraining lending. Instead of depending on regulatory intervention to ease capital requirements, banks may choose to draw down their excess buffers to sustain domestic lending in the face of heightened geopolitical risk. This channel helps explain our empirical finding that more profitable and better capitalized banks reduce lending less than more capital-constrained banks when geopolitical risk increases.

As discussed earlier, other plausible mechanisms may also help explain why banks withdraw from cross-border operations but maintain local operations when risk rises—for example, differences in liquidation costs. In fact, a model with lower funding costs abroad but higher liquidation costs for affiliate lending relative to cross-border lending, and with $\tau = 1$

generate similar differences in withdrawal decisions and spillovers across modes. However, the anecdotal and empirical evidence points to funding structures playing a key role when geopolitical tensions rise, especially when there is a risk that host countries take actions against foreign banks. The model presented here highlights this novel mechanism.

5 Conclusions

This paper studies how banks manage exposure to foreign geopolitical risk. When credit risk in foreign operations increases due to rising geopolitical tensions, banks tend to withdraw their cross-border operations but maintain their local operations. However, when banks do not withdraw, their risk-weighted assets rise, leading them to cut domestic lending in order to adhere to regulatory capital ratio requirements. One key explanation for why banks do not withdraw local operations is that these activities are financed locally. When local operations operate on a stand-alone basis, potential losses from political actions against foreign banks are mitigated because local funding serves as a buffer that can absorb part of the losses.

Taken together, our findings show how global banks can transmit geopolitical risk internationally. The modes and funding structures of banks' global operations critically shape the impact of political actions and any spillover effects. Many research questions remain open. For example, this paper does not analyze general equilibrium or distributional effects. Not all domestic firms may be affected in the same way when global banks reduce credit supply. Firms with stronger credit access may shift to smaller domestic lenders, crowding out more marginal borrowers such as small and medium-sized enterprises. In this way, geopolitical shocks may propagate through the domestic credit system not only via firms' direct exposure to global banks but also through general equilibrium effects in financial intermediation—an important area for future research.

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Online Appendix

Geopolitical Risk and Global Banking

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A. Additional Materials on Geopolitical Risk Indices

This section provides additional details on the geopolitical risk indices constructed in the paper.

Appendix Table A.1 lists the search query used to construct the earnings-call transcript-based country-specific geopolitical risk index, $CGPR^T$. This measure applies the natural language processing method from Hassan et al. (2019, 2023) using the NL Analytics platform. The dictionary of geopolitical risk-related terms is drawn from Caldara and Iacoviello (2022), ensuring close alignment with the newspaper-based index, $CGPR^N$.

Appendix Figure A.1 presents the geopolitical and alternative risk indices for three countries: Hong Kong (Panel (a)), Poland (Panel (b)), and South Korea (Panel (c)). The left panel of each chart shows $CGPR^N$ (top), $CGPR^T$ (middle), and $CGPR^{T(Fin)}$ (bottom), the latter focusing on geopolitical risk as perceived by financial firms. The right panel displays three broader risk measures for each country: the Country Risk Index (CRI) from Hassan et al. (2023), the World Uncertainty Index (WUI) from Ahir et al. (2022), and five-year sovereign CDS spreads. The geopolitical risk indices spike around major geopolitical events, while the broader risk indices respond primarily to large economic shocks.

Appendix Figure A.2 plots the 25th, 50th, and 75th percentiles of $BGPR^N$ and $BGPR^T$ over time. The dispersion across percentiles highlights substantial cross-bank variation in exposure to geopolitical risk, reflecting differences in the geographic composition of U.S. banks' foreign operations. Moreover, these cross-sectional differences change meaningfully over time, indicating that banks' geopolitical risk exposures are both heterogeneous and dynamic.

Table A.1: Search Query for CGPR Index Based on Earnings-Call Transcripts

Panel A. Search Categories and Search Queries

Category	Search queries
Threats	
1. War threats	War words AND threat words
2. Peace threats	Peace words AND peace disruption words
3. Military buildup	Military words AND buildup words
4. Nuclear threats	Nuclear bigrams AND threat words
5. Terrorist threats	Terrorist words AND threat words
Acts	
6. Beginning of war	War words AND war begin words
7. Escalation of war	Actors words AND actors fight words
8. Terrorist acts	Terrorist words AND terrorism act words

Panel B. Search Words

Topic sets	Phrases
War words	war OR conflict OR hostilities OR revolution* OR insurrection OR uprising OR revolt OR coup OR geopolitical
Peace words	peace OR truce OR armistice OR treaty OR parley
Military words	military OR troops OR missile* OR "arms" OR weapon* OR bomb* OR warhead*
Nuclear bigrams	"nuclear war*" OR "atomic war*" OR "nuclear missile*" OR "nuclear bomb*" OR "atomic bomb*" OR "h-bomb*" OR "hydrogen bomb*" OR "nuclear test" OR "nuclear weapon*"
Terrorism words	terror* OR guerrilla* OR hostage*
Actors words	allies* OR enemy* OR insurgent* OR foe* OR army OR navy OR aerial OR troops OR rebels

Threat/act sets	Phrases
Threat words	threat* OR warn* OR fear* OR risk* OR concern* OR danger* OR doubt* OR crisis OR trouble* OR dispute* OR tension* OR imminent* OR inevitable OR footing OR menace* OR brink OR scare OR peril*
Peace disruption words	threat* OR menace* OR reject* OR peril* OR boycott* OR disrupt*
Buildup words	buildup* OR build-up* OR sanction* OR blockade* OR embargo OR quarantine OR ultimatum OR mobilize*
War begin words	begin* OR start* OR declar* OR begun OR began OR outbreak OR "broke out" OR breakout OR proclamation OR launch*
Actor fight words	advance* OR attack* OR strike* OR drive* OR shell* OR offensive OR invasion OR invade* OR clash* OR raid* OR launch*
Terrorism act words	attack OR act OR bomb* OR kill* OR strike* OR hijack*

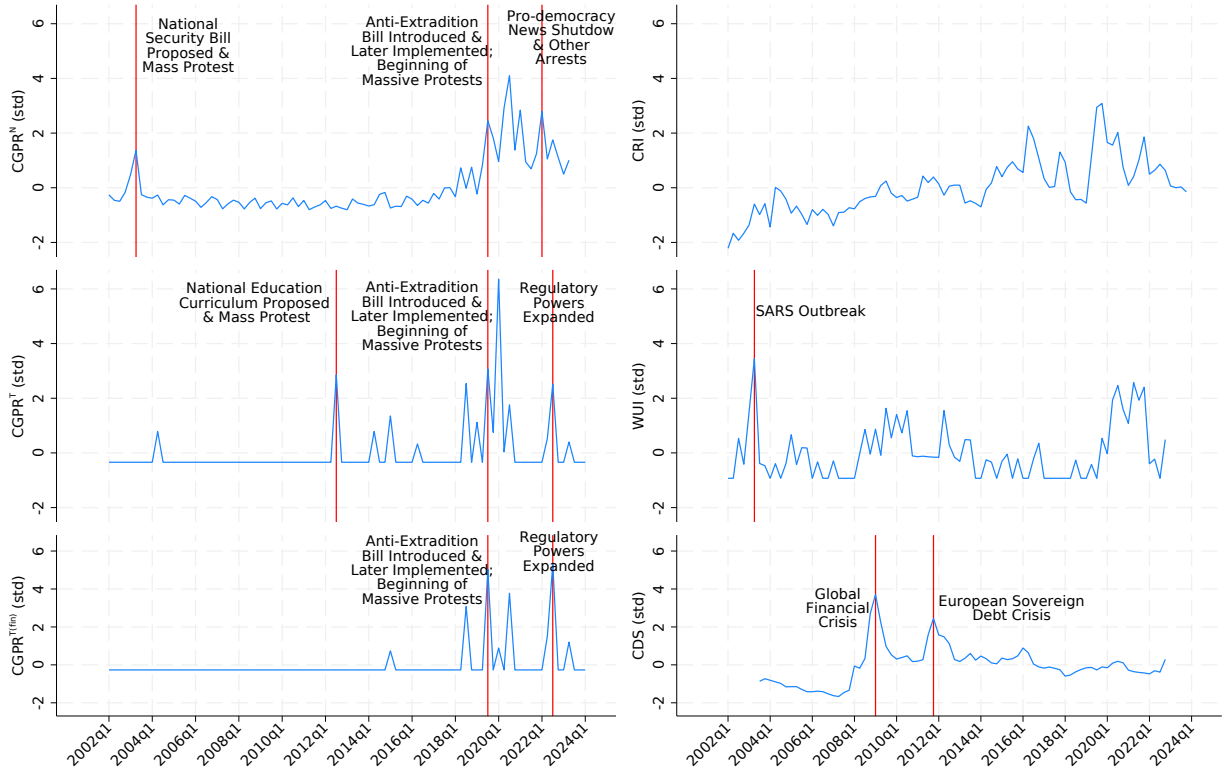
Panel C. Excluded words

Exclusion words	movie* OR film* OR museum* OR anniversary* OR obituary* OR memorial* OR arts OR book OR books OR memoir* OR "price war" OR game OR story OR history OR veteran* OR tribute* OR sport OR music OR racing OR cancer OR "real estate" OR mafia OR trial OR tax

