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Geopolitical Risk and Foreign Portfolio Investment: A Tale of Advanced and Emerging Markets

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Abstract

We study the influence of local geopolitical risk on U.S. cross-border portfolio investment, covering the period from 1994 to 2021. We uncover significant heterogeneity between advanced and emerging market destinations, revealing that local geopolitical risk exerts a dampening effect on U.S. purchases of bonds and equities solely within emerging markets, while having no discernible impact on advanced markets. We identify poor institutional quality as the primary driver behind the heightened sensitivity of portfolio investment to geopolitical risk in emerging markets, thereby signaling potential implications for financial stability. Moreover, our analysis reveals a noteworthy phenomenon where U.S. investment in emerging market bonds experiences a considerable decline in response to the geopolitical risk within other emerging markets in close geographical proximity, displaying a robust contagion effect. However, such contagions do not manifest in cross-border equity investment. Notably, these contagion effects are observed exclusively among emerging markets, providing valuable insights into investors' portfolio adjustments in the face of elevated geopolitical risk.

JEL Classification: E44; F21; F51; G11

Keywords: Geopolitical risk; Foreign portfolio investment; Emerging markets; Institutional quality; Trilemma; Contagion

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I. Introduction

The recent Russian invasion of Ukraine demonstrated how geopolitical risk in a certain region can hurt the global economy as well as global financial markets. Following the seminal contribution by Caldara and Iacoviello (2022), who constructed a news-based measure of geopolitical risk (GPR), there have been many efforts to understand the channels through which elevated geopolitical risk affects the real economy and financial markets (e.g., Baur and Smales, 2020; Liu et al., 2021; Ivanovski and Hailemariam, 2022; Iyke et al., 2022; Izzeldin et al., 2023; Wang et al., forthcoming). However, most of these studies have paid attention to how *global* geopolitical risk affects various economic outcomes, rather than *local* geopolitical risk. Moreover, these studies have mostly focused on asset prices, such as stock returns, bond yields, and the exchange rate as financial outcomes, mainly due to their high-frequency nature. Studies on the effect of geopolitical risk on international capital flows have been much more limited.

One channel through which local geopolitical risk may affect foreign capital inflows is its adverse effect on investor sentiment. For example, recent studies have shown that local economic uncertainty affects foreign investors' perceptions of local markets, leading to declines in various types of capital inflows (e.g., Schmidt and Zwick, 2015; Julio and Yook, 2016; Choi and Furceri, 2019; French and Li, 2021; Choi et al., 2023). However, measures of uncertainty are typically correlated with macroeconomic fundamentals and policy decisions, which by themselves are drivers of capital flows, and thus it is difficult to establish clear causation. With this limitation in mind, there have been attempts to study the effect of purely exogenous adverse events, such as Yang (2008), who found capital flight following natural disasters, or Falato et al. (2021), who observed outflows from bond funds during the COVID-19 pandemic.

We study the effects of local geopolitical risk on foreign purchases of local financial securities, with special attention to U.S. investors. Compared with the previous literature on uncertainty and international capital flows, this study benefits from using geopolitical risk as a systematic index that includes but is not limited to armed conflicts, terrorist acts, and diplomatic incidents, and is thus

largely exogenous from an economic perspective, thereby making it plausible to claim causality. This is in contrast to the case of uncertainty, which is often endogenously built up by poor economic conditions (Fajgelbaum et al., 2017; Ludvigson et al., 2021).[1] Moreover, the focus on bilateral portfolio flows and local geopolitical risk distinguishes our work from recent studies on a similar question using country-level inflows available from the Balance of Payments and geopolitical risk at the global level (e.g., Filer and Stanišić, 2016; Feng et al., forthcoming).[2] To our best knowledge, this paper is the first systematic study on the role of local geopolitical risk as a pull factor in explaining cross-border portfolio flows.

For international investors, local geopolitical risk should, in theory, pose an existential threat to their investment portfolios via the destruction of physical assets underlying their financial securities. For such risks, we hypothesize that a higher local geopolitical risk reduces purchases of the country's financial securities by foreign investors; however, this effect may not necessarily be negative for all types of financial securities. Government bonds during wartime, for example, may attract foreign investors who are willing to support that country's war efforts.[3] Therefore, in our analysis, we make sure to analyze the purchases of bonds and equities, separately.

We conduct our analysis on a sample of 40 countries in the period from April 1994 to November 2021 for which we can obtain country-specific geopolitical risk indexes constructed by Caldara and Iacoviello (2022). We use U.S. purchases of foreign long-term bonds and equities to proxy the patterns of cross-border portfolio investment, which is also available at a monthly frequency. Our choice of U.S. data was driven by the unavailability in many countries of credible

[1] Baur and Smales (2020) also conclude that geopolitical risk is distinct from existing measures of economic, financial, and political risk or uncertainty. Nevertheless, as a robustness check, we further control for uncertainty about the recipient economy.

[2] Filer and Stanišić (2016) find that terrorist incidents reduce FDI inflows from the rest of the world but do not affect banking and portfolio inflows. Feng et al. (forthcoming) conducted an analysis similar to ours but used aggregate flows and the global GPR index, with a focus on geopolitical risk as a global push factor, not a pull factor.

[3] This has been observed in foreign purchases of Ukraine War Bonds during the 2022 invasion by Russia https://www.bloomberg.com/news/articles/2022-03-01/how-to-buy-ukraine-war-bonds-investors-look-to-risky-bet-to-help-show-support

data on total foreign purchases of financial securities at a high frequency. Nevertheless, using U.S. data should not have a major impact on our findings, due to the global significance of U.S. investors, whose investment patterns likely shape those of investors from other countries. Recognizing the important heterogeneity across countries and over time, our baseline panel model has two levels of fixed effects—country- and time-fixed effects—to sharpen the identification.

Our contribution to the literature is threefold. First, while there have been numerous studies on the asset price effect of geopolitical risk proxied by war or terrorism incidents (e.g., Rigobon and Sack, 2005; Chesney et al., 2011; Goel et al., 2017), evidence of asset flows has been relatively limited because of the lack of data on the holding of assets those are free of the valuation effect and available at a high frequency. For example, valuation effects—the first-order effects of geopolitical risk on security prices and exchange rates—confound investors' actual portfolio adjustment. Moreover, given the mostly short-run nature of geopolitical risk, comprehensive yet low-frequency data, such as the Coordinated Portfolio Investment Survey (CPIS) by the IMF, is less useful in measuring the direct effects of geopolitical risk on asset flows. To fill this gap in the literature, we provide the first systematic study of the short-run effects of geopolitical risk on the volume of asset flows at the bilateral level.

Second, we find an important heterogeneity between advanced and emerging markets. Whereas we find a statistically significant decrease in U.S. purchases of emerging market bonds and equities during times of high geopolitical risk in recipient countries, we do not find any significant effect of geopolitical risk on purchases of advanced economies' securities. This heterogeneity explains why we find null results in the baseline analysis employing a full sample. Exploring this heterogeneity further, we find that the institutional quality of the country in question plays the most important role in alleviating the negative impacts of geopolitical risk. Although financial depth and financial openness play some role, their effects are not fully robust across specifications. In any case, the exchange rate regime is irrelevant in explaining the sensitivity of portfolio investment to geopolitical risk.

Third, we find evidence that U.S. portfolio bond investment in emerging markets is prone to the contagion of geopolitical risk. Using a proximity-weighted measure of geopolitical risk, we observe that the documented negative impact of geopolitical risk on cross-border bond purchases spills over to nearby emerging markets even after controlling for their own geopolitical risk. However, we do not find contagion effects on equity investment. Interestingly, there is contagion neither between advanced markets nor from advanced markets to emerging markets, corroborating the idea of the fundamental difference between advanced markets and emerging markets in the portfolio adjustment of international investors.

The remainder of the paper is organized as follows. Section II explains the empirical framework adopted, including how we collected data. Section III presents the main findings, provides a series of robustness checks, and explores a source of heterogeneity. Section IV sheds light on potential spillovers of geopolitical risk. Section V concludes.

II. Empirical Framework

In this section, we describe the choice of our data and the empirical methodology used to examine the effect of geopolitical risk on U.S. cross-border portfolio investment. Similar to Julio and Yook (2012), who focused on U.S. Foreign Direct Investment (FDI) outflows, we limit our analysis to U.S. portfolio investment in foreign countries so as to control for demand-side conditions, thereby sharpening the identification of the role of local geopolitical risk as an independent factor in portfolio investment.

Our sample consists of 40 countries, including 16 advanced economies and 24 emerging market economies (Table A.1.) that accounted for over 75% of U.S. foreign securities holdings in the period between 1994 and 2021 (Figure A.1).[4] As will be explained further, we pay special

[4] The share of portfolio investment toward the 16 advanced economies has steadily decreased, while that toward the 24 emerging market economies has been stable. This suggests that portfolio investment toward emerging market and developing economies, other than our sample countries, has made up the gap.

attention to potential heterogeneity in the response of U.S. portfolio investment between advanced markets and emerging markets; the distinction between groups is crucial.

A. Data

US Purchases of Foreign Securities. The main variable in our analysis, used to understand U.S. investor behavior toward foreign geopolitical risk, is net purchases of foreign securities by U.S. residents; these securities are divided into long-term bonds and equities. Since the determinants of bond and equity investment are likely different, we analyze each component separately. Net purchases of securities are calculated as gross purchases made by U.S. residents, less sales; thus, a positive sign indicates that U.S. residents are purchasing an excess of foreign securities. In the language of capital flows, this variable corresponds to U.S. capital outflows to each destination country.[5] The dataset we use was constructed by Bertaut and Tryon (2007) and Bertaut and Judson (2014), who estimated U.S. holdings of securities issued in foreign markets at monthly frequency starting from April 1994.

These authors used two sources of data, the U.S. Claims Surveys conducted (now) yearly, which captures holdings of foreign securities held by U.S. residents on the survey date, and Treasury International Capital (TIC-S) data, which includes U.S. residents' monthly net purchases of foreign securities. It is well-documented in the literature (e.g., Warnock and Wongswan, 2004; Bertaut and Tryon, 2007; Warnock and Warnock, 2009) that the sum of TIC-S net purchases does not match the gap between the values reported in individual surveys. The contributions of Bertaut and Tryon (2007) and Bertaut and Judson (2014) were that they applied a methodology to systematically distribute this gap in the months between surveys to generate a more accurate set of monthly position estimates. Finally, the authors decomposed changes in monthly holdings into net flows and

[5] Note that our measure of outflow is different from net outflow in current account, which is the difference between outflows and inflows.

valuation changes using equity and bond price indexes. Further details about the construction and methodology of the data can be found in Bertaut and Tryon (2007).

