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Enjoy the silence? (De)globalization and cross-border investment – a gravity approach

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Security through stability.

Enjoy the silence? (De)globalization and cross-border investment – a gravity approach

Ana Abeliansky, Christian Alexander Belabed, Julian Mayrhuber[1]

Amidst increasing geopolitical tensions and the growing discourse on "deglobalization," we study how geopolitical (de)alignment correlates with one of the main drivers of globalization – cross-border investment. Extending a gravity model with data on voting behavior at the United Nations General Assembly, we find that an increase of geopolitical dealignment is associated with a decline in both foreign direct investment (FDI) and portfolio investment (PI). The decline is stronger for FDI. The relevance of geopolitical dealignment to FDI has increased after the financial crisis, suggesting that geopolitical considerations are becoming increasingly important for foreign capital allocation. While an increase in the geopolitical distance between "nonfriendly" country pairs is associated with a significant decline in cross-border investment, our results do not show such a strong relation for "friendly" country pairs, indicating that geopolitical differences between "friendly" countries do not immediately lead to a reduction of bilateral investment. Overall, our findings suggest that continued geopolitical fragmentation is likely to lead to a decline in cross-border investment.

JEL classification: F02, F21, F36
Keywords: capital flows, cross-border investment, deglobalization, geopolitical fragmentation

Since the COVID-19 pandemic, the war in Ukraine and a period of high inflation, concepts like deglobalization, near-shoring, friend-shoring, re-shoring, on-shoring and de-risking have dominated media and think-tank discussions. There is no doubt that globalization has reshaped the economic landscape, changed economic ties between countries and influenced the effectiveness of monetary policy. Issues related to these transformations are the impact of globalization on productivity, its effect on inflation trends, the implications of global spillovers on the financial markets and their potential to trigger extreme and synchronized global uncertainty shocks. According to the ECB (2021), globalization may affect monetary policy transmission (e.g. by weakening the interest rate channel by lowering natural interest rates, increasing the probability of reaching the zero lower bound and reducing policy space) at least in the short run. We might thus suspect that deglobalization may affect monetary policy transmission in the opposite direction.[2] Assessments of such disintegration, or fragmentation, and of the channels through

[1] Oesterreichische Nationalbank, International Economics Section. Corresponding author: christianalexander.belabed@oenb.at. Opinions expressed by the authors of studies do not necessarily reflect the official viewpoint of the OeNB or the Eurosystem. The authors would like to thank the editors of the OeNB Bulletin, an anonymous referee and the participants of a research seminar of the Vienna Institute for Economic Studies (wiiw), in particular Mahdi Ghodsi, Branimir Jovanovic and Nina Vujanovic, and of a research workshop of the OeNB's International Economics Section for most helpful comments. Christian A. Belabed would like to thank the wiiw for hosting him from April to September 2023 during a job rotation. We would also like to thank Wolfgang Lechthaler and Predrag Cetkovic (both OeNB) for most valuable comments and discussions since the inception of the (De)Globalization Monitor. All remaining errors are our own.
This publication is part of a larger project on (de)globalization, the (De)Globalization Monitor (GloMo), conducted at the OeNB's International Economics Section. The project comprises analyses of capital flows and cross-border investment (CapMo), trade (TradeMo) and migration (MigMo). All related publications, data and interactive charts will be published on a dedicated webpage which will be the project's central hub. Members of the project team are Ana Abeliansky, Christian Alexander Belabed, Jonathan Fitter, Julian Mayrhuber, Anna Katharina Raggl and Paul Ramskogler (all OeNB, International Economics Section).

[2] For a full assessment and more details on the effect of globalization on monetary policy transmission, please refer to ECB (2021, chapter 5).

which it would work can be found in Góes and Bekkers (2022), IMF (2023) and Aiyar et al. (2023). To promote a more structured discussion and provide continuous updates on these issues, the International Economics Section at the Oesterreichische Nationalbank (OeNB) developed the (De)Globalization Monitor (GloMo). Its main goal is to assess whether geopolitical tensions give rise to major changes in the globalization process, affecting cross-border capital flows and investment, trade and migration.

In this paper we investigate whether political (de)alignment has corollaries on international investment positions. We estimate the relationship between geopolitical dealignment and both bilateral foreign direct investment (FDI) and portfolio investment (PI) by extending a gravity model. We use the ideal point distance (IPD) measure from Bailey et al. (2017), which is based on the voting behavior observed at the United Nations General Assembly (UNGA). While no method of computing geopolitical (de)alignment is undisputed, Bailey et al. (2017) argue that the IPD's consideration of UNGA agenda changes renders it more suitable for cross-time analysis than traditional measures like the S-score proposed by Signorino and Ritter (1999). Our results suggest that geopolitical fragmentation is negatively related to cross-border investment (FDI and PI) when standard gravity control variables and source-/destination-year fixed effects are controlled for. Our heterogeneity analysis shows that geopolitical dealignment comes with a larger impact on FDI after the financial crisis. The effect of geopolitical fragmentation on FDI is also larger when emerging market and developing economies (EMDEs) are the source or destination countries of investment. Moreover, we find that among "friendly" country pairs, the effect of geopolitical dealignment on FDI and PI is less significant than for country pairs that are politically more distant. This suggests that countries with closely aligned geopolitical preferences do not immediately reduce bilateral investments when their geopolitical distance increases.

We then use the results from our gravity model estimation to conduct a few simple bloc-building scenarios to better understand the potential implications of varying degrees of geopolitical fragmentation. In the most severe scenario, in which a US bloc and a China bloc disengage entirely from cross-border investment, the global FDI stock decreases by 15.6%, while the global PI stock decreases by 3.8% (holding all other factors constant). This scenario yields severe results, but it is quite unlikely. More likely scenarios suggest much less significant reductions of FDI and PI stocks.