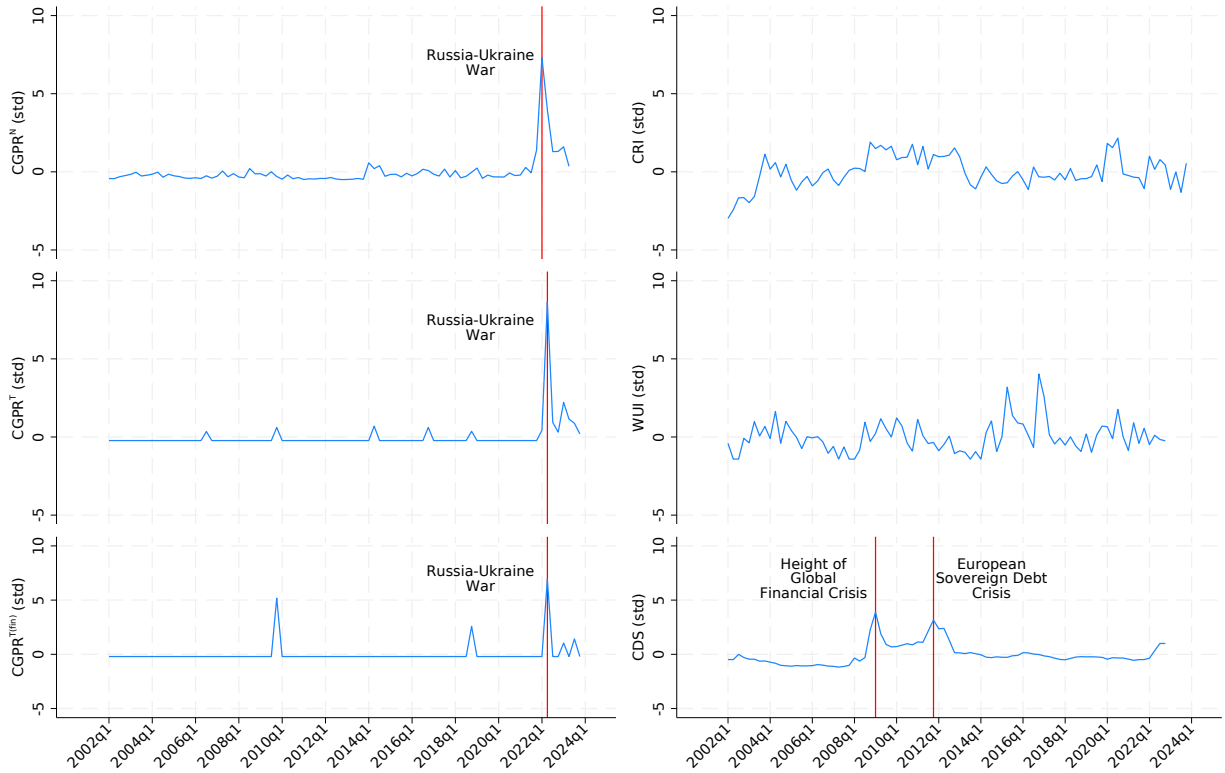
Note: This table lists the search query used to construct the country-specific geopolitical risk index based on earnings-call transcripts ($CGPR^T$). The query is based on Caldara and Iacoviello (2022)'s with slight modification. The truncation character (*) denotes a search including all possible endings of a word, (e.g., "threat*" includes "threat" or "threats" or "threatening").

Figure A.1: Country-specific Geopolitical Risk and Other Risk Indices

(a) Hong Kong

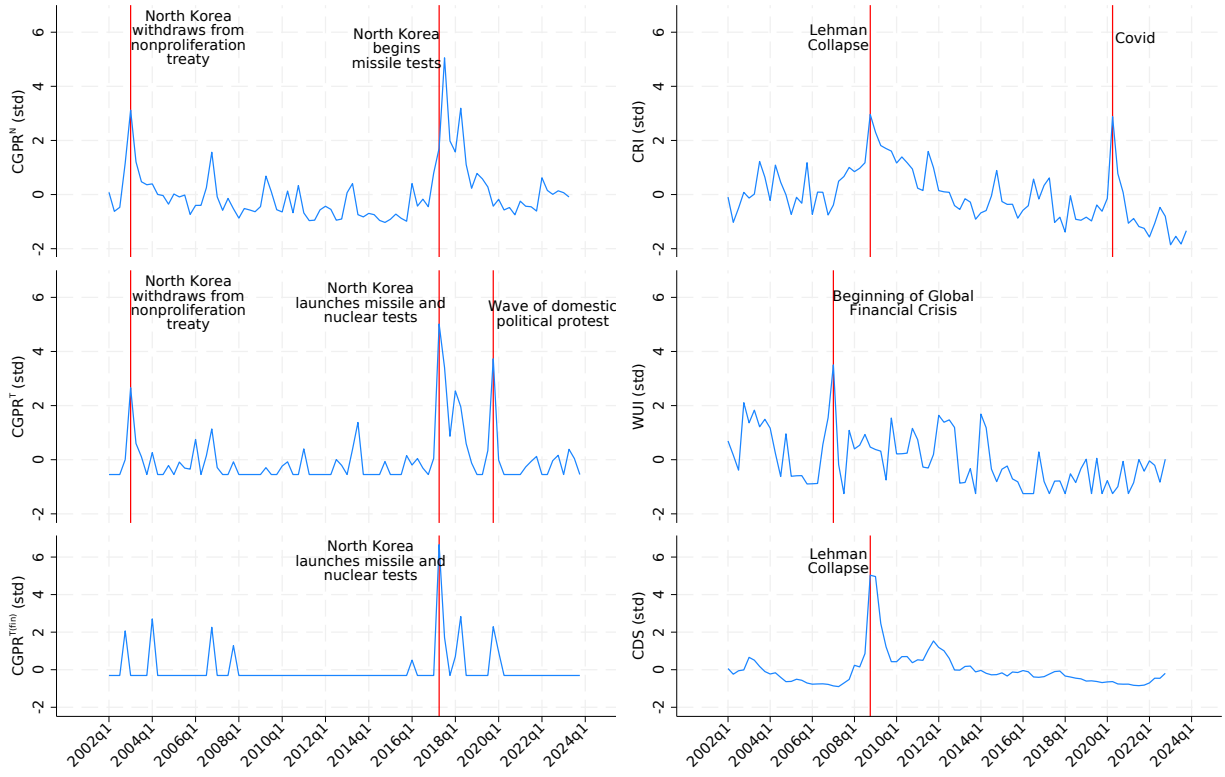


(b) Poland



(continued)

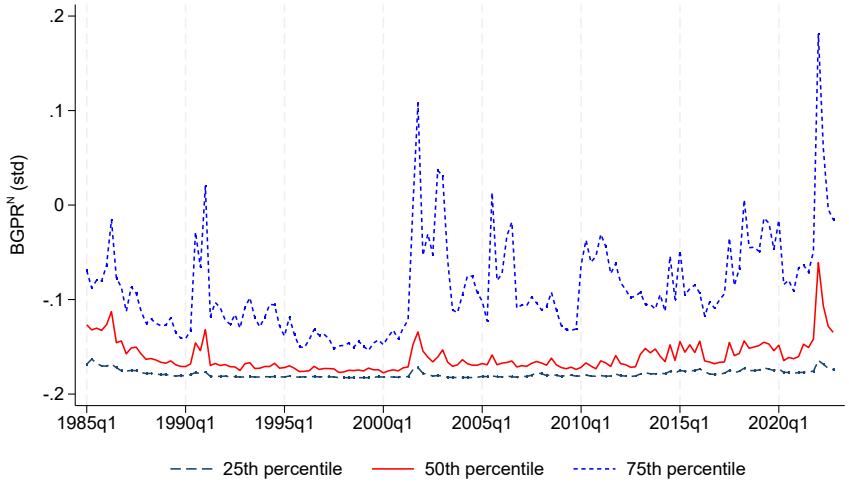
(c) South Korea



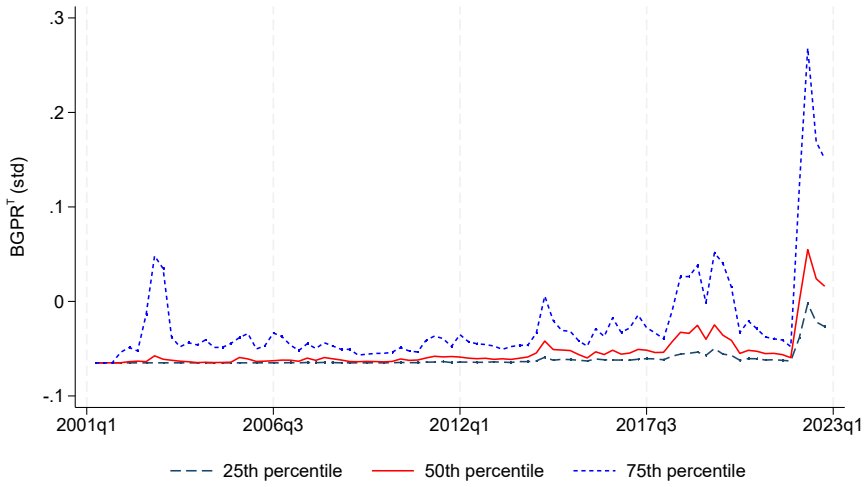
Note: Panels (a), (b), and (c) illustrate the country-specific geopolitical risk (CGPR) indices and other risk indices for Hong Kong, Poland, and South Korea, respectively, covering the period from 2002:Q1 to 2023:Q4. In each panel, the left charts, from top to bottom, display CGPR from Caldara and Iacoviello (2022) ($CGPR^N$), CGPR constructed by applying textual analysis to earnings-call transcripts using the NL Analytics platform ($CGPR^T$), and a sub-index of $CGPR^T$ constructed based solely on earnings-call transcripts of financial firms ($CGPR^T(fin)$. The right charts display the country risk index (CRI) by Hassan et al. (2023) (top), the World Uncertainty Index (WUI) by Ahir et al. (2022) (middle), and the five-year CDS spread (bottom) for the respective countries. All indices are standardized by their respective standard deviations within the sample.