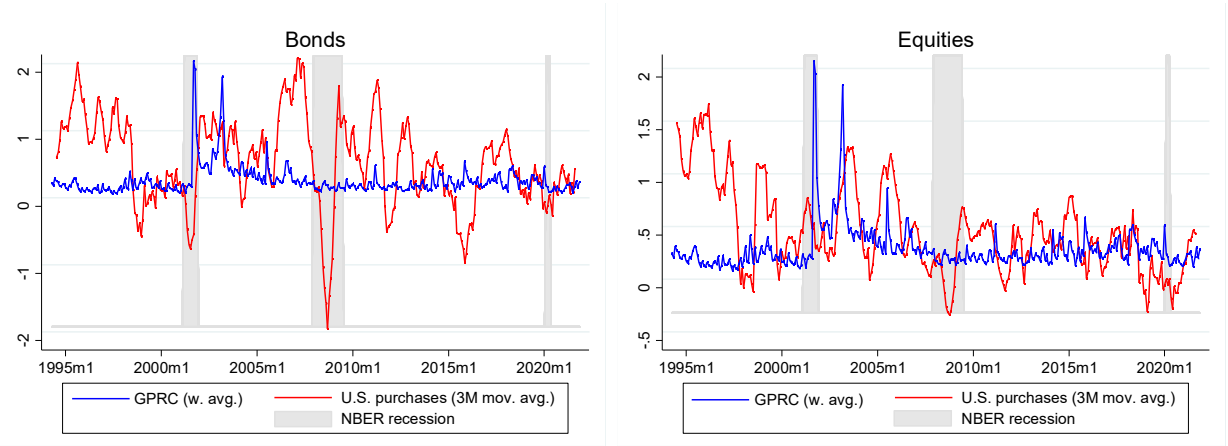
Geopolitical Risk. The main explanatory variable of our study is the Geopolitical Risk Index (GPR), obtained from Caldara and Iacoviello (2022). Recently, Caldara and Iacoviello (2022) constructed a news-based measure to capture adverse geopolitical events and their associated risks. We use their monthly country-specific index, which was constructed using the share of articles in leading newspapers that mention both the adverse geopolitical event and the name of the country in question. Such geopolitical events include but are not limited to military clashes, terrorist acts, and diplomatic incidents.

The country-specific GPR index currently includes 40 countries, of which 24 are emerging market economies and 16 are advanced economies. The sample of emerging market economies is diverse in terms of market size and geographic location. It includes at least four markets each from Latin America, Asia, Europe, and the Middle East/Africa, so the sample is quite representative geographically. Table 1 provides a summary of statistics on U.S. portfolio investments for bonds and equities and the GPR index. Nominal values (in million USD) and normalized values for portfolio investment flows are both reported. We also separately present summary statistics for a subsample of advanced and emerging market economies. As expected, the level of portfolio investment flows toward advanced markets is much higher than that toward emerging market economies. However, investment in emerging markets has grown faster than that in advanced economies.

In our main sample period between 1994 and 2021, the highest geopolitical risk was the U.K.'s response to the 9/11 terrorist attacks, which had an index value of 5.99. For the subsample of emerging markets, the highest geopolitical risk was Russia's invasion of Crimea in March 2014, which had index values of 2.33 for Russia and 2.12 for Ukraine. The average value for the entire sample is 0.16 and the standard deviation is 0.26. Interestingly, geopolitical risk is not necessarily,

on average, higher in emerging market economies than in advanced economies, suggesting that the stronger effect on emerging market economies we find is not simply driven by higher risk *per se*.

Figure 1. U.S. portfolio investment and average foreign geopolitical risk



Note: U.S. net purchases are the sum of net purchases of securities from the 40 countries in the sample as a percentage of holdings in the previous period. GPRC is weighted by U.S. holdings of the reference country's securities. Shaded areas denote NBER recessions.

Figure 1 shows the values of total U.S. net purchases of bonds and equities from the 40 markets in our sample, normalized by their holdings in the previous period, as well as the average GPR index in our sample, which is weighted by total holdings for each country. The three-month centered moving average for both values is taken to enhance readability. During the sample period, monthly changes have a mean above zero and constant fluctuations are present in the series. The monthly frequency of this dataset allows us to track changes in net purchases close to certain adverse geopolitical events, which changes may not be as apparent when using lower-frequency data.

The correlation between cross-border U.S. bond investment and equity investment is low (only 0.095), suggesting that the determinants of the two types of capital flows are likely to be different (Chuhan et al., 1998; Portes and Rey, 2005; Choi et al., 2023); as such we estimate the factors affecting bond and equity investment separately. Both U.S. bond and equity investment in foreign countries sharply declined during NBER recessions, but these events are not particularly associated with elevated geopolitical risk in foreign countries, indicating that heightened geopolitical risk in our study does not simply capture bad economic conditions in the source country (i.e., the

United States). Interestingly, there appears to be no strong co-movement between U.S. foreign portfolio investment and geopolitical risk at the aggregate level. Indeed, correlations of these values with the average GPR index are basically null (-0.006 and 0.019, respectively). Although one might jump to the conclusion that foreign geopolitical risk does not matter much for U.S. portfolio investment, a deeper analysis using bilateral data will show that this is not the case.[6]

Control variables for portfolio investment. To control for other determinants of portfolio investment, we include a set of macroeconomic and financial variables of both the "recipient" market and the United States; these are often labeled as pull and push factors, respectively, in the capital flow literature. The choice of these variables is motivated by previous works that studied the drivers of cross-border capital flows, such as Forbes and Warnock (2012), Fratzscher (2012), Ahmed and Zlate (2014), Byrne and Fiess (2016), Koepke (2019), and Roy and Kemme (2020).

To control for the economic conditions of a given destination market (i.e., pull factors), we include the growth of industrial production, inflation, short-term interest rates, growth of the dollar exchange rate, and MSCI stock market returns, which are available at monthly frequency. As for the U.S. variables (i.e., push factors), we use the growth of U.S. industrial production, one-year treasury yields, and the VIX index, which proxy real, monetary, and financial conditions, respectively, in the United States. In an alternative specification, these U.S. variables are replaced with a time-fixed effect, which accounts for both observable and unobservable factors common to portfolio investment in the sample countries. Table A.2 in the appendix summarizes the main variables used in this study and their data sources.

[6] During our sample period, spikes in the GPR index after 9/11 and the war in Iraq dwarfed effects of other geopolitical events. Even after these events are taken out, correlations are only 0.047 and -0.050.

B. Methodology

We attempt to estimate the effects of local geopolitical risk on U.S. portfolio investment in bonds and equities of a given market after controlling for various confounding factors, including both push and pull factors. Using a panel regression framework, our baseline model is as follows:

$$\frac{FPI_{i,t}}{Holdings_{i,t-1}} = \sum_{j=1}^{3} \alpha_j \frac{FPI_{i,t-j}}{Holdings_{i,t-1-j}} + \beta GPRC_{i,t} + \gamma_i + \delta_t + X'\theta + \varepsilon_{i,t}, \quad (1)$$

where $\frac{FPI_{i,t}}{Holdings_{i,t-1}}$ is U.S. foreign portfolio investment in country i, in month t, normalized by holdings of portfolio investment in month $t-1$. $GPRC_{i,t}$ is a local geopolitical risk index, γ_i denotes country-fixed effects, δ_t denotes time fixed-effects, and X is a vector of the control variables explained above. We also include lagged dependent variables to account for persistence in portfolio investment, but our main results are robust after dropping this term.[7] In all regressions, standard errors are clustered at the country level to alleviate possible correlations over time.

III. Empirical Findings

A. Baseline Results

Our baseline results are reported in Table 2, where we separately consider U.S. investment in foreign bonds and equities. In the first column, we include only a set of push factors; then, we add a list of pull factors in the second column. In the last column, we replace variables that capture push factors with a time-fixed effect. The results from both regressions show a negative coefficient on GPRC, which translates into 0.10–0.16% declines for bonds and 0.03–0.10% declines for equities when the change in the GPR index is normalized to one standard deviation to allow for meaningful interpretation. Those estimates are economically small and not statistically significant. Thus, if

[7] It is true that our OLS results might be biased due to the presence of both lagged dependent variables and country-fixed effects (see Nickell, 1981). However, since the time-series dimension of the panel dataset is quite large (over 200), the Nickell bias appears minor.

anything, the baseline results confirm the bird's eye view presented in Figure 1: foreign geopolitical risk does not matter for U.S. cross-border portfolio investment.

The reported coefficients of the control variables are broadly in line with those found in the previous literature. Among push (U.S. or global) factors, the effect of a higher VIX index, for example, corresponds to a decrease in U.S. purchases of foreign securities, as VIX proxies for global uncertainty or risk and U.S. investors withdraw from their (riskier) cross-border holdings (e.g., Ahmed and Zlate, 2014; Friedrich and Guérin, 2020; Choi et al., 2023). For the U.S. monetary policy stance, we use one-year treasury yields rather than the federal funds rate, because a substantial part of our sample belongs to the zero-lower-bound. However, the coefficient on U.S. bond yields is in most cases not statistically significant.[8]

U.S. output is proxied by the industrial production index, which enters the regression as statistically insignificant.[9] We also include the U.S. GPR index to observe whether U.S. investors increase foreign investment when geopolitical risk in the United States rises. The coefficients of the U.S. GPR index are negative, although they are not always statistically significant. This finding is not surprising given the dominant role of the United States in global financial markets: bad news for the U.S. discourages risk-taking behavior everywhere.

Among the pull (domestic) factors, higher domestic interest rates and higher returns in the stock market are positively related to U.S. purchases of domestic securities. Another variable we find significant in determining cross-border portfolio investment is the dollar exchange rate, pointing to the widely-held view that appreciation of the domestic currency is correlated with capital inflows

[8] This negative finding does not necessarily contradict recent literature that has found cross-border effects of U.S. monetary policy *shocks* (e.g., Bruno and Shin, 2015; Albrizio et al., 2020), as we do not identify a monetary policy shock. Since the interest rate is highly endogenous, using it as a regressor can confound the true causal effect of monetary policy shocks.

[9] The strong effect of VIX and weak effects of other push factors (e.g., U.S. interest rate or output) are consistent with the "global financial cycle" narrative by Rey (2015), who demonstrated a strong negative co-movement between VIX and risky asset prices, credit growth, and capital flows. Bekaert et al. (2013) also documented a systematic relationship between VIX and the U.S. monetary policy stance. Once VIX is dropped from the equation, coefficients on the interest rate and output become statistically significant with an expected sign.