Figure A.2: Bank-specific Geopolitical Risk Indices

(a) $BGPR^N$



(b) $BGPR^T$



Note: Panels (a) and (b) show the bank-specific geopolitical risk (BGPR) indices constructed based on Equation (1) using $CGPR^N$ and $CGPR^T$, respectively, over the periods of 1985:Q1 through 2023:Q4 and 2002:Q1 through 2023:Q4. See the notes under Appendix Figure A.1 for sources and definitions of the CGPR indices. Each panel illustrates the BGPR indices at the 25th, 50th, and 75th percentile. Data sources: FFIEC 009, FR Y-9C, and Call Reports.

B. Supplementary Empirical Results

This section presents additional regression results and supporting evidence that complement the main findings in Section 3 of the paper.

B.1 Geopolitical Risk and U.S. Banks' Foreign Operations

Appendix Table B.1 reports results from Equation (5), using $CGPR^T$ as the main regressor. Similarly to the results with $CGPR^N$ in Table 2, banks reduce cross-border exposures to countries experiencing rising geopolitical risk (Columns (3) and (4)), while their operations through local offices in those countries remain largely unchanged (Columns (5) and (6)).

Appendix Table B.2 reports regressions based on Equation (5), where the dependent variable is either banks' local claims in foreign currency (primarily U.S. dollars) (Columns (1) and (2)) or in local currency (Columns (3) and (4)). The results show no significant response of foreign currency claims to geopolitical risk, while local currency-denominated claims exhibit some decline. When geopolitical risk rises, the local currency typically depreciates, reducing the U.S. dollar value of local currency claims without necessarily affecting the underlying local operations. Thus, the observed decline is likely driven by exchange rate effects.

Appendix Figure B.3 shows the evolution of cross-border and local claims on Russia following three major geopolitical events: the conflict with Georgia in 2008:Q3, the annexation of Crimea in 2013:Q4, and the invasion of Ukraine in 2022:Q1. Panel (a) presents claims by the U.S. banking sector, while Panel (b) shows claims by all BIS-reporting banking sectors. In both cases, cross-border and local claims declined after each shock, but the decline of local exposures was significantly smaller than that of cross-border exposures.

Table B.1: Response of Banks' Foreign Operations to Geopolitical Risk, $CGPR^T$

	Total		Cross-border		Local	
$ln(exp_{bct})$	(1)	(2)	(3)	(4)	(5)	(6)
$CGPR^T_{ct}$	-0.011*	-0.012*	-0.017**	-0.017**	-0.010	-0.010
	(0.007)	(0.007)	(0.009)	(0.008)	(0.014)	(0.014)
$CGPR^T_{ct-1}$	-0.000	-0.001	-0.003	-0.004	-0.008	-0.009
	(0.006)	(0.006)	(0.008)	(0.008)	(0.020)	(0.020)
$\mathbf{1}(Sanction)_t$		-0.130***		-0.154***		-0.230***
		(0.033)		(0.036)		(0.053)
$ln(Exch.Rate)_t$		-0.009		-0.004		-0.160***
		(0.008)		(0.010)		(0.058)
$ln(StockIndex)_t$		0.056		0.138*		0.120
		(0.070)		(0.080)		(0.158)
$ln(Exch.Rate)_{t-1}$		0.010		0.011		-0.006
		(0.008)		(0.011)		(0.058)
$ln(StockIndex)_{t-1}$		-0.100		-0.162**		-0.142
		(0.062)		(0.071)		(0.151)
Bank-country FE	Yes	Yes	Yes	Yes	Yes	Yes
Bank-time FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	36044	34030	35313	33326	11755	11262
R^2	0.947	0.948	0.935	0.937	0.938	0.942

Note: This table reports results from regressions at the bank-country-time level based on Equation (5) using the FFEIC 009 data covering the sample period 2013:Q1 through 2022:Q4. $CGPR^T$ denotes the country-specific geopolitical risk index constructed based on earnings-call transcripts using the NL Analytics platform. The dependent variable is the log total foreign claims in Columns (1) and (2), log cross-border claims in Columns (3) and (4), and log local claims in Columns (5) and (6). Columns (1), (3), and (5) show the baseline results for each dependent variable. Columns (2), (4), and (6) add country-level macro controls, including a country's log exchange rate vis-à-vis the U.S. dollar, log domestic stock price index, and an indicator variable that takes the value 1 if the country faces any sanctions from the United States. All regressions include bank-country and country-time fixed effects. $CGPR^T$ is standardized by its respective standard deviation within the sample. Standard errors, shown in parentheses, are clustered at the country and time level. *$p < .1$; **$p < .05$; ***$p < .01$.

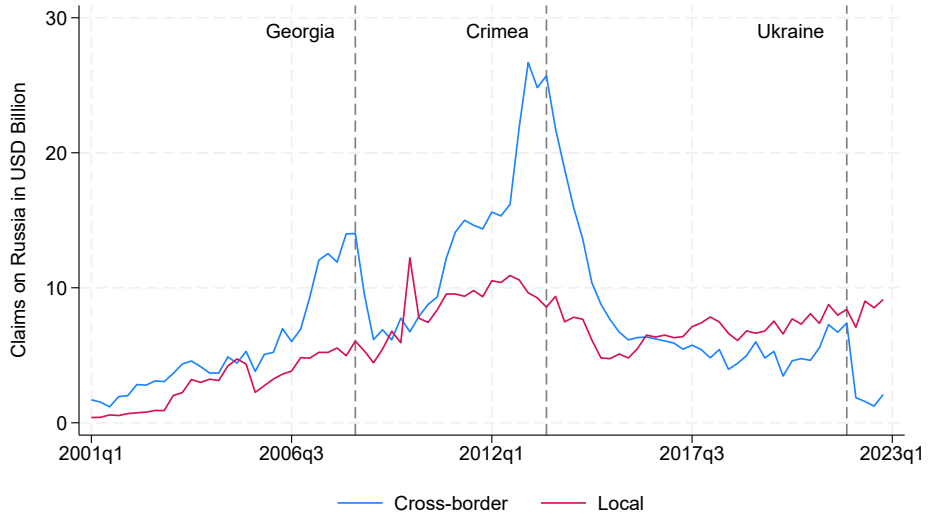
Table B.2: Response of Banks' Local Claims to Geopolitical Risk, Local versus Foreign Currency Claims, $CGPR^N$

	Foreign currency		Local currency	
$ln(exp_{bct})$	(1)	(2)	(3)	(4)
$CGPR^N_{ct}$	-0.027	-0.030	-0.032*	-0.030*
	(0.026)	(0.028)	(0.018)	(0.017)
$CGPR^N_{ct}$	0.052	0.047	-0.020	-0.019
	(0.036)	(0.038)	(0.017)	(0.016)
$\mathbf{1}(Sanction)_t$		0.289***		-0.078**
		(0.061)		(0.039)
$ln(Exch.Rate)_t$		-1.076***		-0.158***
		(0.385)		(0.056)
$ln(StockIndex)_t$		-0.067		0.031
		(0.240)		(0.148)
$ln(Exch.Rate)_{t-1}$		0.625		-0.028
		(0.392)		(0.055)
$ln(StockIndex)_{t-1}$		0.035		-0.060
		(0.234)		(0.145)
Bank-country FE	Yes	Yes	Yes	Yes
Bank-time FE	Yes	Yes	Yes	Yes
Observations	8038	7709	18947	18059
R^2	0.887	0.888	0.903	0.907

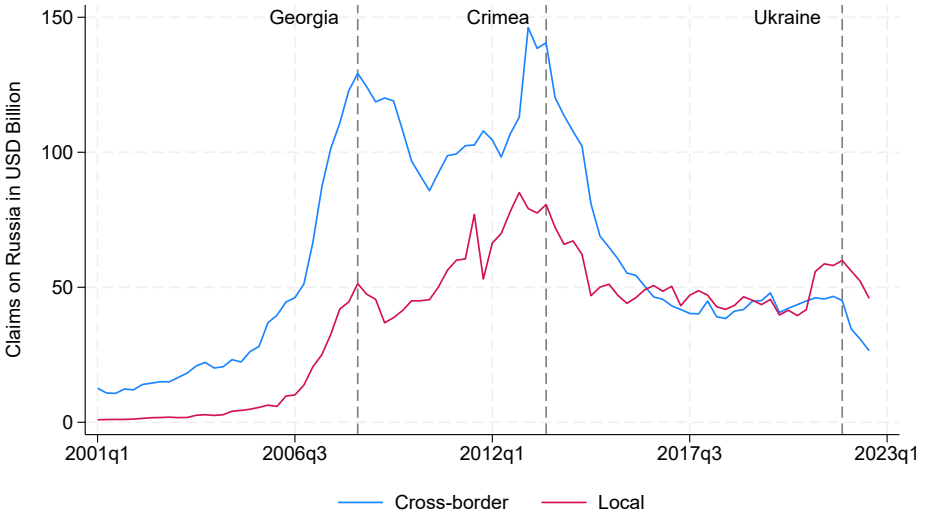
Note: This table reports results from regressions at the bank-country-time level based on Equation (5) using the FFEIC 009 data for the sample period 1986:Q1 through 2022:Q4. $CGPR^N$ denotes the (recent) country-specific geopolitical risk index from Caldara and Iacoviello (2022). The dependent variable is the log local claims in foreign currency in Columns (1) and (2) and log local claims in local currency in Columns (3) and (4). Columns (1) and (3) show the baseline results for each dependent variable. Columns (2) and (4) add country-level macro controls, including a country's log exchange rate vis-à-vis the U.S. dollar, log domestic stock price index, and an indicator variable equal to 1 if the country faces any sanctions from the United States. All regressions include bank-country and country-time fixed effects. $CGPR^N$ is standardized by its respective standard deviation within the sample. Standard errors, shown in parentheses, are clustered at the country and time level. *$p < .1$; **$p < .05$; ***$p < .01$.