(e.g., Froot et al., 2001; Evans and Lyons, 2002; Hau and Rey, 2006; Calderón and Kubota, 2019). However, more slow-moving variables such as output and inflation do not enter the regression as statistically significant, suggesting that short-run portfolio investment is largely driven by fast-moving financial variables.

Advanced vs. emerging market economies. The baseline results omit an important heterogeneity between advanced and emerging market economies because U.S. investors might perceive geopolitical risk in advanced economies as different from that in emerging market economies. On the one hand, because of poor institutional quality, less credible policy, or weaker economic fundamentals, geopolitical risk can have a strong effect on portfolio investment toward emerging markets; on the other hand, heightened geopolitical risk can be particularly bad news for advanced markets precisely because these countries have maintained more stable economic conditions. Thus, it is a priori not clear whether geopolitical risk has a larger effect on cross-border investment in advanced or in emerging markets.

To explore this heterogeneity, we introduce interaction terms between the GPRC index and a dummy variable taking a value of one for emerging market economies. We prefer this interaction term specification to subsample analysis, as time-fixed effects in subsample analysis are often difficult to interpret. By analyzing the interaction term, we can determine whether geopolitical risk generates an asymmetric impact on portfolio investment in advanced vs. emerging markets. We follow the IMF classification of emerging markets, with the additions of South Korea, Hong Kong, and Israel to the list, but dropping them or treating them as advanced economies does not alter our findings. The results from this exercise are presented in Table 3; the interaction term is negative and highly statistically significant, suggesting that the way geopolitical risk affects U.S. portfolio investment is fundamentally different between the two groups. In sum, the baseline results presented in Table 2 mask the importance of geopolitical risk in cross-border portfolio investment in emerging markets and are thus misleading.

B. Robustness Checks

In this section, we provide robustness checks for our main findings that foreign geopolitical risk reduces U.S. portfolio investment only toward emerging market economies, but not toward advanced economies. First, we run a subsample estimation instead of using the interaction term, as shown in Table 3, allowing for different coefficients of all regressors in the model. Tables A.3 and A.4 in the appendix show that the GPRC index is negative and statistically significant for the group of emerging market economies only, which is consistent with the full-sample analysis using an interaction dummy. Second, our findings may be driven by extreme events, such as 9/11 and the Iraq war, during which the increase in geopolitical risk is exceptional. By dropping these periods, we confirm that our findings are not driven by outlier events (Table A.5).

Third, our findings may be confounded by the correlation between geopolitical risk and economic uncertainty. To guard against this critique, we additionally control for the country-specific Economic Policy Uncertainty (EPU) index constructed by Baker et al. (2016), which used a text-mining approach similar to that of Caldara and Iacoviello (2022). The EPU index has been extensively used to quantify the adverse effect of uncertainty shocks on the economy; this index has also been applied to the analysis of international capital flows (Wang, 2018; Choi and Furceri, 2019; French and Li, 2022). Since the EPU index is not necessarily available for every country in our sample, the number of observations here decreases somewhat. Nevertheless, as shown in Table A.6 in the appendix, our main findings remain robust. This finding is not surprising given the mild correlation between the GPR index and the EPU index (0.24) in our sample, which is consistent with the observation in Baur and Smales (2020) that geopolitical risk is distinct from existing measures of economic, financial, and political risk or uncertainty.

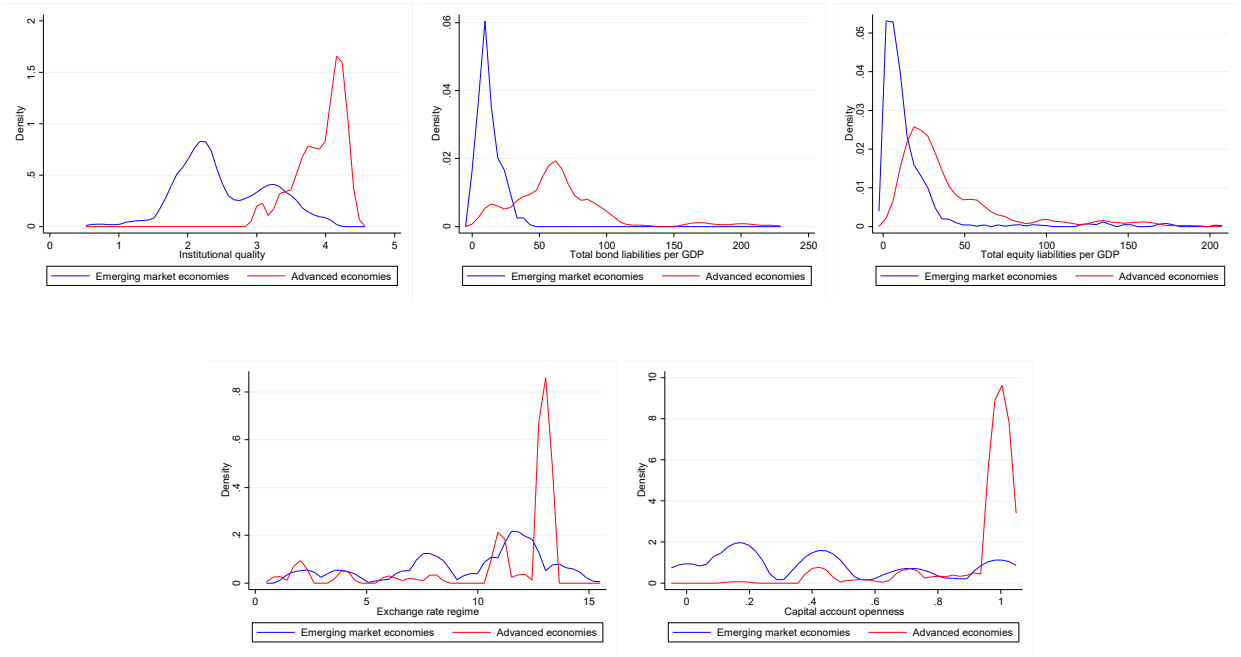
C. Understanding Heterogeneity between Advanced and Emerging Markets

We have found robust evidence that U.S. investors reduce their portfolio investment toward a country with heightened geopolitical risk but that this effect exists only for geopolitical risk in

emerging markets. Then, why does geopolitical risk matter only in emerging markets, and not in advanced markets? Can structural characteristics of the economy explain this difference? To answer this question, we consider the roles of institutional quality, market depth, exchange rate regime, and financial openness, in turn, which are known to affect the level of capital inflows as well as the sensitivity of capital inflows to external shocks (e.g., Honig, 2008; Fratzscher and Imbs, 2009; Ju and Wei, 2010; Magud et al., 2014; Julio and Yook, 2016; Byrne and Fiess, 2019; Cerutti et al., 2019; Albrizio et al., 2020).

To provide an overview of how advanced and emerging markets differ along these dimensions, we separately plot in Figure 2 the distribution of each structural characteristic for the group of advanced markets and emerging markets. While detailed definitions of each variable will be provided in the following section, it is clear that emerging markets are characterized by (i) lower institutional quality, (ii) shallower financial markets, (iii) somewhat less flexible exchange rate regimes, and (iv) lower financial openness compared with advanced markets.

Figure 2. Distribution of structural characteristics



Note: This figure plots the distribution (kernel density) of (i) institutional quality, (ii) bond market depth, (iii) equity market depth, (iv) exchange rate regime, and (iv) financial openness of the 40 countries in the sample. For the exchange rate regime, a larger number indicates larger flexibility.

The correlation among these characteristics shown in Table 4 is also consistent with this interpretation. By investigating whether these characteristics are systematically correlated with the sensitivity of portfolio inflows to geopolitical risk, we aim to determine which characteristics can explain the dramatic difference between advanced markets and emerging markets documented in Table 3. To this end, we modify the baseline equation (1) to interact with the various country-specific characteristics $CHR_{i,t}$ shown in Figure 2:

$$\frac{FPI_{i,t}}{Holdings_{i,t-1}} = \sum_{j=1}^{3} \alpha_j \frac{FPI_{i,t-j}}{Holdings_{i,t-1-j}} + \beta_1 GPRC_{i,t} + \beta_2 GPRC_{i,t} \times CHR_{i,t-1} + \beta_3 CHR_{i,t-1} + \gamma_i + \delta_t + X'\theta + \varepsilon_{i,t}, \quad (2)$$

where country-specific characteristics are lagged to minimize concern for reverse causality. When these characteristics are not available at a monthly frequency, we use values corresponding to the previous period (i.e., $CHR_{i,t-3}$ for a quarterly variable and $CHR_{i,t-12}$ for an annual variable).

Institutional quality. A first potential explanation of the heterogeneous effect is the difference in institutional quality between these two groups. To investigate this, we use a measure of institutional quality (IQ) taken from Governance Indicators in Kaufmann et al. (2010) and add an interaction term with GPRC. We construct an arithmetic average of the six categories belonging to IQ, which range between -2.5 (low) and 2.5 (high).[10]

In Table 5, the results show that the interaction term GPRC*IQ has a positive sign and is highly statistically significant, indicating that better institutional quality dampens adverse effects of geopolitical risk on U.S. portfolio investment in both bonds and equities. To check the robustness of this result, we also use each of the six indices individually and find that all have positive signs

[10] These six categories are voice and accountability (VA), political stability and absence of violence (PV), government effectiveness (GE), regulatory quality (RQ), rule of law (RL), and control of corruption (CC).

and are statistically significant.[11] However, the coefficient of institutional quality itself is not statistically significant, probably because country-fixed effects absorb most of the variation in institutional quality, given the high persistence of institutional quality. To the extent that institutional quality in emerging markets tends to be significantly lower than that in advanced markets, as shown in Figure 2, we conclude that institutional quality is important to understand the heterogeneity between the two groups.

Financial market depth. Another potential explanation of the heterogeneous effect between advanced markets and emerging markets is financial market depth. While advanced countries have deep financial markets, financial markets in emerging countries are not as liquid. However, whether financial market depth amplifies or dampens the adverse effect of geopolitical risk is not a priori clear. On the one hand, rising geopolitical risk can increase a liquidity premium and a risk premium in destination security markets. To the extent that market liquidity is inversely related to this liquidity premium (Brunnermeier and Pedersen, 2009), the liquidity premium is lower for a deeper market, and so financial market depth dampens the adverse effect of geopolitical risk. On the other hand, U.S. investors might internalize the consequences of their actions on market liquidity (Singh, 2011; Kim and Lee, 2020). In other words, they might be more reluctant to withdraw their investments from a market with low liquidity in which their sell-off could lower the price of assets. In this case, deeper financial markets would exacerbate the adverse effect of geopolitical risk.

To examine this problem empirically, we interact GPRC with an indicator of financial depth, expressed as a share of bond or equity liabilities in GDP, which we collect from the World Bank's Global Financial Development Database. The results in Table 6 show that financial market depth dampens the adverse effect on equity investment, supporting the first hypothesis. However, the results are mixed because the interaction coefficients are statistically insignificant for bond investment, echoing diverging views on market liquidity discussed in Singh (2011). One possible explanation is that market liquidity is more concerning for equity investment than bond investment

[11] The results are available upon request.

because most portfolio bond investment in our sample is government bonds (Bertaut and Judson, 2014), which tends to be more liquid than corporate bonds.

Exchange rate regime and financial openness. Other dimensions in which emerging market economies differ from advanced economies are their exchange rate regime and financial openness. While most advanced economies have adopted a floating exchange rate regime and fully open capital markets, emerging market economies are far more diverse in these characteristics, as shown in Figure 2. To study how the exchange rate regime and capital account openness affect the relationship between geopolitical risk and portfolio investment, we use the exchange rate regime classification from Ilzetzki et al. (2019) and the *de-jure* capital account openness index from Chinn and Ito (2008).

As for the exchange rate regime from Ilzetzki et al. (2019), this index represents the degree of flexibility, on a scale from 1 to 15 in which a lower number indicates a pegged currency while a higher number indicates a free float. The authors constructed this index using information about exchange rate management practices by central banks obtained from various sources including central bank's minutes and reports, AREAER, OECD, BIS, and others. We use the *de-jure* measure by Chinn and Ito (2008) to capture a distinct aspect of financial openness from the market depth considered in the previous section, as financial market depth is closely related to *de-facto* financial openness. This capital openness index is a continuous variable between 0 and 1, where 0 is assigned to "least financially open" and 1 to "most financially open" countries.[12]

The results in Table 7 show that the interaction of GPRC with the exchange rate regime is statistically insignificant, suggesting that the exchange rate regime is largely irrelevant in determining the sensitivity of portfolio inflows to geopolitical risk. This finding is consistent with the so-called "dilemma not trilemma" narrative claimed by Rey (2015) and suggests that a floating exchange rate regime alone cannot insulate an economy from rising geopolitical risk. We further

[12] The authors base their index on the IMF's *Annual Report of Exchange Rate Arrangements and Exchange Restrictions (AREAER),* using reversed values of dummy variables of current and capital account restrictions, the presence of multiple exchange rates, and the requirement of the surrender of export proceeds.

confirm the irrelevance of the exchange rate regime using an alternative measure of the exchange rate regime constructed by Aizenman et al. (2010), as shown in Table A.7 in the appendix. We use updated values of exchange rate stability up to 2020.[13]

Lastly, Table 8 summarizes how financial openness as measured by the Chinn-Ito capital account openness index interacts with geopolitical risk in driving U.S. portfolio investment. Interestingly, we do not find much evidence that capital controls alleviate the adverse effects of geopolitical risk. If anything, the interaction coefficients are positive, indicating that capital openness somewhat dampens the negative effect of geopolitical risk. Although this finding might seem puzzling at first, it could be driven by the high correlation between financial openness and institutional quality or financial depth, as shown in Table 4.

Given the high correlation among these structural variables, we include them all together and run a horse race. Table 9 summarizes the results. First, institutional quality still appears a robust explanation for the stark difference between advanced markets and emerging markets. Second, once the fact that countries with better institutional quality tend to have open capital markets is taken into account, capital controls become effective in ameliorating the adverse effects of geopolitical risk. Similar to the case of financial depth, such a dampening effect exists only for equity investment, not bond investment. However, financial openness still cannot explain why emerging market investment is more vulnerable to geopolitical risk than advanced market investment.

IV. Spillovers of Geopolitical Risk

We have shown that U.S. investors' purchases of emerging market portfolio securities are adversely affected by a country's geopolitical risk, while those of advanced market portfolio securities

[13] To measure exchange rate stability (i.e., the inverse of exchange rate flexibility), Aizenman et al. (2010) calculate the annual standard deviations of the monthly log-change in the exchange rate between the home country and the base country, normalizing the index between zero and one.

are largely independent of geopolitical risk. In searching for an explanation, we find that weaker institutional quality appears to be the main culprit, whereas other country characteristics like market depth, exchange rate regime, or capital account openness do not provide clear reasons why emerging market economies are more vulnerable to geopolitical risk.

In this section, we investigate how U.S. investors adjust their portfolios in response to heightened geopolitical risk by investigating whether geopolitical risk in one country matters for portfolio investment toward other countries, even after accounting for geopolitical risk in the original country.[14] There are two possibilities for adjustment. On the one hand, one may expect that portfolio investment is vulnerable to the contagion of geopolitical risk from neighboring countries. In response to an increase in geopolitical risk in a given country, U.S. investors reduce their investments in countries in close proximity to the country with heightened risk because investors do not necessarily pay much attention to individual country conditions and treat neighboring countries as parts of a group in their portfolios. As a result, portfolio inflows decline further than what is justified by the local geopolitical risk and economic fundamentals. We call this adjustment mechanism the contagion channel of geopolitical risk.

On the other hand, if investors truly differentiate each investment destination, rising geopolitical risk in one country can re-direct U.S. portfolio investment toward another country with similar characteristics once the direct pass-through of geopolitical risk is controlled for. We call this adjustment mechanism the substitution channel of geopolitical risk. Since both channels are theoretically plausible, the question becomes an empirical one. By testing the empirical relevance of competing channels for portfolio adjustments, we can enhance our understanding of the so-called fickleness of capital flows (Calvo and Mendoza, 2000; Caballero and Simsek, 2020) and co-movements in asset returns across countries (Bekaert et al., 2009; Garcia and Tsafack, 2011).

[14] One must control for geopolitical risk in alternative investment destinations to account for potential correlation of geopolitical risk across countries.

To explore the relevance of each channel, we add a variable to capturing geopolitical risk in neighboring countries, with a weight that depends on the proximity to a given country. The proximity is the most natural weight, given our focus on *geopolitical* risk. After obtaining geographical distance data from Mayer and Zignago (2011), we construct a GPRS variable following Baker et al. (forthcoming), which is the sum of the GPRC indices of all other countries in the sample, weighted by the inverse of the distance from the reference country:

$$GPRS_{i,t} = \sum_{j=1}^{n} \frac{GPRC_{j,t}}{Dist_{i,j}} \times \sum_{j=1}^{n} Dist_{i,j}, \tag{3}$$

where $GPRS_{i,t}$ is the spillover measure of country i in month t, $GPRC_{j,t}$ is the geopolitical risk index of country j (such that $j \neq i$) in month t, and $Dist_{i,j}$ is the distance (in kilometers) between country i and j in a sample of n countries. We then estimate equation (4), which extends the baseline equation:

$$\frac{FPI_{i,t}}{Holdings_{i,t-1}} = \sum_{j=1}^{3} \alpha_j \frac{FPI_{i,t-j}}{Holdings_{i,t-1-j}} + \beta_1 GPRC_{i,t} + \beta_2 GPRS_{i,t} + \gamma_i + \delta_t + X'\theta + \varepsilon_{i,t}. \tag{4}$$

It is important to note that we still control for the direct effect of geopolitical risk in a given country, to differentiate it from contagion from other countries. Otherwise, one may confound mere correlated geopolitical risk as a true spillover in portfolio adjustments.[15] The results in Table 10 show that there is no evidence of either a contagion or substitution channel of portfolio adjustment in response to geopolitical risk when our analysis is conducted for a full sample. This finding is perhaps not surprising because geopolitical risk does not reduce U.S. portfolio investment once advanced economies are considered together.

[15] If geopolitical risk in one country reduces portfolio investment in the neighboring country by transmitting that geopolitical risk, such a direct effect would be captured by the original GPRC term.

Thus, we restrict our analysis to the sample of emerging market economies, as before. As shown in Table 11, we now find evidence of a contagion channel of portfolio adjustment: in addition to the GPRC variable, the GPRS variable has a negative sign, indicating that an increase in geopolitical risk in other emerging market economies further reduces U.S. portfolio investment in the given country. However, the results are much stronger for bond investment, which is also highly statistically significant, suggesting interesting heterogeneity between bond investors and equity investors regarding their portfolio adjustment in response to heightened geopolitical risk.

This finding is robust against alternative specifications (e.g., EM dummy interaction in the full sample (Table A.8) and separating the spillover from advanced economies and emerging market economies (Table A.9)). In particular, the results in Table A.9 highlight that there is no contagion from advanced markets to emerging markets and vice versa, further corroborating the idea that U.S. investors still view emerging markets as quite separate from advanced markets.

V. Conclusion

This paper examines the effect of geopolitical risk on cross-border portfolio investment. Using panel data from 40 countries over more than 25 years, we find a negative impact of local geopolitical risk on U.S. purchases of local long-term bonds and equities only in the group of 24 emerging markets but not for the group of 16 advanced markets. We attempt to explain the heterogeneity in the geopolitical risk effect between emerging markets and advanced markets by interacting the GPR index with various structural characteristics, including the index of institutional quality, financial depth, exchange rate regimes, and financial openness. From these interactions, we learn that the adverse effect of geopolitical risk on portfolio investment is significantly dampened in countries with high institutional quality, explaining why emerging markets are more vulnerable to geopolitical risk. Although deeper financial markets and capital controls (after controlling for institutional quality) have some ameliorating effects, they are mostly limited to equity investment, not bond investment, and less robust across specifications.

Extending our model with a distance-weighted measure of geopolitical risk, we find that U.S. investors reduce their holdings of portfolio bonds of a given emerging market when other emerging economies in its proximity have high geopolitical risk, even after controlling for the geopolitical risk in the original destination. However, such a contagion channel of portfolio adjustment in response to geopolitical risk exists only among emerging markets, not between advanced and emerging markets, nor among advanced markets. Moreover, equity investment in emerging markets appears to be resilient to contagion. The interesting heterogeneity between countries and asset classes documented in the paper bears important implications for financial stability and deserves a deeper analysis with micro-level data.