Figure B.3: Banks' Cross-border and Local Exposures to Russia

(a) U.S. Banks' Claims on Russia



(b) All Banking Sectors' Claims on Russia



Note: The figure illustrates cross-border claims (blue) and local claims (red) on Russia by the U.S. banking sector in Panel (a) and all BIS-reporting banking sectors in Panel (b). The vertical lines denote three geopolitical events: Russia's conflict with Georgia in 2008:Q3, Russia's annexation of Crimea in 2013:Q4, and Russia's invasion of Ukraine in 2022:Q1. Data sources: BIS Consolidated Banking Statistics and FFIEC 009.

B.2 Geopolitical Risk and U.S. Banks' Domestic Operations

Domestic loan origination. Panel (a) of Appendix Table B.3 presents the bank-level results relating U.S. global banks' exposure to geopolitical risk to their domestic loan origination activity, as estimated from Equation (8). Columns (1) through (4) present estimates using $BGPR^N$ as the main regressor, while Columns (5) through (8) use $BGPR^T$. Columns (1) and (4) include bank and time fixed effects as well as bank-level controls, while the remaining columns further add alternative risk controls, including bank-specific risk indices based on the CRI, WUI, and sovereign CDS spreads. The coefficients on both BGPR measures are negative, statistically significant, and comparable in size, pointing to a robust negative relationship between foreign geopolitical risk and domestic credit supply. According to the estimates in Columns (1) and (5), a one-standard-deviation increase in $BGPR$ is associated with an average decline of 22 to 25 percent in loan origination to U.S. firms. Building on the loan-level results from Panel (a) of Table 4, these bank-level results show that the spillover effects of geopolitical risk abroad are sufficiently large to manifest at the aggregate level of U.S. bank lending.

Panel (b) of Appendix Table B.3 investigates whether the spillover effects operate mainly through banks' foreign affiliates, complementing the loan-level evidence in Panel (b) of Table 4. Estimates for $BGPR_{bt}(\mathbf{1}(\text{Local}))$ are negative and statistically significant, consistent with geopolitical risk transmitting to domestic credit supply through local foreign exposures. In contrast, the coefficients on $BGPR_{bt}(\mathbf{1}(\text{Cross-border}))$ are small and statistically indistinguishable from zero, pointing to a limited role for cross-border operations. When both components are included, only the local component remains significant, underscoring the affiliate channel as the dominant source of spillover effects. The results are both quantitatively and qualitatively similar across the two measures of $BGPR$.

To supplement the analysis, we also examine the different dimensions of geopolitical risk to assess whether spillover effects are driven more by the threat or the realization of geopolitical risk. As described in Section 2, $BGPR^T$ is designed to be flexible, allowing decomposition into different components. We construct five subindices of $BGPR^T$. $BGPR^{T(Threat)}$ is constructed using the component of CGPR that captures firms' perceptions of the threats of geopolitical risk, while $BGPR^{T(Act)}$ isolates their perceptions of geopolitical risk arising from realized events (e.g., attacks and wars). Additionally, $BGPR^{Tfin}$ reflects perceptions of geopolitical risk specifically by financial firms, with $BGPR^{Tfin(Threat)}$ and $BGPR^{Tfin(Act)}$ representing the corresponding subcomponents for threats and acts, respectively.

We estimate the impact of each subindex of geopolitical risk on U.S. banks' loan origination to domestic firms using Equation (6) for loan-level regressions and Equation (8) for bank-level regressions. Panel (a) of Appendix Table B.4 presents the results from the loan-level regressions. Columns (1) through (4) correspond to regressions using $BGPR^{T(Threat)}$, $BGPR^{T(Act)}$, $BGPR^{Tfin(Threat)}$, and $BGPR^{Tfin(Act)}$ as the main regressors, respectively. The results indicate that the effect of BGPR on domestic loan origination is primarily driven by perceived threats of geopolitical risk (Columns (1) and (3)) rather than the realization of specific events (Columns (2) and (4)). This underscores the role of uncertainty in generating the spillover effects of geopolitical risk through banks. Panel (b) of Appendix Table B.4 presents the results from the bank-level regressions, which closely mirror those from the loan-level analysis, further supporting these findings.

Table B.3: Geopolitical Risk and U.S. Domestic Loan Origination, Bank Level

(a) Baseline

	$BGPR^N$				$BGPR^T$			
$ln(orig_{bt})$	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$BGPR^N_{bt}$	-0.078	-0.102	-0.077	-0.083				
	(0.066)	(0.076)	(0.066)	(0.068)				
$BGPR^N_{bt-1}$	-0.189**	-0.197**	-0.171**	-0.198**				
	(0.079)	(0.078)	(0.071)	(0.077)				
$BGPR^T_{bt}$					-0.045	-0.065	-0.042	-0.052
					(0.068)	(0.073)	(0.067)	(0.069)
$BGPR^T_{bt-1}$					-0.173**	-0.170**	-0.161**	-0.161**
					(0.069)	(0.068)	(0.067)	(0.072)
Bank Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
AltRisk Controls	No	CRI	WUI	CDS	No	CRI	WUI	CDS
Bank FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	475	475	475	475	475	475	475	475
R^2	0.955	0.955	0.956	0.955	0.956	0.957	0.957	0.956

(b) Local versus Cross-border Foreign Exposures

	(1) All	(2) All	(3) All	(4) All	(5) All	(6) All
$BGPR^N_{bt}(\mathbf{1}(\text{Local}))$	-0.065	-0.075			-0.073	-0.081
	(0.064)	(0.066)			(0.064)	(0.066)
$BGPR^N_{bt-1}(\mathbf{1}(\text{Local}))$	-0.178**	-0.186**			-0.180**	-0.187**
	(0.080)	(0.079)			(0.079)	(0.079)
$BGPR^N_{bt}(\mathbf{1}(\text{Cross-border}))$			-0.033	-0.024	-0.034	-0.023
			(0.043)	(0.043)	(0.044)	(0.044)
$BGPR^N_{bt-1}(\mathbf{1}(\text{Cross-border}))$			-0.020	-0.012	-0.037	-0.029
			(0.050)	(0.049)	(0.054)	(0.054)
R^2	0.954	0.955	0.952	0.952	0.954	0.955
$BGPR^T_{bt}(\mathbf{1}(\text{Local}))$	-0.041	-0.041			-0.035	-0.035
	(0.070)	(0.069)			(0.066)	(0.065)
$BGPR^T_{bt-1}(\mathbf{1}(\text{Local}))$	-0.167**	-0.175**			-0.181***	-0.187***
	(0.068)	(0.069)			(0.067)	(0.068)
$BGPR^T_{bt}(\mathbf{1}(\text{Cross-border}))$			-0.047	-0.046	-0.078	-0.076
			(0.050)	(0.048)	(0.052)	(0.050)
$BGPR^T_{bt-1}(\mathbf{1}(\text{Cross-border}))$			0.032	0.037	0.054	0.060
			(0.044)	(0.044)	(0.050)	(0.050)
R^2	0.955	0.956	0.952	0.953	0.955	0.956
Bank Controls	Yes	Yes	Yes	Yes	Yes	Yes
Bank FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes

Note: This table reports results from bank-level regressions with log loan origination amount (*orig*) as the dependent variable, using FR Y-14 data from 2014:Q1 through 2022:Q4. Panel (a) reports results from Equation (8). $BGPR^N$ denotes the bank-specific geopolitical risk index, constructed from $CGPR^N$ or the (recent) country-specific geopolitical risk index from Caldara and Iacoviello (2022) according to Equation (1). Bank controls include Tier 1 capital ratio, liquid-asset ratio as well as their lagged versions. Alternative risk controls include bank-specific risk indices based on the country risk index ($BCRI$) by Hassan et al. (2023) and the World Uncertainty Index ($BWUI$) by Ahir et al. (2022), and sovereign CDS spread ($BCDS$), as well as their lagged versions. Panel (b) reports results from Equation (8) using $BGPR_{bt}(\mathbf{1}(\text{Local}))$ and $BGPR_{bt-1}(\mathbf{1}(\text{Cross-border}))$, which are constructed based on Equation (7). All the geopolitical risk indices are standardized by their respective standard deviations within the sample. Standard errors, shown in parentheses, are clustered at the bank and time level. $^*p < .1$; $^{**}p < .05$; $^{***}p < .01$.

Overall, this set of results show that the threat of geopolitical risk has a stronger influence on lending decisions than realized shocks. Banks preemptively adjust exposures to mitigate potential losses, which will partly motivate the model setup in Section 4.2, in which geopolitical risk is primarily modeled as arising from the threat rather than its realization.

Domestic lending standards. To complement the main spillover analysis on loan origination, we also examine how geopolitical risk affects U.S. banks' domestic lending standards, which have predictive power for loan origination (Niepmann and Schmidt-Eisenlohr, 2023).[1] For this analysis, we draw on survey data from the SLOOS, which, compared with the FR Y-14 used in the loan origination analysis, has the advantage of covering a larger set of banks and extending further back in time, starting in 1990.[2]

To measure lending standards, we analyze each bank's response to the survey question on whether the bank tightened or loosened credit standards for C&I loans to large and medium-sized enterprises, where higher values indicate greater loosening. As is standard in the literature, we code responses as 1 for loosening, 0 for no change, and –1 for tightening. We regress this variable on the contemporaneous and lagged quarterly change in BGPR, controlling for bank fixed effects as well as macro and bank-level conditions. Following common practice in the literature (e.g., Bassett et al., 2014), we include the first lag of the dependent variable to account for the persistence in SLOOS responses.