Tables

Table 1. Summary statistics

	Variable		Obs	Mean	Median	Std. Dev.	Min	Max
Full sample	Flows (mil. USD)	Bond	12,974	136.870	7.185	1,546.460	-20,480	25,303.720
		Equity	12,974	306.280	41.795	2,640.570	-89,117	52,988.400
	Flows/holdings (t-1)	Bond	12,871	.797	.227	7.773	-26.399	41.199
		Equity	12,958	.605	.373	3.783	-13.853	18.973
	GPRC		13,280	.155	.060	.260	0	5.990
Advanced markets	Flows (mil. USD)	Bond	5,219	273.046	37.760	2,303.543	-20,480	25,303.720
		Equity	5,219	587.108	156.630	3,870.500	-89,117	52,988.400
	Flows/holdings (t-1)	Bond	5,217	.684	.327	6.725	-26.399	41.199
		Equity	5,219	.466	.366	1.900	-13.853	18.973
	GPRC		5,312	.191	.080	.319	0	5.990
Emerging markets	Flows (mil. USD)	Bond	7,755	45.241	2.030	639.918	-8,070	6,487
		Equity	7,755	117.300	19.980	1,222.987	-24,635	26,178
	Flows/holdings (t-1)	Bond	7,654	.874	.146	8.412	-26.400	41.199
		Equity	7,739	.698	.384	4.638	-13.853	18.973
	GPRC		7,968	.131	.050	.208	0	2.330

Note: The sample is the 40 countries listed in the appendix and the sample period is from 1994M4 to 2021M11. Flows/holdings (t-1) are winsorized at the top and bottom 1%.

Table 2. Baseline regression results

	Dependent variable: U.S. foreign bond purchases/holdings (t-1)			**Dependent variable**: U.S. foreign equity purchases/holdings (t-1)		
	(1)	(2)	(3)	(1)	(2)	(3)
GPRC	-0.450	-0.609	-0.641	-0.448	-0.196	-0.159
	[0.478]	[0.377]	[0.405]	[0.347]	[0.330]	[0.321]
One-year treasury	0.053	0.008		0.074***	0.000	
yields	[0.033]	[0.040]		[0.020]	[0.026]	
VIX	-0.062***	-0.041***		-0.027***	-0.022***	
	[0.011]	[0.011]		[0.005]	[0.005]	
U.S. GPRC	-0.068	-0.071*		0.033	-0.032	
	[0.044]	[0.041]		[0.044]	[0.038]	
U.S. Industrial	-2.450	-0.614		0.768	-0.204	
production.	[6.377]	[6.583]		[3.396]	[3.936]	
Industrial		-1.047	-0.716		-0.207	-0.182
production		[0.950]	[0.972]		[0.519]	[0.561]
Inflation		0.000	-0.001		0.000	0.000
		[0.000]	[0.000]		[0.000]	[0.000]
Interest rate		0.007	0.005		0.026***	0.022***
		[0.013]	[0.011]		[0.006]	[0.004]
Exchange rate		-7.922***	-7.646***		-3.531*	-3.689*
		[2.130]	[2.569]		[1.850]	[1.917]
Stock market		4.268***	5.833***		2.075	3.940
		[1.116]	[1.314]		[1.897]	[2.907]
N	12,715	10,111	10,111	12,829	10,187	10,187
R^2	0.016	0.021	0.042	0.059	0.042	0.074
Country FE	Y	Y	Y	Y	Y	Y
Time FE	N	N	Y	N	N	Y

Note: The sample is the 40 countries listed in the appendix in the period between 1994M4 and 2021M11. Dependent variables are winsorized at the top and bottom 1%. Standard errors are clustered at the country level.

Table 3. Advanced vs. emerging market economies.

	Dependent variable: US Net Foreign Bond Purchases/Holdings (t-1)			**Dependent variable**: US Net Foreign Equity Purchases/Holdings (t-1)		
	(1)	(2)	(3)	(1)	(2)	(3)
GPRC	0.032	0.027	0.059	0.114	0.291***	0.337***
	[0.204]	[0.178]	[0.191]	[0.145]	[0.106]	[0.094]
GPRC*EM	-1.175	-1.780***	-1.995***	-1.367***	-1.364***	-1.410***
	[1.023]	[0.627]	[0.704]	[0.221]	[0.298]	[0.305]
N	12,715	10,111	10,111	12,829	10,187	10,187
R^2	0.017	0.022	0.042	0.06	0.043	0.076
Push controls	Y	Y	N	Y	Y	N
Pull controls	N	Y	Y	N	Y	Y
Country FE	Y	Y	Y	Y	Y	Y
Time FE	N	N	Y	N	N	Y

Note: The sample is the 40 countries listed in the appendix in the period between 1994M4 and 2021M11. Dependent variables are winsorized at the top and bottom 1%. GPRC*EM is an interaction term of GPRC and emerging market economy dummy. Standard errors are clustered at the country level.

Table 4. Correlation among country characteristics

All data	Institutional quality	Financial depth (equity)	Financial depth (bond)	Exchange rate regime	Financial openness
Institutional quality	1				
Financial depth (equity)	0.551	1			
Financial depth (bond)	0.626	0.315	1		
Exchange rate regime	0.119	-0.160	0.255	1	
Financial openness	0.758	0.418	0.547	0.134	1

Note: For the exchange rate regime, a larger number indicates larger flexibility.

Table 5. Role of institutional quality

	Dependent variable: US Net Foreign Bond Purchases/Holdings (t-1)			**Dependent variable**: US Net Foreign Equity Purchases/Holdings (t-1)		
	(1)	(2)	(3)	(1)	(2)	(3)
GPRC	-2.517	-4.551***	-5.092***	-2.334***	-1.965***	-2.113***
	[2.561]	[1.342]	[1.718]	[0.365]	[0.313]	[0.448]
GPRC*IQ	0.628	1.124***	1.289**	0.612***	0.571***	0.631***
	[0.667]	[0.394]	[0.480]	[0.097]	[0.086]	[0.122]
Institutional quality	0.563	-0.008	-0.321	-0.102	0.211	-0.022
	[0.570]	[0.645]	[0.633]	[0.262]	[0.395]	[0.428]
N	10,686	8,820	8,820	10,782	8,876	8,876
R^2	0.011	0.018	0.039	0.031	0.027	0.055
Push controls	Y	Y	N	Y	Y	N
Pull controls	N	Y	Y	N	Y	Y
Country FE	Y	Y	Y	Y	Y	Y
Time FE	N	N	Y	N	N	Y

Note: The sample is the 40 countries listed in the appendix in the period between 1994M4 and 2021M11. Dependent variables are winsorized at the top and bottom 1%. GPRC*IQ is an interaction term of GPRC and the institutional quality index. Standard errors are clustered at the country level.

Table 6. Role of financial market depth

	Dependent variable: US Net Foreign Bond Purchases/Holdings (t-1)			**Dependent variable**: US Net Foreign Equity Purchases/Holdings (t-1)		
	(1)	(2)	(3)	(1)	(2)	(3)
GPRC	-0.184	-0.717	-0.750	-0.691**	-0.553	-0.520*
	[0.766]	[0.531]	[0.661]	[0.300]	[0.354]	[0.302]
GPRC*Depth	-0.007	0.003	0.001	0.013**	0.014*	0.013**
	[0.010]	[0.006]	[0.008]	[0.006]	[0.007]	[0.006]
Financial depth	-0.005	-0.006	-0.007	-0.002	0.000	0.004
	[0.006]	[0.006]	[0.007]	[0.003]	[0.004]	[0.004]
N	9,716	8,182	8,182	9,761	8,180	8,180
R^2	0.014	0.025	0.044	0.016	0.024	0.049
Push controls	Y	Y	N	Y	Y	N
Pull controls	N	Y	Y	N	Y	Y
Country FE	Y	Y	Y	Y	Y	Y
Time FE	N	N	Y	N	N	Y

Note: The sample is the 40 countries listed in the appendix in the period between 1994M4 and 2021M11. Dependent variables are winsorized at the top and bottom 1%. GPRC*Depth is an interaction term of GPRC and bond (equity) market depth. Standard errors are clustered at the country level.

Table 7. Role of exchange rate regime

	Dependent variable: US Net Foreign Bond Purchases/Holdings (t-1)			**Dependent variable**: US Net Foreign Equity Purchases/Holdings (t-1)		
	(1)	(2)	(3)	(1)	(2)	(3)
GPRC	-0.182	-2.356*	-2.723	-1.491**	-0.251	-0.502
	[2.924]	[1.360]	[1.709]	[0.670]	[0.835]	[0.824]
GPRC*ER	-0.030	0.152	0.179	0.100**	0.006	0.031
	[0.239]	[0.100]	[0.129]	[0.049]	[0.074]	[0.075]
Exchange rate regime	-0.014	-0.038	-0.003	-0.023	-0.031	-0.002
	[0.042]	[0.032]	[0.039]	[0.024]	[0.027]	[0.024]
N	11,684	9,277	9,277	11,748	9,287	9,287
R^2	0.017	0.024	0.042	0.069	0.053	0.09
Push controls	Y	Y	N	Y	Y	N
Pull controls	N	Y	Y	N	Y	Y
Country FE	Y	Y	Y	Y	Y	Y
Time FE	N	N	Y	N	N	Y

Note: The sample is the 40 countries listed in the appendix in the period between 1994M4 and 2021M11. Dependent variables are winsorized at the top and bottom 1%. GPRC*ER is an interaction term of GPRC and the exchange rate regime index. Standard errors are clustered at the country level.

Table 8. Role of capital account openness

	Dependent variable: US Net Foreign Bond Purchases/Holdings (t-1)			**Dependent variable**: US Net Foreign Equity Purchases/Holdings (t-1)		
	(1)	(2)	(3)	(1)	(2)	(3)
GPRC	-0.198	-1.586	-1.660	-1.299**	-1.007	-0.943
	[1.829]	[1.424]	[1.739]	[0.520]	[0.795]	[0.635]
GPRC*KAOPEN	-0.305	1.189	1.176	1.138**	0.969	0.918
	[1.929]	[1.588]	[1.904]	[0.549]	[0.783]	[0.634]
Capital account	-0.914*	-1.130*	-1.096**	-0.722**	-0.213	-0.123
openness	[0.497]	[0.632]	[0.503]	[0.311]	[0.431]	[0.428]
N	11,519	9,148	9,148	11,583	9,158	9,158
R^2	0.016	0.025	0.042	0.058	0.047	0.085
Push controls	Y	Y	N	Y	Y	N
Pull controls	N	Y	Y	N	Y	Y
Country FE	Y	Y	Y	Y	Y	Y
Time FE	N	N	Y	N	N	Y

Note: The sample is the 40 countries listed in the appendix in the period between 1994M4 and 2021M11. Dependent variables are winsorized at the top and bottom 1%. GPRC*KAOPEN is an interaction term of GPRC and the capital account openness index. Standard errors are clustered at the country level.