The baseline regression equation is specified as follows:

$$\begin{aligned} ls_{bt} \;=\; & \beta_0 ls_{bt-1} + \beta_1 \Delta \log(BGPR_{bt}) + \beta_2 \Delta \log(BGPR_{bt-1}) + \gamma_1 \Delta X_t + \gamma_2 \Delta X_{t-1} \\ & + \delta_1 Z_{bt} + \delta_2 Z_{bt-1} + \alpha_b + \epsilon_{bt}, \end{aligned} \tag{B.1}$$

where ls_{bt} represents bank b's response to the SLOOS survey question on lending standards in quarter t, and $BGPR_{bt}$ denotes the BGPR indices. The macroeconomic controls, X_t, include the two-year Treasury yield, the slope of the yield curve (10y–2y), the CBOE Volatility Index (VIX), the S&P 500 index, and U.S. industrial production. The BGPR index, VIX, S&P 500 index, and industrial production enter as quarterly log changes, while other variables, except the lagged dependent variable, enter as simple changes. The regression also includes bank fixed effects (α_b) and controls for changes in loan demand, based on banks' response to the SLOOS survey question on loan demand, as well as their lagged Tier 1 capital ratio and liquid-asset ratio (Z_{bt}).[3]

Panel (a) of Appendix Table B.5 presents the baseline results for the period 1990:Q2

[1] See, e.g., Table A.6 in Niepmann and Schmidt-Eisenlohr (2023).

[2] The Federal Reserve surveys as many as 80 domestic banks each quarter.

[3] We do not include time fixed effects in this regression because their inclusion, along with bank fixed effects, would leave the regressions reliant solely on cross-sectional variation to identify the effects of BGPR on credit supply. However, the SLOOS outcome variable is inherently limited to three discrete values—tightening, loosening, or no change in credit standards. This constraint means that when two banks experience different levels of increasing exposure to GPR but both tighten credit standards to some extent, the outcome variable still takes the same value (–1) for both. In other words, the coarseness of the outcome variable makes it difficult to precisely capture variation in bank behavior using a purely cross-sectional identification strategy. Unsurprisingly, when time fixed effects are included in the regression, the coefficients associated with BGPR are insignificant.

Table B.4: Geopolitical Risk and Domestic Loan Origination: Threat vs. Act

(a) Loan Level

$ln(orig_{bit})$	(1)	(2)	(3)	(4)
$BGPR_{bt}^{T(Threat)}$	-0.073***			
	(0.018)			
$BGPR_{bt}^{T(Act)}$		-0.051*		
		(0.027)		
$BGPR_{bt}^{T^{fin}(Threat)}$			-0.061***	
			(0.018)	
$BGPR_{bt}^{T^{fin}(Act)}$				-0.026
				(0.021)
Bank Controls	Yes	Yes	Yes	Yes
Loan Controls	Yes	Yes	Yes	Yes
Bank FE	Yes	Yes	Yes	Yes
Firm-time FE	Yes	Yes	Yes	Yes
Observations	175943	175943	175943	175943
R^2	0.617	0.617	0.617	0.617

(b) Bank Level

$orig_{bt}$	(1)	(2)	(3)	(4)
$BGPR_{bt}^{T(Threat)}$	-0.048			
	(0.068)			
$BGPR_{bt-1}^{T(Threat)}$	-0.168**			
	(0.068)			
$BGPR_{bt}^{T(Act)}$		0.013		
		(0.039)		
$BGPR_{bt-1}^{T(Act)}$		-0.047		
		(0.041)		
$BGPR_{bt}^{T^{fin}(Threat)}$			-0.067	
			(0.065)	
$BGPR_{bt-1}^{T^{fin}(Threat)}$			-0.147**	
			(0.065)	
$BGPR_{bt}^{T^{fin}(Act)}$				-0.026
				(0.037)
$BGPR_{bt-1}^{T^{fin}(Act)}$				-0.038
				(0.034)
Bank Controls	Yes	Yes	Yes	Yes
Bank FE	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes
Observations	475	475	475	475
R^2	0.956	0.952	0.956	0.953

Note: This table reports results from loan-level (Panel (a)) and bank-level (Panel (b)) regressions with log loan origination amount ($orig$) as the dependent variable using data from FR Y-14 for the sample period 2014:Q1 through 2022:Q4. The main regressors are subindices of $BGPR^T$, or bank-specific geopolitical risk index based on $CGPR^T$, which is constructed with earnings-call transcripts using the NL Analytics platform and captures geopolitical risk perceptions by firms worldwide. $BGPR^{T(Threat)}$ captures firms' perceptions of geopolitical risk threats, and $BGPR^{T(Act)}$ captures their perceptions of geopolitical risk stemming from acts. $BGPR^{T^{fin}(Threat)}$ and $BGPR^{T^{fin}(Act)}$ capture financial firms' perceptions of geopolitical risk stemming from threats and acts, respectively. Bank controls include Tier 1 capital ratio and liquid-asset ratio. Loan controls include interest rate and maturity. All the geopolitical risk indices are standardized by their respective standard deviations within the sample. Standard errors, shown in parentheses, are clustered at the bank and time level. *$p < .1$; **$p < .05$; ***$p < .01$.

through 2022:Q2.[4] Columns (1) through (3) use $BGPR^N$ as the main regressor, while Columns (4) through (6) use $BGPR^T$. Columns (1) and (4) include bank fixed effects. Columns (2) and (5) add macroeconomic controls, and Columns (3) and (6) further incorporate bank-level controls, including banks' responses to changes in credit demand, as well as their Tier 1 capital and liquid-asset ratios.

Across Columns (1) through (3), the coefficients on $BGPR^N$ are negative and statistically significant, often at the 1 percent level, indicating that increased exposure to geopolitical risk, as measured by $BGPR^N$, leads to a significant tightening of lending standards for domestic loans. Regarding magnitude, a one-standard-deviation increase in BGPR leads to 2 percent of banks shifting from maintaining unchanged lending standards to tightening them within the same quarter, with an additional 4 percent tightening in the following quarter (Column 3). The results for $BGPR^T$ in Columns (4) through (6) are consistent with these findings, reinforcing the conclusion that geopolitical risk affects banks' lending standards. Overall, these results align with the loan origination results in Section 3.3.

Parallel to the analysis in Section 3.3, we further investigate whether the effect of BGPR on bank lending standards is driven by exposure through local claims versus cross-border claims. Panel (b) of Appendix Table B.5 presents the results, confirming that the tightening effect of BGPR on domestic lending standards is primarily driven by banks' foreign local exposures. This finding mirrors the corresponding results on loan origination.

Following the earlier analysis, we also investigate how different dimensions of geopolitical risk influence banks' domestic lending conditions. Appendix Table B.6 reports results using $BGPR^{T(Threat)}$, $BGPR^{T(Act)}$, $BGPR^{Tfin(Threat)}$, and $BGPR^{Tfin(Act)}$ to capture banks' exposure to geopolitical risk. These findings are consistent with our earlier results based on the FR Y-14 data, further confirming that banks respond more strongly to geopolitical risk stemming from perceived threats rather than realized acts.

While we focus primarily on C&I loans, Appendix Table B.7 shows that banks also tighten lending standards on commercial real estate loans in response to geopolitical risk. This finding provides additional evidence that banks contract their domestic credit supply when foreign geopolitical risk increases. Notably, the U.S. commercial real estate sector is less directly affected by geopolitical risk compared with industries such as trade and manufacturing, which are more exposed to risks abroad. Therefore, our findings on spillover effects are unlikely to be driven by credit demand responses.

[4]The sample period varies slightly across specifications depending on data availability when control variables are included.

Table B.5: Geopolitical Risk and Domestic Lending Standards

(a) Baseline

ls_{bt}	(1)	(2)	(3)	(4)	(5)	(6)
$\Delta \log(BGPR^N_{bt})$	-0.023***	-0.015**	-0.023**			
	(0.008)	(0.007)	(0.011)			
$\Delta \log(BGPR^N_{bt-1})$	-0.019**	-0.014*	-0.037***			
	(0.008)	(0.008)	(0.012)			
$\Delta \log(BGPR^T_{bt})$				-0.008	-0.032***	-0.034***
				(0.011)	(0.011)	(0.012)
$\Delta \log(BGPR^T_{bt-1})$				-0.005	-0.014	-0.011
				(0.010)	(0.010)	(0.010)
Macro Controls	No	Yes	Yes	No	Yes	Yes
Bank Controls	No	No	Yes	No	No	Yes
Bank FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3099	3050	2095	1486	1486	1476
R^2	0.235	0.294	0.331	0.258	0.339	0.352

(b) Local versus Cross-border Foreign Exposures

ls_{bt}	(1)	(2)	(3)	(4)	(5)	(6)
$\Delta \log(BGPR^N_{bt}$ ($\mathbf{1}$(Local)))	-0.027**		-0.021*			
	(0.011)		(0.011)			
$\Delta \log(BGPR^N_{bt-1}$ ($\mathbf{1}$(Local)))	-0.031***		-0.025**			
	(0.012)		(0.012)			
$\Delta \log(BGPR^N_{bt}$ ($\mathbf{1}$(Cross-border)))		-0.020**	-0.011			
		(0.008)	(0.009)			
$\Delta \log(BGPR^N_{bt-1}$ ($\mathbf{1}$(Cross-border)))		-0.025**	-0.013			
		(0.010)	(0.011)			
$\Delta \log(BGPR^T_{bt}$ ($\mathbf{1}$(Local)))				-0.038***		-0.039***
				(0.013)		(0.015)
$\Delta \log(BGPR^T_{bt-1}$ ($\mathbf{1}$(Local)))				-0.010		-0.010
				(0.013)		(0.015)
$\Delta \log(BGPR^T_{bt}$ ($\mathbf{1}$(Cross-border)))					-0.004	0.011
					(0.011)	(0.013)
$\Delta \log(BGPR^T_{bt-1}$ ($\mathbf{1}$(Cross-border)))					-0.017*	-0.014
					(0.010)	(0.012)
Macro Controls	Yes	Yes	Yes	Yes	Yes	Yes
Bank Controls	Yes	Yes	Yes	Yes	Yes	Yes
Bank FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1303	2067	1275	1019	1264	808
R^2	0.340	0.330	0.339	0.341	0.338	0.323

Note: This table reports bank-level regression results, where the dependent variable is banks' response to the SLOOS survey question on tightening, maintaining, or loosening credit standards for C&I loans to large and medium-sized firms, using a sample spanning from 1990:Q2 through 2022:Q2. Panel (a) reports results based on Equation (B.1), where $BGPR^N$ (Columns (1) through (3)) is the bank-specific geopolitical risk index constructed from $CGPR^N$, the country-specific geopolitical risk index from Caldara and Iacoviello (2022), using Equation (1). $BGPR^T$ (Columns (4) through (6)) is the bank-specific geopolitical risk index derived from $CGPR^T$, which captures firms' geopolitical risk perceptions based on earnings-call transcripts processed through the NL Analytics platform. Columns (2) and (5) add macroeconomic controls, including (log) changes in the two-year Treasury yield, the yield curve slope (10y–2y), the CBOE Volatility Index (VIX), the S&P 500 index, and U.S. industrial production. Columns (3) and (6) further control for loan demand, as well as banks' liquid-asset and Tier 1 capital ratios. In Panel (b), $BGPR^N_{bt}$ ($\mathbf{1}$(Local)) and $BGPR^N_{bt}$ ($\mathbf{1}$(Cross-border)) are constructed following Equation (7). All specifications include bank fixed effects, macroeconomic controls, bank-level controls, and the lagged dependent variable as a regressor. For both panels, the geopolitical risk indices are standardized by their respective standard deviations within the sample. Standard errors, shown in parentheses, are clustered at the bank and time level. *$p < .1$; **$p < .05$; ***$p < .01$.

Table B.6: Geopolitical Risk and Lending Standards, Threats versus Acts

ls_{bt}	(1)	(2)	(3)	(4)
$\Delta \log(BGPR_{bt}^{T(Threat)})$	-0.036***			
	(0.012)			
$\Delta \log(BGPR_{bt-1}^{T(Threat)})$	-0.011			
	(0.010)			
$\Delta \log(BGPR_{bt}^{T(Act)})$		-0.002		
		(0.013)		
$\Delta \log(BGPR_{bt-1}^{T(Act)})$		0.011		
		(0.012)		
$\Delta \log(BGPR_{bt}^{T^{fin}(Threat)})$			-0.025**	
			(0.011)	
$\Delta \log(BGPR_{bt-1}^{T^{fin}(Threat)})$			-0.013	
			(0.011)	
$\Delta \log(BGPR_{bt}^{T^{fin}(Act)})$				-0.101
				(0.089)
$\Delta \log(BGPR_{bt-1}^{T^{fin}(Act)})$				0.056
				(0.065)
Bank FE	Yes	Yes	Yes	Yes
Macro Controls	Yes	Yes	Yes	Yes
Bank Controls	Yes	Yes	Yes	Yes
Observations	1466	1211	1430	144
R^2	0.353	0.369	0.347	0.450

Note: This table reports bank-level regression results based on Equation Appendix (B.1), in which the dependent variable is banks' response to the SLOOS survey question on tightening, maintaining, or loosening credit standards for C&I loans to large and medium-sized firms, using a sample spanning from 1990:Q2 through 2022:Q2. Each column corresponds to a subindex of $BGPR^T$ as the main regressor, where $BGPR^T$ is bank-specific geopolitical risk index based on $CGPR^T$, which is constructed with earnings-call transcripts using the NL Analytics platform and captures geopolitical risk perceptions by firms worldwide. $BGPR^{T(Threat)}$ captures firms' perceptions of geopolitical risk threats, and $BGPR^{T(Act)}$ captures their perceptions of geopolitical risk stemming from acts. Similarly, $BGPR^{T^{fin}(Threat)}$ and $BGPR^{T^{fin}(Act)}$ represent the corresponding subcomponents for threats and acts, respectively, when the firm sample is restricted to financial firms. All specifications include bank fixed effects, macroeconomic controls, bank-level controls, and the lagged dependent variable. The geopolitical risk indices are standardized by their respective standard deviations within the sample. Standard errors, shown in parentheses, are clustered at the bank and time level. *$p < .1$; **$p < .05$; ***$p < .01$.

Table B.7: Geopolitical Risk and Lending Standards on Commercial Real Estate Loans

ls_{bt}	(1)	(2)	(3)	(4)	(5)	(6)
$\Delta \log(BGPR^N_{bt})$	-0.002	0.000	-0.001			
	(0.017)	(0.017)	(0.017)			
$\Delta \log(BGPR^N_{bt-1})$	-0.045***	-0.040**	-0.040**			
	(0.017)	(0.016)	(0.016)			
$\Delta \log(BGPR^T_{bt})$				-0.026	-0.041*	-0.038*
				(0.020)	(0.021)	(0.020)
$\Delta \log(BGPR^T_{bt-1})$				-0.043**	-0.046***	-0.042**
				(0.017)	(0.017)	(0.017)
Bank FE	Yes	Yes	Yes	Yes	Yes	Yes
Macro Controls	No	Yes	Yes	No	Yes	Yes
Bank Controls	No	No	Yes	No	No	Yes
Observations	1156	1156	1152	704	704	704
R^2	0.246	0.298	0.325	0.250	0.305	0.357

Note: This table reports bank-level regression results based on Appendix Equation (B.1), in which the dependent variable is banks' response to the SLOOS survey question on tightening, maintaining, or loosening credit standards for commercial real estates loans. The main regressor $BGPR^N$ (Columns (1) through (3)) is the bank-specific geopolitical risk index constructed from $CGPR^N$, the country-specific geopolitical risk index from Caldara and Iacoviello (2022), using Equation (1). $BGPR^T$ (Columns (4) through (6)) is the bank-specific geopolitical risk index derived from $CGPR^T$, which captures firms' geopolitical risk perceptions based on earnings-call transcripts processed through the NL Analytics platform. Columns (2) and (5) add macroeconomic controls, including (log) changes in the two-year Treasury yield, the yield curve slope (10y–2y), the CBOE Volatility Index (VIX), the S&P 500 index, and U.S. industrial production. Columns (3) and (6) further control for loan demand, as well as banks' liquid-asset and Tier 1 capital ratios. The geopolitical risk indices are standardized by their respective standard deviations within the sample. Standard errors, shown in parentheses, are clustered at the bank and time level. *$p < .1$; **$p < .05$; ***$p < .01$.

C. Additional Materials on Mechanism Evidence

C.1 Empirical Evidence

Panel (a) of Appendix Table C.1 parallels that of Table 6, replacing banks' share of local liabilities in total assets with log local claims as the key interaction variable. Specifically, $CGPR_t^N$ and $CGPR_{t-1}^N$ are interacted with lagged local liability position, measured as four-quarter moving averages (in log). The coefficient on this interaction term estimates the extent to which a larger local funding position influences the sensitivity of foreign exposure to geopolitical risk. The results are qualitatively similar. Banks with higher local funding positions are less likely to reduce overall foreign exposures in response to geopolitical risk. This effect is driven by local exposures (Columns (3) and (4)), while the coefficients for cross-border exposures (Columns (5) and (6)) are statistically indistinguishable from zero.

By contrast, Panel (b) of Appendix Table C.1 shows that larger local funding positions do not significantly affect how banks adjust foreign exposures in response to other types of risk, including the country risk index (CRI) by Hassan et al. (2023), the World Uncertainty Index (WUI) by Ahir et al. (2022), and sovereign CDS spreads. This result is consistent with that from Panel (b) of Table 6 where local funding share is used, reinforcing idea that geopolitical risk is distinct from standard economic risks.

Appendix Table C.2 complements Table 7 by examining whether the role of local funding in shaping U.S. global banks' responses to geopolitical risk abroad depends on the degree of geopolitical alignment between the United States and host countries. In these regressions, the *less aligned* indicator variable enters as a triple interaction with $CGPR$ and each bank's lagged local liability share within a single specification. The coefficient on the triple interaction term, $CGPR_{ct}^N \times LL^{Shr}bct-1 \times \mathbf{1}(\text{Less Aligned})t-1$, is positive and significant when the dependent variable is local claims, indicating that in less aligned countries, U.S. global banks with greater local funding are less likely to divest local claims in response to heightened geopolitical risk. The corresponding coefficient for cross-border claims is of the opposite sign. Overall, the results suggest that local funding mitigates the incentive for U.S. banks to withdraw from geopolitically unaligned markets, likely by reducing the potential losses associated with political intervention under elevated geopolitical risk.

C.2 Examples of State Intervention in Response to Geopolitical Tensions

Periods of heightened geopolitical tension often lead to direct or indirect government actions that affect the operations of foreign financial institutions. These measures, motivated by national security or foreign policy objectives rather than macroeconomic stabilization, range from financial restrictions and taxation to the outright seizure of assets. While their intensity varies, a common feature is the strategic use of state intervention targeting foreign financial entities. The following examples illustrate the spectrum of such actions, from relatively soft constraints to severe expropriation.