Table 9. Role of all structural characteristics

	Dependent variable: US Net Foreign Bond Purchases/Holdings (t-1)			**Dependent variable**: US Net Foreign Equity Purchases/Holdings (t-1)		
	(1)	(2)	(3)	(1)	(2)	(3)
GPRC	0.127	-6.778**	-8.182**	-1.479	-2.303	-2.431
	[3.478]	[2.510]	[3.541]	[1.691]	[2.555]	[2.552]
GPRC*IQ	1.671**	1.560**	1.929**	1.132**	1.165**	1.107**
	[0.640]	[0.692]	[0.898]	[0.501]	[0.528]	[0.545]
GPRC*Depth	-0.008	-0.013	-0.019	0.002	-0.004	-0.005
	[0.011]	[0.010]	[0.011]	[0.010]	[0.011]	[0.012]
GPRC*ER	-0.408	0.110	0.170	-0.083	0.041	0.059
	[0.258]	[0.128]	[0.173]	[0.088]	[0.148]	[0.145]
GPRC*KAOPEN	-1.826	-0.202	-0.682	-1.846*	-2.250**	-2.063*
	[1.761]	[1.363]	[1.502]	[0.933]	[1.104]	[1.057]
Institutional quality	0.858	0.002	-0.273	-0.130	0.283	0.170
	[0.884]	[0.836]	[0.801]	[0.365]	[0.390]	[0.437]
Financial depth	0.002	0.005	0.003	-0.001	0.001	0.001
	[0.009]	[0.010]	[0.011]	[0.002]	[0.003]	[0.003]
Exchange rate regime	0.140	-0.035	-0.050	0.006	-0.062**	-0.059*
	[0.085]	[0.072]	[0.082]	[0.034]	[0.028]	[0.033]
Capital account openness	0.737	0.992	1.186	0.530	0.522	0.490
	[0.906]	[1.135]	[1.107]	[0.484]	[0.576]	[0.540]
N	8,449	7,194	7,194	8,506	7,192	7,192
R^2	0.011	0.024	0.042	0.022	0.038	0.064
Push controls	Y	Y	N	Y	Y	N
Pull controls	N	Y	Y	N	Y	Y
Country FE	Y	Y	Y	Y	Y	Y
Time FE	N	N	Y	N	N	Y

Note: The sample is the 40 countries listed in the appendix in the period between 1994M4 and 2021M11. Dependent variables are winsorized at the top and bottom 1%. GPRC*IQ is an interaction term of GPRC and the institutional quality index. GPRC*Depth is an interaction term of GPRC and bond (equity) market depth. GPRC*ER is an interaction term of GPRC and the exchange rate regime index. GPRC*KAOPEN is an interaction term of GPRC and the capital account openness index. Standard errors are clustered at the country level.

Table 10. Spillovers of geopolitical risk: full sample

	Dependent variable: US Net Foreign Bond Purchases/Holdings (t-1)			**Dependent variable**: US Net Foreign Equity Purchases/Holdings (t-1)		
	(1)	(2)	(3)	(1)	(2)	(3)
GPRC	-0.394	-0.623	-0.656	-0.333	-0.148	-0.136
	[0.475]	[0.408]	[0.409]	[0.330]	[0.330]	[0.326]
GPRS	-0.733	0.200	0.495	-1.477**	-0.668	-0.794
	[1.386]	[1.318]	[2.549]	[0.686]	[0.734]	[0.852]
N	12,715	10,111	10,111	12,829	10,187	10,187
R^2	0.016	0.021	0.041	0.059	0.042	0.074
Push controls	Y	Y	N	Y	Y	N
Pull controls	N	Y	Y	N	Y	Y
Country FE	Y	Y	Y	Y	Y	Y
Time FE	N	N	Y	N	N	Y

Note: The sample is the 40 countries listed in the appendix in the period between 1994M4 and 2021M11. Dependent variables are winsorized at the top and bottom 1%. GPRS measures the GPRC of third countries weighted by distance. Standard errors are clustered at the country level.

Table 11. Spillovers of geopolitical risk: sample of emerging market economies

	Dependent variable: US Net Foreign Bond Purchases/Holdings (t-1)			**Dependent variable**: US Net Foreign Equity Purchases/Holdings (t-1)		
	(1)	(2)	(3)	(1)	(2)	(3)
GPRC	-0.396	-1.165*	-1.280*	-1.073***	-0.934**	-0.942**
	[1.028]	[0.586]	[0.650]	[0.311]	[0.408]	[0.382]
GPRS	-4.539**	-3.580**	-9.172***	-1.747	-1.085	-1.735
	[1.995]	[1.693]	[2.788]	[1.229]	[1.225]	[1.289]
N	7,552	5,568	5,568	7,658	5,640	5,640
R^2	0.015	0.02	0.056	0.06	0.041	0.074
Push controls	Y	Y	N	Y	Y	N
Pull controls	N	Y	Y	N	Y	Y
Country FE	Y	Y	Y	Y	Y	Y
Time FE	N	N	Y	N	N	Y

Note: The sample is the 24 emerging market economies listed in the appendix in the period between 1994m4 and 2021m11. Dependent variables are winsorized at the top and bottom 1%. GPRS measures the GPRC of third emerging market economies weighted by distance. Standard errors are clustered at the country level.

References

Ahmed, Shaghil, and Andrei Zlate. "Capital flows to emerging market economies: A brave new world?" Journal of International Money and Finance 48 (2014): 221-248.

Aizenman, Joshua, Menzie David Chinn, and Hiro Ito. "The emerging global financial architecture: Tracing and evaluating new patterns of the trilemma configuration." Journal of International Money and Finance 29, no. 4 (2010): 615-641.

Albrizio, Silvia, Sangyup Choi, Davide Furceri, and Chansik Yoon. "International bank lending channel of monetary policy." Journal of International Money and Finance 102 (2020): 102124.

Amihud, Yakov, and Avi Wohl. "Political news and stock prices: The case of Saddam Hussein contracts." Journal of Banking & Finance 28, no. 5 (2004): 1185-1200.

Baker, Scott R., Nicholas Bloom, and Steven J. Davis. "Measuring economic policy uncertainty." Quarterly Journal of Economics 131.4 (2016): 1593-1636.

Baker, Scott R., Nicholas Bloom, and Stephen J. Terry. "Using disasters to estimate the impact of uncertainty." Review of Economic Studies (forthcoming).

Bekaert, Geert, Robert J. Hodrick, and Xiaoyan Zhang. "International stock return comovements." Journal of Finance 64, no. 6 (2009): 2591-2626.

Bekaert, Geert, Marie Hoerova, and Marco Lo Duca. "Risk, uncertainty and monetary policy." Journal of Monetary Economics 60, no. 7 (2013): 771-788.

Baur, Dirk G., and Lee A. Smales. "Hedging geopolitical risk with precious metals." Journal of Banking & Finance 117 (2020): 105823.

Bertaut, Carol C., and Ralph W. Tryon. "Monthly estimates of US cross-border securities positions." FRB International Finance Discussion Paper 910 (2007).

Bertaut, Carol C., and Ruth Judson. "Estimating US cross-border securities positions: New data and new methods." Available at SSRN 2483922 (2014).

Brunnermeier, Markus K., and Lasse Heje Pedersen. "Market liquidity and funding liquidity." Review of Financial Studies 22, no. 6 (2009): 2201-2238.

Bruno, Valentina, and Hyun Song Shin. "Capital flows and the risk-taking channel of monetary policy." Journal of Monetary Economics 71 (2015): 119-132.

Byrne, Joseph P., and Norbert Fiess. "International capital flows to emerging markets: National and global determinants." Journal of International Money and Finance 61 (2016): 82-100.

Caballero, Ricardo J., and Alp Simsek. "A model of fickle capital flows and retrenchment." Journal of Political Economy 128, no. 6 (2020): 2288-2328.

Caldara, Dario, and Matteo Iacoviello. "Measuring geopolitical risk." American Economic Review 112, no. 4 (2022): 1194-1225.

Calderón, César, and Megumi Kubota. "Ride the Wild Surf: An investigation of the drivers of surges in capital inflows." Journal of International Money and Finance 92 (2019): 112-136.

Calvo, Guillermo A., and Enrique Mendoza. "Contagion, globalization, and the volatility of capital flows." Capital flows and the emerging economies: theory, evidence, and controversies (2000): 15-41.

Cerutti, Eugenio, Stijn Claessens, and Damien Puy. "Push factors and capital flows to emerging markets: why knowing your lender matters more than fundamentals." Journal of International Economics 119 (2019): 133-149.

Chesney, Marc, Ganna Reshetar, and Mustafa Karaman. "The impact of terrorism on financial markets: An empirical study." Journal of Banking & Finance 35, no. 2 (2011): 253-267.

Chinn, Menzie D., and Hiro Ito. "A new measure of financial openness." Journal of Comparative Policy Analysis 10, no. 3 (2008): 309-322.

Choi, Sangyup, and Davide Furceri. "Uncertainty and cross-border banking flows." Journal of International Money and Finance 93 (2019): 260-274.

Choi, Sangyup, Gabriele Ciminelli, and Davide Furceri. "Is domestic uncertainty a local pull factor driving foreign capital inflows? New cross-country evidence." Journal of International Money and Finance 130 (2023): 102764

Chuhan, Punam, Stijn Claessens, and Nlandu Mamingi. "Equity and bond flows to Latin America and Asia: the role of global and country factors." Journal of Development Economics 55, no. 2 (1998): 439-463.

Engle, Robert F., and Susana Campos-Martins. "What are the events that shake our world? Measuring and hedging global COVOL." Journal of Financial Economics 147, no. 1 (2023): 221-242.

Evans, Martin DD, and Richard K. Lyons. "Order flow and exchange rate dynamics." Journal of Political Economy 110, no. 1 (2002): 170-180.

Fajgelbaum, Pablo D., Edouard Schaal, and Mathieu Taschereau-Dumouchel. "Uncertainty traps." Quarterly Journal of Economics 132, no. 4 (2017): 1641-1692.

Falato, Antonio, Itay Goldstein, and Ali Hortaçsu. "Financial fragility in the COVID-19 crisis: The case of investment funds in corporate bond markets." Journal of Monetary Economics 123 (2021): 35-52.

Feng, Chaonan, Liyan Han, Samuel Vigne, and Yang Xu. "Geopolitical risk and the dynamics of international capital flows." Journal of International Financial Markets, Institutions and Money (forthcoming).

Filer, Randall K., and Dragana Stanišić. "The effect of terrorist incidents on capital flows." Review of Development Economics 20, no. 2 (2016): 502-513.

Fratzscher, Marcel, and Jean Imbs. "Risk sharing, finance, and institutions in international portfolios." Journal of Financial Economics 94, no. 3 (2009): 428-447.