Table C.1: Banks' Foreign Response to Risks by Ex Ante Local Liabilities

(a) Geopolitical Risk

	Total Exp.		Local		Cross-border	
$ln(exp_{bct})$	(1)	(2)	(3)	(4)	(5)	(6)
$CGPR^N_{ct}$	-0.049***	-0.050***	-0.067***	-0.066***	-0.074***	-0.071***
	(0.019)	(0.017)	(0.022)	(0.022)	(0.015)	(0.013)
$CGPR^N_{ct} \times ln(LL)_{bct-1}$	0.004**	0.004**	0.008**	0.008**	0.002	0.002
	(0.002)	(0.002)	(0.004)	(0.004)	(0.002)	(0.002)
$CGPR^N_{ct-1}$	-0.018	-0.019	-0.034	-0.034	-0.027*	-0.023
	(0.016)	(0.015)	(0.026)	(0.026)	(0.015)	(0.015)
$CGPR^N_{ct-1} \times ln(LL)_{bct-2}$	0.002	0.002	0.005	0.005	-0.001	-0.001
	(0.002)	(0.002)	(0.005)	(0.005)	(0.002)	(0.002)
Macro Controls	No	Yes	No	Yes	No	Yes
Bank-country FE	Yes	Yes	Yes	Yes	Yes	Yes
Bank-time FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	16829	16107	15870	15208	16040	15374
R^2	0.956	0.958	0.919	0.922	0.938	0.938

(b) Other Risks

	CRI		WUI		CDS	
	(1) LC	(2) XB	(3) LC	(4) XB	(5) LC	(6) XB
CRI_t	-0.025	-0.019				
	(0.033)	(0.035)				
$CRI_t \times ln(LL)_{bct-1}$	0.002	-0.003				
	(0.004)	(0.004)				
CRI_{t-1}	-0.010	-0.059*				
	(0.032)	(0.033)				
$CRI_{t-1} \times ln(LL)_{bct-2}$	0.004	0.005				
	(0.004)	(0.004)				
WUI_t			-0.004	0.030**		
			(0.015)	(0.012)		
$WUI_t \times ln(LL)_{bct-1}$			-0.000	-0.006***		
			(0.002)	(0.002)		
WUI_{t-1}			0.021	0.002		
			(0.015)	(0.013)		
$WUI_{t-1} \times ln(LL)_{bct-2}$			-0.002	-0.003		
			(0.002)	(0.002)		
$ln(CDS_{t-1})$					0.004	-0.069
					(0.086)	(0.096)
$ln(CDS_t) \times ln(LL)_{bct-1}$					-0.004	0.007
					(0.012)	(0.007)
$ln(CDS_{t-1})$					-0.168*	0.085
					(0.087)	(0.086)
$ln(CDS_{t-1}) \times ln(LL)_{bct-2}$					0.009	0.008
					(0.012)	(0.007)
Macro Controls	Yes	Yes	Yes	Yes	Yes	Yes
Bank-country FE	Yes	Yes	Yes	Yes	Yes	Yes
Bank-time FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	12521	12631	14347	14490	13803	13982
R^2	0.922	0.943	0.922	0.940	0.922	0.941

Note: This table reports results from regressions at the bank-country-time level based on an augmented version of Equation (5), using the FFEIC 009 data for the sample period 1986:Q1 through 2022:Q4. Panel (a) uses $CGPR^N$, the (recent) country-specific geopolitical risk index from Caldara and Iacoviello (2022), along with $ln(LL)_{bc}$, the log of local liabilities received by bank b from country c, calculated as a four-quarter moving averages, and their interactions as the main regressors. The dependent variable is the log total foreign claims in Columns (1) and (2), log local claims in Columns (3) and (4), and log cross-border claims in Columns (5) and (6). Columns (2), (4), and (6) add country-level macro controls, including a country's log exchange rate vis-à-vis the U.S. dollar, log domestic stock price index, and a U.S. sanction indicator. Panel (b) replaces $CGPR^N$ with alternative country-specific risk indices and their interactions as the main regressors. The alternative indices include Hassan et al. (2023)'s CRI (Columns (1) and (2)), Ahir et al. (2022)'s WUI (Columns (3) and (4)), and log sovereign CDS spreads (Columns (5) and (6)). The dependent variable is log local claims in Columns (1), (3), and (5), and log cross-border claims in Columns (2), (4), and (6). All regressions include bank-country and country-time fixed effects. All risk indices are standardized by their respective standard deviation within the sample. Standard errors, shown in parentheses, are clustered at the country and time level. *$p < .1$; **$p < .05$; ***$p < .01$.

Table C.2: Banks' Foreign Response to Risks by Ex Ante Local Liabilities Share and Geopolitical Alliance

	Local		Cross-border	
	(1)	(2)	(3)	(4)
$CGPR^N_{ct}$	0.004	0.002	-0.022**	-0.027**
	(0.016)	(0.017)	(0.010)	(0.011)
LL^{Shr}_{bct-1}	-0.021	-0.023*	-0.022**	-0.021**
	(0.013)	(0.013)	(0.010)	(0.010)
$CGPR^N_{ct} \times LL^{Shr}_{bct-1}$	0.014	0.016	-0.013	-0.014
	(0.010)	(0.011)	(0.009)	(0.009)
$\mathbf{1}(\text{Less Aligned})_{t-1}$	-0.084*	-0.079	-0.001	0.019
	(0.048)	(0.051)	(0.039)	(0.039)
$CGPR^N_{ct} \times \mathbf{1}(\text{Less Aligned})_{t-1}$	-0.068***	-0.082***	-0.039*	-0.043*
	(0.021)	(0.021)	(0.023)	(0.025)
$LL^{Shr}_{bct-1} \times \mathbf{1}(\text{Less Aligned})_{t-1}$	0.118	0.075	-0.246***	-0.284***
	(0.085)	(0.089)	(0.087)	(0.087)
$CGPR^N_{ct} \times LL^{Shr}_{bct-1} \times \mathbf{1}(\text{Less Aligned})_{t-1}$	0.148**	0.161**	-0.097**	-0.076**
	(0.066)	(0.071)	(0.038)	(0.036)
$CGPR^N_{ct-1}$	0.012	0.012	-0.009	-0.013
	(0.013)	(0.014)	(0.009)	(0.009)
LL^{Shr}_{bct-2}	0.029*	0.034**	0.010	0.010
	(0.015)	(0.015)	(0.009)	(0.009)
$CGPR^N_{ct-1} \times LL^{Shr}_{bct-2}$	0.023*	0.024*	-0.004	-0.004
	(0.012)	(0.012)	(0.008)	(0.008)
$\mathbf{1}(\text{Less Aligned})_{t-2}$	-0.065	-0.091*	-0.013	0.044
	(0.047)	(0.049)	(0.039)	(0.038)
$CGPR^N_{ct-1} \times \mathbf{1}(\text{Less Aligned})_{t-2}$	-0.005	-0.014	-0.025	-0.014
	(0.019)	(0.021)	(0.023)	(0.027)
$LL^{Shr}_{bct-2} \times \mathbf{1}(\text{Less Aligned})_{t-2}$	0.175**	0.154*	-0.008	-0.067
	(0.085)	(0.089)	(0.089)	(0.089)
$CGPR^N_{ct-1} \times LL^{Shr}_{bct-2} \times \mathbf{1}(\text{Less Aligned})_{t-2}$	0.057	0.082	0.000	-0.005
	(0.082)	(0.094)	(0.039)	(0.035)
Macro Controls	No	Yes	No	Yes
Bank-country FE	Yes	Yes	Yes	Yes
Bank-time FE	Yes	Yes	Yes	Yes
Observations	30303	27420	93173	76556
R^2	0.887	0.894	0.891	0.900

Note: This table reports results from regressions at the bank-country-time level based on an augmented version of Equation (5), using the FFEIC 009 data for the sample period 1986:Q1 through 2022:Q4. The regressors are $CGPR^N$, the (recent) country-specific geopolitical risk index from Caldara and Iacoviello (2022), LL^{Shr}_{bct-1}, the local liabilities for bank b from country c as a share of its total lending to that country, calculated as a four-quarter moving average from $t-4$ to $t-1$, an indicator for countries less geopolitically aligned with the United States, and their interactions. Less alignment is defined as countries with an absolute ideal point difference greater than the 75th percentile from the U.S. in each period, where the ideal point distances are extracted from Bailey et al. (2017), based on UN voting patterns. The dependent variable is the log local claims in Columns (1) and (2) and log cross-border claims in Columns (3) and (4). All regressions include bank-country and country-time fixed effects, and country-level macro controls, including a country's log exchange rate vis-à-vis the U.S. dollar, log domestic stock price index, and an indicator variable equal to 1 if the country faces any sanctions from the United States. All risk indices are standardized by their respective standard deviation within the sample. Standard errors, shown in parentheses, are clustered at the country and time level. *$p < .1$; **$p < .05$; ***$p < .01$.

Capital controls. Capital controls are among the most common policy responses to geopolitical confrontation. They aim to preserve domestic liquidity and foreign reserves but often trap foreign banks' funds within the host country. Following the 2014 annexation of Crimea, Russia introduced capital controls to limit outflows and stabilize the ruble amid escalating Western sanctions. Similar restrictions re-emerged after the 2022 invasion of Ukraine, when Russian authorities limited the conversion and transfer of foreign currency by Western firms and banks. In Turkey, periods of diplomatic tension with Western allies—particularly after the 2016 coup attempt—led to restrictions on cross-border currency swaps and lending, as well as new transaction taxes targeting foreign-currency operations. Likewise, in Iran, heightened geopolitical tensions triggered similar responses: in 2018, following the U.S. withdrawal from the nuclear agreement and the reimposition of sanctions, the government imposed capital and foreign-exchange controls to prevent capital flight.

Restrictions on profit repatriation. Governments under geopolitical strain frequently restrict profit transfers to retain foreign exchange and reduce the financial influence of foreign institutions. In Russia around 2014, authorities limited profit repatriation by Western firms and banks to mitigate the impact of sanctions and preserve reserves. During earlier sanctions episodes, Iran in 2012 temporarily suspended profit repatriation and restricted currency transfers by foreign banks as a retaliatory measure against Western financial restrictions. These actions prevented foreign institutions from moving earnings abroad, effectively trapping profits and impairing balance-sheet flexibility.

Windfall taxes and targeted levies. In some cases, governments impose extraordinary taxes on foreign institutions during episodes of geopolitical tension, framing them as measures to enhance fiscal sovereignty or punish perceived adversaries. In Turkey, geopolitical rifts and policy disputes with Western governments prompted the introduction of new transaction taxes and bank levies in 2019–2020 that disproportionately affected foreign-currency transactions by foreign banks. Similarly, during periods of strained relations with the European Union around 2010, Hungary imposed a large "bank tax" that fell primarily on foreign-owned institutions, signaling a broader nationalist economic agenda.