French, Joseph J., and Wei-Xuan Li. "Economic policy uncertainty and fund flows to the United States." Finance Research Letters 45 (2022): 102126.

Friedrich, Christian, and Pierre Guérin. "The dynamics of capital flow episodes." Journal of Money, Credit and Banking 52, no. 5 (2020): 969-1003.

Froot, Kenneth A., Paul GJ O'connell, and Mark S. Seasholes. "The portfolio flows of international investors." Journal of Financial Economics 59, no. 2 (2001): 151-193.

Garcia, René, and Georges Tsafack. "Dependence structure and extreme comovements in international equity and bond markets." Journal of Banking & Finance 35, no. 8 (2011): 1954-1970.

Goel, Sanjay, Seth Cagle, and Hany Shawky. "How vulnerable are international financial markets to terrorism? An empirical study based on terrorist incidents worldwide." Journal of Financial Stability 33 (2017): 120-132.

Hau, Harald, and Helene Rey. "Exchange rates, equity prices, and capital flows. "Review of Financial Studies 19, no. 1 (2006): 273-317.

Honig, Adam. "Do improvements in government quality necessarily reduce the incidence of costly sudden stops?" Journal of Banking & Finance 32, no. 3 (2008): 360-373.

Ilzetzki, Ethan, Carmen M. Reinhart, and Kenneth S. Rogoff. "Exchange arrangements entering the twenty-first century: Which anchor will hold?" Quarterly Journal of Economics 134, no. 2 (2019): 599-646.

Ivanovski, Kris, and Abebe Hailemariam. "Time-varying geopolitical risk and oil prices." International Review of Economics & Finance 77 (2022): 206-221.

Iyke, Bernard Njindan, Dinh Hoang Bach Phan, and Paresh Kumar Narayan. "Exchange rate return predictability in times of geopolitical risk." International Review of Financial Analysis 81 (2022): 102099.

Izzeldin, Marwan, Yaz Gülnur Muradoğlu, Vasileios Pappas, Athina Petropoulou, and Sheeja Sivaprasad. "The impact of the Russian-Ukrainian war on global financial markets." International Review of Financial Analysis 87 (2023): 102598.

Ju, Jiandong, and Shang-Jin Wei. "Domestic institutions and the bypass effect of financial globalization." American Economic Journal: Economic Policy 2, no. 4 (2010): 173-204.

Julio, Brandon, and Youngsuk Yook. "Policy uncertainty, irreversibility, and cross-border flows of capital." Journal of International Economics 103 (2016): 13-26.

Kaufmann, Daniel, Aart Kraay, and Massimo Mastruzzi. "The Worldwide Governance Indicators: Methodology and Analytical Issues." World Bank Policy Research Working Paper 5430 (2010).

Kim, Kyungkeun, and Dongwon Lee. "Equity market integration and portfolio rebalancing." Journal of Banking & Finance 113 (2020): 105775.

Koepke, Robin. "What drives capital flows to emerging markets? A survey of the empirical literature." Journal of Economic Surveys 33, no. 2 (2019): 516-540.

Ludvigson, Sydney C., Sai Ma, and Serena Ng. "Uncertainty and business cycles: exogenous impulse or endogenous response?" American Economic Journal: Macroeconomics 13, no. 4 (2021): 369-410.

Magud, Nicolas E., Carmen M. Reinhart, and Esteban R. Vesperoni. "Capital inflows, exchange rate flexibility and credit booms." Review of Development Economics 18, no. 3 (2014): 415-430.

Mayer, Thierry, and Soledad Zignago. "Notes on CEPII's distances measures: The GeoDist database." (2011).

Nickell, Stephen. "Biases in dynamic models with fixed effects." Econometrica (1981): 1417-1426.

Portes, Richard, and Helene Rey. "The determinants of cross-border equity flows." Journal of International Economics 65, no. 2 (2005): 269-296.

Rey, Hélène. "Dilemma not trilemma: the global financial cycle and monetary policy independence. No. w21162." National Bureau of Economic Research, 2015.

Rigobon, Roberto, and Brian Sack. "The effects of war risk on US financial markets." Journal of Banking & Finance 29, no. 7 (2005): 1769-1789.

Roy, Saktinil, and David M. Kemme. "The run-up to the global financial crisis: A longer historical view of financial liberalization, capital inflows, and asset bubbles." International Review of Financial Analysis 69 (2020): 101377.

Schmidt, Torsten, and Lina Zwick. "Uncertainty and episodes of extreme capital flows in the Euro Area." Economic Modelling 48 (2015): 343-356.

Singh, Sukudhew. "Financial market depth: friend or foe when it comes to effective management of monetary policy and capital flows?" BIS Background Papers 231 (2011).

Thomas, Charles P., Francis E. Warnock, and Jon Wongswan. "The performance of international portfolios." Available at SSRN 595681 (2004).

Wang, Xinjie, Yangru Wu, and Weike Xu. "Geopolitical risk and investment." Journal of Money, Credit and Banking (forthcoming)

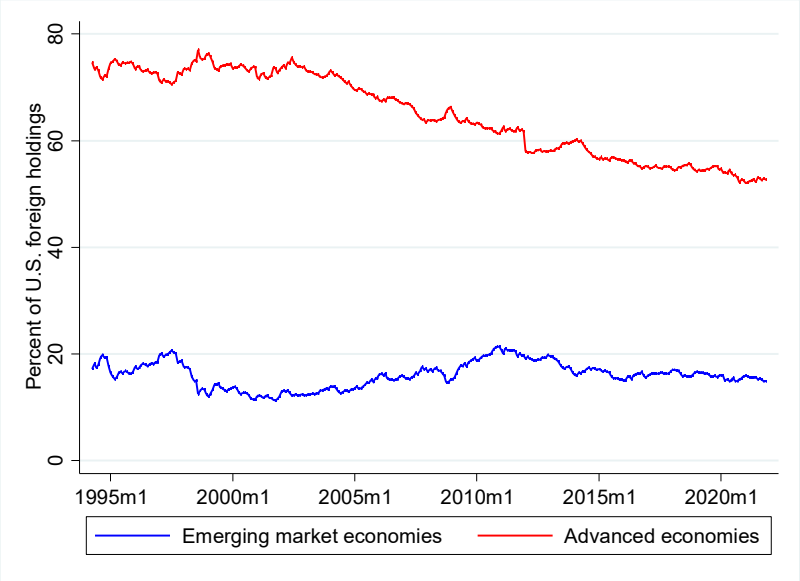
Wang, Yabin. "Fickle capital flows and retrenchment: Evidence from bilateral banking data." Journal of International Money and Finance 87 (2018): 1-21.

Warnock, Francis E., and Veronica Cacdac Warnock. "International capital flows and US interest rates." Journal of International Money and Finance 28, no. 6 (2009): 903-919.

Yang, Dean. "Coping with disaster: The impact of hurricanes on international financial flows, 1970-2002." BE Journal of Economic Analysis & Policy 8, no. 1 (2008).

Appendix

Figure A.1. U.S. Holdings of Foreign Securities (percent of all U.S. holdings)



Note: Sum of bond and equity investment in 24 EMs and 16 AEs.

Table A.1. List of Countries

Advanced Economies	Emerging Market Economies
Australia	Argentina
Belgium	Brazil
Canada	Chile
Denmark	China
Finland	Colombia
France	Egypt
Germany	Hong Kong
Italy	Hungary
Japan	India
Netherlands	Indonesia
Norway	Israel
Portugal	Malaysia
Spain	Mexico
Sweden	Peru
Switzerland	Philippines
United Kingdom	Poland
	Russia
	South Africa
	South Korea
	Taiwan
	Thailand
	Turkey
	Ukraine
	Venezuela

Note: Classification of Emerging market economies is based on IMF classification with the addition of South Korea, Hong Kong, and Israel

Table A.2. List of variables

Variable	Description	Source
US Net Purchases of Foreign Securities	USD	Bertaut and Tryon (2007), Bertaut and Judson (2014) – underlying data from TIC
GPR Country-specific Index	Index	Caldara and Iacoviello (2022)
US Industrial Production Index	Index, monthly growth rate	OECD (2022), Industrial production (indicator). doi: 10.1787/39121c55-en (Accessed on 26 July 2022), and National Sources
Market Yield on U.S. Treasury	Rate	Board of Governors of the Federal Reserve System (US), Market Yield on U.S. Treasury Securities at 1-Year Constant Maturity, Quoted on an Investment Basis [DGS1], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/DGS1, October 27, 2022.
VIX	Index	Chicago Board Options Exchange, CBOE Volatility Index: VIX [VIXCLS], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/VIXCLS, July 26, 2022.
Industrial Production Index	Monthly growth rate	OECD (2022), Industrial production (indicator). doi: 10.1787/39121c55-en (Accessed on 26 July 2022), and National Sources
Inflation	Annual growth rate	OECD (2022), Inflation (CPI) (indicator). doi: 10.1787/eee82e6e-en (Accessed on 26 July 2022), and National Sources
Short-term Interest Rate	Rate	OECD (2022), Short-term interest rates (indicator). doi: 10.1787/2cc37d77-en (Accessed on 26 July 2022), and National Sources
Nominal Exchange Rate	Monthly growth rate	Bank for International Settlements, US dollar exchange rates, monthly period averages
MSCI Country Index	Monthly growth rate	MSCI, End of day data – USD, Standard (Large+Mid Cap), base 100

Note: This table reports the definition and source of the main variables used in the analysis.

Table A.3. Robustness check: EM subsample

	Dependent variable: U.S. foreign bond purchases/holdings (t-1)			**Dependent variable**: U.S. foreign equity purchases/holdings (t-1)		
	(1)	(2)	(3)	(1)	(2)	(3)
GPRC	-0.977	-1.613**	-1.828**	-1.296***	-1.070***	-1.046***
	[1.024]	[0.572]	[0.753]	[0.260]	[0.327]	[0.339]
One-year treasury	0.044	-0.053		0.104***	0.007	
yields	[0.046]	[0.053]		[0.030]	[0.045]	
VIX	-0.064***	-0.032**		-0.033***	-0.022**	
	[0.015]	[0.014]		[0.007]	[0.008]	
U.S. GPRC	-0.152**	-0.160***		0.066	-0.037	
	[0.060]	[0.054]		[0.063]	[0.050]	
U.S. industrial	-3.526	-0.789		2.488	0.372	
production	[10.008]	[11.192]		[5.418]	[6.952]	
Industrial		-1.444	-0.765		-0.210	0.022
production		[0.920]	[0.974]		[0.579]	[0.646]
Inflation		0.000	-0.001		0.000	0.000
		[0.000]	[0.001]		[0.000]	[0.000]
Interest rate		0.011	0.002		0.023***	0.020***
		[0.015]	[0.011]		[0.005]	[0.006]
Exchange rate		-8.002***	-7.435**		-3.788	-3.625
		[2.542]	[2.860]		[2.305]	[2.226]
Stock market		4.966***	5.575***		2.851	4.316
		[1.467]	[1.671]		[2.610]	[3.673]
N	7,552	5,568	5,568	7,658	5,640	5,640
R^2	0.015	0.02	0.054	0.06	0.041	0.074
Country FE	Y	Y	Y	Y	Y	Y
Time FE	N	N	Y	N	N	Y

Note: The sample is 24 emerging market economies listed in the appendix in the period between 1994M4 and 2021M11. Dependent variables are winsorized at the top and bottom 1%. Standard errors are clustered at the country level.