Asset freezes. Freezing or restricting access to financial assets is a coercive tool commonly used in sanction and counter-sanction regimes. Following the 2022 Russia–Ukraine War, Western governments froze hundreds of billions of dollars in Russian central bank and commercial assets abroad. Russia responded by restricting withdrawals and transfers by Western banks and corporations, effectively freezing their domestic assets. These reciprocal actions reflected the use of financial infrastructure as a domain of geopolitical retaliation, directly constraining the balance sheets of foreign financial institutions.

Expropriation and nationalization. In extreme cases, geopolitical conflict leads to the expropriation or nationalization of foreign banks. During the 1917 Russian Bolshevik Revolution, the new government nationalized the financial system, expropriating all foreign-owned banks. During World War II, Germany expropriated foreign-owned banks, including Austria's Kreditanstalt; and Japan took control of Allied-associated banks operating in occupied

territories across Southeast Asia. In 1957, following the 1956 Suez Crisis, Egypt nationalized British and French banks in retaliation for military intervention. In 1960, after the Cuban Revolution, the government nationalized all U.S. banks, seizing the assets of Citibank, Chase Manhattan, and First National City Bank. From 2008 to 2010, Venezuela, under Hugo Chávez, nationalized Banco de Venezuela, previously owned by Spain's Santander, as part of broader policies to expand state economic and industrial control. In the aftermath of the 2022 Russia–Ukraine War from 2023 to 2025, Russia seized assets from U.S. and European banks, including JPMorgan and Deutsche Bank, through a series of court rulings and state actions. While framed partly as legal responses to Western sanctions, these moves also reflected broader geopolitical retaliation.

Taken together, these examples illustrate a continuum of state intervention during periods of geopolitical tension. Softer measures—such as capital controls, restrictions on profit repatriation, and targeted taxes—can severely disrupt foreign banks' liquidity management, profitability, and strategic autonomy, even without outright asset seizure. More coercive actions, including asset freezes and expropriation, represent the extreme end of this spectrum, converting geopolitical conflict into direct interference with cross-border financial activity. These forms of political intervention stand out as a distinguishing feature of geopolitical risk that can influence global banks' divestment and lending decisions.

D. Model Proofs

This section contains the proofs of the propositions stated in Section 4.2.

Proposition 1:

Proof. (1) Note that $\hat{\delta}^A$ is the solution to $\pi_2^{A,C} = \pi_2^L$ and $\hat{\delta}^X$ is the solution to $\pi_2^{X,C} = \pi_2^L$. Because $\pi_2^{X,C} < \pi_2^{A,C}$ and $\frac{\partial \pi_2^L}{\partial \delta} > 0$, $\hat{\delta}^A > \hat{\delta}^X$.

(2) Note that $\Delta\hat{\delta} = \hat{\delta^A} - \hat{\delta^X}$ increases with $\pi_2^{A,C} - \pi_2^{X,C}$. $\pi_2^{A,C} - \pi_2^{X,C} = (1-p)D_2^* i$, and

$$\frac{\partial(\pi_2^{A,C} - \pi_2^{X,C})}{\partial p} = -iD_2^* < 0. \tag{C.1}$$

Because $\pi_2^{A,C} - \pi_2^{X,C}$ decreases in p, $\Delta\hat{\delta}$ decreases in p.

(3)

$$\frac{\partial(\pi_2^{A,C} - \pi_2^{X,C})}{\partial D_2^*} = i(1-p) > 0. \tag{C.2}$$

Because $\pi_2^{A,C} - \pi_2^{X,C}$ increases in D_2^*, $\Delta\hat{\delta}$ increases in D_2^*. □

Proposition 2:

Proof. (1)

$$L_2^{G,C} = \frac{L^* + R_1 L_1 - D_1 i - \mu L^* \alpha(p^G)}{\mu} > L_2^{B,C} = \frac{L^* + R_1 L_1 - D_1 i - \mu L^* \alpha(p^B)}{\mu} \tag{C.3}$$

because $p^G > p^B$ and $\alpha(p^G) < \alpha(p^B)$.

(2)

$$L_2^L = \frac{\delta L^* + R_1 L_1 - D_1 i}{\mu} > L_2^{B,C} = \frac{L^* + R_1 L_1 - D_1 i - \mu L^* \alpha(p^B)}{\mu}. \tag{C.4}$$

Solving for δ delivers $\delta > (1 - \alpha(p)\mu)$.

(3)

$$L_1 = \frac{E_1 - \mu L^* \alpha(\phi, p^G, p^B)}{\mu} > L_2^{B,C} = \frac{L^* + R_1 L_1 - D_1 i - \mu L^* \alpha(p^B)}{\mu}. \tag{C.5}$$

Rearranging delivers:

$$\frac{(R_1 - 1)L_1 - (i-1)D_1}{\mu} < (\alpha(p^B) - \alpha(\phi, p^B, p^G))L^*. \tag{C.6}$$

Because $\alpha(p^G) - \alpha(\phi, p^B, p^G) < 0$ and $\frac{(R_1-1)L_1-(i-1)D_1}{\mu} > 0$, $L_2^{G,C} > L_1$. □

D.1 Model Parameter Restrictions

We outline the parameter assumptions needed for a model solution in which the bank optimally invests both domestically and internationally at $t = 0$ and, when geopolitical risk is high at $t = 1$, liquidates its cross-border investment but retains its affiliate lending.

Profits with liquidation at $t = 2$ are given by:

$$\pi_2^L = (\frac{R-i}{\mu} + i)\left((\frac{R-i}{\mu} + i)E_1 + ((\delta - i) - (R-i)\alpha(\phi, p^G, p^B))L^*\right) < \pi_2^D. \tag{C.7}$$

Second-period profits without liquidation under the cross-border mode are given by:

$$\pi_2^{X,C} = pR^*L^* + L_2^C R - D_2^C i. \tag{C.8}$$

Plugging in $L_2^C = \frac{E_2^C}{\mu} - L^*\alpha(p)$, $D_2^C = L_2^C - (L_1 R - D_1 i)$ and $E_2^C = E_1 + (R-1)L_1 + (1-i)D_1$, we obtain:

$$\pi_2^{X,C} = pR^*L^* + (R-i)L_1\left(\frac{R-i}{\mu} + i\right) + (R-i)L^*(\frac{1}{\mu}(1-i) - \alpha(p)) - L^*i^2 + \left(\frac{R-i}{\mu} + i\right)E_1 i. \tag{C.9}$$

Second-period profits without liquidation under the affiliate mode are given by:

$$\pi_2^{A,C} = pR^*L^* + (R-i)L_1\left(\frac{R-i}{\mu}+i\right) + (R-i)L^*\left(\frac{1}{\mu}(1-i)-\alpha(p)\right) - L^*i^2 + \left(\frac{R-i}{\mu}+i\right)E_1 i + (1-p)D_2^* i. \quad \text{(C.10)}$$

By setting $\pi_2^{X,C} = \pi_2^L$ and $\pi_2^{A,C} = \pi_2^L$, we can get $\delta^{\hat{X}}$ and $\delta^{\hat{A}}$.

$$\delta^{\hat{X}} = \frac{-R\alpha\mu + R + R^*\mu p + i\alpha(p)\mu - i}{R + i\mu - i}. \quad \text{(C.11)}$$

From $\pi_2^{A,C} = \pi_2^L$, we obtain:

$$\delta^{\hat{A}} = \frac{-R\alpha\mu + R + R^*\mu p + i\alpha(p)\mu - i + (1-p)\frac{\mu}{L^*}D_2^* i}{R + i\mu - i}. \quad \text{(C.12)}$$

Assume that $\min\{\delta^{\hat{A},B}, \delta^{\hat{X},G}, 1\} > \delta > \delta^{\hat{X},B}$. Then the bank does not liquidate the foreign investment in the good state of the world, while the bank liquidates the foreign investment under the cross-border mode in the bad state of the world but not under the affiliate mode.

At $t = 0$, banks chose the investment that maximizes their expected (second-period) profits. The domestic asset invested for two periods delivers the following profits:

$$\pi^D = \left(\frac{R-i}{\mu}+i\right)^2 E_1 \quad \text{(C.13)}$$

Assuming $\delta^{\hat{A},B} > \delta > \delta^{\hat{X},B}$ and $\delta^{\hat{A},G} > \delta^{\hat{X},G} > \delta$, expected profits under cross-border investment are:

$$\pi^X = (1-\phi)\pi_2^{X,C,G} + \phi\pi_2^L. \quad \text{(C.14)}$$

And profits with a foreign affiliates are:

$$\pi^A = (1-\phi)\pi_2^{A,C,G} + \phi\pi_2^{A,C,B} - \kappa. \quad \text{(C.15)}$$

Since $\pi^L < \pi^D$ even for $\delta = 1$, $\pi^D < \pi^X$ implies $\pi_2^{X,C,G} > \pi^L$, hence $\delta^{\hat{X},G} > 1$. In other words, if investing both at home and abroad yields a higher expected return than investing solely in the domestic asset, and given that $\delta < 1$, the cross-border investment is never liquidated in the good state. Furthermore, since $\delta^{\hat{X},G} < \delta^{\hat{A},G}$, the same holds for the affiliate mode in the good state.

In addition to the assumptions on δ, we therefore require parameters such that $\pi^D < \pi^X$, meaning that $\pi_2^{X,C,G}$ needs to be sufficiently high, since $\pi_2^{X,C,B} < \pi_2^L$ follows from the assumption on δ. This condition can be achieved by setting $(1-\phi)p^G R^*$—the expected return in the good state of the world —sufficiently high. If $\kappa = 0$, we know that $\pi^A > \pi^X$. Hence, we additionally require κ to be sufficiently small to satisfy $\pi^D < \pi^A$.