Table A.4. Robustness check: AE subsample

	Dependent variable: U.S. foreign bond purchases/holdings (t-1)			**Dependent variable**: U.S. foreign equity purchases/holdings (t-1)		
	(1)	(2)	(3)	(1)	(2)	(3)
GPRC	-0.302	-0.280	-0.348	0.239*	0.251*	0.262*
	[0.218]	[0.221]	[0.244]	[0.125]	[0.126]	[0.134]
One-year treasury	0.062	0.111		0.026	-0.089	
yields	[0.043]	[0.105]		[0.020]	[0.056]	
VIX	-0.057***	-0.048**		-0.019***	-0.028***	
	[0.015]	[0.020]		[0.004]	[0.007]	
U.S. GPRC	0.051	0.060		-0.028	-0.037	
	[0.046]	[0.042]		[0.043]	[0.056]	
U.S. industrial	-0.798	-4.290		-1.849	-0.826	
production	[6.250]	[7.886]		[3.256]	[3.152]	
Industrial		4.077	3.587		-0.266	-1.201
production		[2.847]	[3.146]		[0.979]	[0.892]
Inflation		0.003	0.032		-0.039	-0.014
		[0.092]	[0.114]		[0.035]	[0.052]
Interest rate		-0.057	-0.097		0.135**	0.068
		[0.125]	[0.132]		[0.055]	[0.075]
Exchange rate		-7.952**	6.608*		-0.693	-0.943
		[3.623]	[3.295]		[1.861]	[2.111]
Stock market		2.154*	3.862		0.091	2.210
		[1.110]	[2.317]		[1.598]	[3.327]
N	5,163	4,543	4,543	5,171	4,547	4,547
R^2	0.024	0.029	0.058	0.057	0.063	0.121
Country FE	Y	Y	Y	Y	Y	Y
Time FE	N	N	Y	N	N	Y

Note: The sample is 16 advanced economies listed in the appendix in the period between 1994M4 and 2021M11. Dependent variables are winsorized at the top and bottom 1%. Standard errors are clustered at the country level.

Table A.5. Robustness check: excluding 9/11 and Iraqi war

	Dependent variable: US Net Foreign Bond Purchases/Holdings (t-1)			**Dependent variable**: US Net Foreign Equity Purchases/Holdings (t-1)		
	(1)	(2)	(3)	(1)	(2)	(3)
GPRC	-0.406	-0.429	-0.238	0.071	0.228	0.404**
	[0.415]	[0.406]	[0.369]	[0.165]	[0.175]	[0.187]
GPRC*EM	-0.730	-1.489**	-1.762***	-1.392***	-1.406***	-1.568***
	[1.129]	[0.574]	[0.595]	[0.249]	[0.328]	[0.351]
N	12,453	9,900	9,900	12,560	9,972	9,972
R^2	0.016	0.02	0.041	0.064	0.049	0.081
Push controls	Y	Y	N	Y	Y	N
Pull controls	N	Y	Y	N	Y	Y
Country FE	Y	Y	Y	Y	Y	Y
Time FE	N	N	Y	N	N	Y

Note: The sample is 40 countries listed in the appendix in the period between 1994M4 and 2021M11, excluding the periods from 2001M9 to 2001M12 and from 2003M2 to 2003M4. Dependent variables are winsorized at the top and bottom 1%. GPRC*EM is an interaction term of GPRC and emerging market economy dummy. Standard errors are clustered at the country level.

Table A.6. Robustness check: EM subsample controlling for EPU

	Dependent variable: US Net Foreign Bond Purchases/Holdings (t-1)			**Dependent variable**: US Net Foreign Equity Purchases/Holdings (t-1)		
	(1)	(2)	(3)	(1)	(2)	(3)
GPRC	0.019	-0.060	-0.112	0.170***	0.177***	0.175
	[0.187]	[0.181]	[0.254]	[0.039]	[0.042]	[0.120]
GPRC	-0.287	-1.512*	-1.499**	-1.206***	-1.452***	-1.451***
	[1.504]	[0.735]	[0.681]	[0.291]	[0.388]	[0.329]
EPU	0.000	-0.002**	-0.001	0.000	-0.001	-0.001*
	[0.002]	[0.001]	[0.001]	[0.001]	[0.001]	[0.000]
N	5,606	4,710	4,710	5,638	4,716	4,716
R^2	0.036	0.038	0.064	0.135	0.071	0.122
Push controls	Y	Y	N	Y	Y	N
Pull controls	N	Y	Y	N	Y	Y
Country FE	Y	Y	Y	Y	Y	Y
Time FE	N	N	Y	N	N	Y

Note: The sample is 24 emerging market economies listed in the appendix in the period between 1994M4 and 2021M11. Dependent variables are winsorized at the top and bottom 1%. Standard errors are clustered at the country level.

Table A.7. Robustness check: using an alternative measure of exchange rate regime

	Dependent variable: US Net Foreign Bond Purchases/Holdings (t-1)			**Dependent variable**: US Net Foreign Equity Purchases/Holdings (t-1)		
	(1)	(2)	(3)	(1)	(2)	(3)
GPRC	-0.386	-1.096*	-1.104*	-0.943	-0.428	-0.424
	[0.857]	[0.545]	[0.591]	[0.645]	[0.635]	[0.581]
GPRC*ERS	0.108	1.279*	1.168	1.337	0.686	0.754
	[1.242]	[0.750]	[0.861]	[0.903]	[0.917]	[0.797]
Exchange rate	0.445	0.487	0.627	0.371	-0.105	0.034
stability	[0.471]	[0.576]	[0.705]	[0.343]	[0.413]	[0.335]
N	12,187	9,704	9,704	12,306	9,766	9,766
R^2	0.019	0.026	0.046	0.061	0.048	0.082
Push controls	Y	Y	N	Y	Y	N
Pull controls	N	Y	Y	N	Y	Y
Country FE	Y	Y	Y	Y	Y	Y
Time FE	N	N	Y	N	N	Y

Note: The sample is 40 countries listed in the appendix in the period between 1994M4 and 2021M11. Dependent variables are winsorized at the top and bottom 1%. GPRC*ERS is an interaction term of GPRC and the exchange rate stability index taken from the trilemma index by Aizenman et al. (2010). Standard errors are clustered at the country level.

Table A.8. Robustness check: spillovers of geopolitical risk using a dummy variable

	Dependent variable: US Net Foreign Bond Purchases/Holdings (t-1)			**Dependent variable**: US Net Foreign Equity Purchases/Holdings (t-1)		
	(1)	(2)	(3)	(1)	(2)	(3)
GPRC	-0.347	-0.305	-0.340	0.203*	0.285**	0.280**
	[0.281]	[0.275]	[0.261]	[0.114]	[0.122]	[0.135]
GPRC*EM	-0.219	-1.033	-1.079	-1.314***	-1.237***	-1.214***
	[1.020]	[0.628]	[0.691]	[0.326]	[0.417]	[0.433]
GPRS	0.440	1.075	-0.240	-1.407*	-0.519	-1.109
	[1.170]	[1.145]	[2.260]	[0.698]	[0.713]	[0.852]
GPRS*EM	-4.331***	-3.542**	-4.592**	-0.229	-0.597	-1.081
	[1.566]	[1.568]	[1.891]	[1.059]	[1.000]	[1.161]
N	12715	10111	10111	12829	10187	10187
R^2	0.017	0.022	0.042	0.060	0.043	0.076
Push controls	Y	Y	N	Y	Y	N
Pull controls	N	Y	Y	N	Y	Y
Country FE	Y	Y	Y	Y	Y	Y
Time FE	N	N	Y	N	N	Y

Note: The sample is 40 countries listed in the appendix in the period between 1994M4 and 2021M11. Dependent variables are winsorized at the top and bottom 1%. GPRC*EM is an interaction term of GPRC and the emerging market dummy and GPRS measures the GPRC of third countries weighted by distance. GPRS*EM is an interaction term of GPRS and the emerging market dummy. Standard errors are clustered at the country level.

Table A.9. Robustness check: spillovers of geopolitical risk separating advanced and emerging markets

	Dependent variable: US Net Foreign Bond Purchases/Holdings (t-1)			**Dependent variable**: US Net Foreign Equity Purchases/Holdings (t-1)		
	(1)	(2)	(3)	(1)	(2)	(3)
GPRC	-0.369	-0.605*	-0.630*	-0.312	-0.154	-0.146
	[0.448]	[0.341]	[0.339]	[0.293]	[0.296]	[0.290]
GPRS	0.723	2.858	3.346	-0.088	-0.453	-1.318
	[2.247]	[2.547]	[3.178]	[1.062]	[1.215]	[1.486]
GPRS*EM	-4.773	-5.904**	-7.834***	-2.420	-1.447	-1.522
	[2.952]	[2.609]	[2.632]	[1.475]	[1.425]	[1.354]
GPRS*AE	0.455	-0.659	-1.172	-0.623	0.386	0.644
	[1.633]	[1.717]	[1.772]	[1.068]	[1.044]	[1.123]
N	12,715	10,111	10,111	12,829	10,187	10,187
R^2	0.017	0.022	0.043	0.059	0.042	0.075
Push controls	Y	Y	N	Y	Y	N
Pull controls	N	Y	Y	N	Y	Y
Country FE	Y	Y	Y	Y	Y	Y
Time FE	N	N	Y	N	N	Y

Note: The sample is 40 countries listed in the appendix in the period between 1994M4 and 2021M11. Dependent variables are winsorized at the top and bottom 1%. GPRS measures the GPRC of third countries weighted by distance, GPRS*EM is GPRS interacted with the emerging market dummy, and GPRS*AE is GPRS interacted with the advanced market dummy. Standard errors are clustered at the country level.