We organize the remainder of this paper as follows. In section 1, we review the most recent literature on deglobalization in general and on geopolitical fragmentation and cross-border investment in particular. In section 2, we estimate a gravity model, the workhorse model of international economics, to investigate the relationship between geopolitical fragmentation and cross-border investment. Section 3 presents a selection of bloc-building scenarios and their impacts on global FDI and portfolio investment stocks, and section 4 concludes.

1 Literature review

Recent literature on deglobalization shows that there is (yet) little agreement as to whether deglobalization has happened or is happening. Also, most of the literature we reviewed deals with the potential deglobalization of trade and only a few papers investigate cross-border investment. Starting with the literature that finds no signs of deglobalization or fragmentation, Di Sano et al. (2023), who base their assessment on the trade of intermediate goods, note that there has been

no strong evidence of deglobalization so far but stress the real risks associated with such a scenario. However, as they point out, such aggregate data may mask major heterogeneity on the firm level and call for further research using more granular data or surveys on the company sector's plans to relocate production. In a comparative historical approach, O'Rourke (2019) concludes that, when compared to the 1930s – a time when many nations followed a full-fledged beggar-thy-neighbor policy – deglobalization is not really happening at the moment. One indication is that trade declined after the pandemic, but by much less than anticipated, and rebounded much more quickly than previously expected (Williamson, 2021). Kobrin (2017), while acknowledging the recent rise of geopolitical tensions, argues that the benefits of technological advancements have changed the way the international economic system operates beyond the point of no return. Assessing the situation of global value chains, Antras (2020) agrees with others that trade flows had slowed down since the financial crisis but fails to identify any systematic evidence in favor of deglobalization. He considers the recent slowdown as a development that was to be expected after a phase of "hyperglobalization" observed since the 1990s. Most recently, Kaaresvirta et al. (2023) weighed in and concluded that while tensions between the United States and China weighed on their bilateral trade and investment activities, there are little signs of global fragmentation or a split into competing spheres. Cevik (2023) concludes as well that there are no signs of deglobalization in international trade flows. Finally, the ECB (2021) notes that evidence for deglobalization has been limited so far.

Other studies suggest at least some degree of deglobalization: Della Posta (2021) estimates that the globalization "honeymoon" will enter a phase of diminishing returns, setting the global economic system on a path of deglobalization if the "losers" of globalization are not compensated. Then, the "honeymoon" turns into a "divorce" scenario. Taking a specific emerging-markets view, Gupta and Numar (2021) find that reduced globalization is occurring while intensified protectionism negatively affects developing nations' future growth paths. Owen (2021) projects that the international economic order will be split into two more or less equal blocs. One will be led by a retreating hegemon, the USA, and the other by a rising hegemon, China. Inter-bloc interaction will be limited, while intra-bloc interaction will be maintained. Ripsman (2021) also documents a deterioration of cooperation among great international powers, while Witt (2019) suggests that a globalization patchwork is the most likely outcome, with nations restricting cross-border activities to countries with similar policy preferences. Bordo and James (2019) also suggest that deglobalization started after the financial crisis, emphasizing the uncertainty of capital movements, pushbacks against democracy and international governance mechanisms.

Regarding the literature on capital flows and cross-border investment, and in favor of the view that (partial) deglobalization has already begun, Dadush (2022) analyzes aggregate global capital flows and concludes that deglobalization of capital flows is visible. However, his data end in 2019 although data for 2020 and 2021 would have been available at the time of publication in late 2022. Data for the two years missing from his paper point to a strong rebound of global capital flows although these decreased again in 2022. Goldberg and Reed (2023) state that capital flows and trade exhibit a slowdown after the financial crisis but not a complete reversal. In some regions (e.g. the USA, China or India), the inward stock of FDI even increased in the post-crisis period, suggesting that there might be opposing narratives of post-crisis (de)globalization. Eichenauer and Wang (2024) find that the introduction of national security-related investment screening

mechanisms (ISMs) leads to a reduction of cross-border mergers and acquisitions (M&A), an important part of FDI.[3] As the authors show, the number of ISMs began to rise in 2011 and again in 2019. National security concerns are also clearly at the center of geopolitical fragmentation. Bencivelli et al. (2023) move in a similar direction while also proposing a way to reconcile ISMs with otherwise liberal investment regimes. Their results suggest that transparency about restrictive regulation may enhance the attractiveness of a potential FDI destination. Busse and Hefeker (2007) show that political risk, including internal and external conflict, is among the most important determinants of FDI. Kempf et al. (2023) analyze political determinants of cross-border capital allocations and find that the ideological alignment of US investors with foreign governments drives up cross-border capital allocation (banks and equity mutual funds in their paper). Ideological alignment, however, differs from geopolitical alignment and refers to the political party affiliations of domestic investors and not to a country's foreign policy preferences. Finally, and contrarily to intuition, Damioli and Gregori (2023) find that higher diplomatic distance between European countries is associated with an increase in M&A in the EU. The authors reckon that higher flows compensate for the weakness of diplomatic relations.

Perhaps most closely related to our approach is Aiyar et al. (2024) on the issue of FDI and the IMF (2023) on portfolio investment. Like our study, their analyses are based on a standard gravity model with measures for geopolitical dealignment such as the IPD and the S-score. Aiyar et al. (2024) note that FDI becomes more responsive to geopolitical developments and that the geopolitical vulnerability of host countries is significantly tilted toward EMDEs. The IMF (2023) reaches a similar conclusion for non-FDI stocks (PI and cross-border banking claims), implying sizable reallocations of bilateral shares of capital flows to more aligned countries. However, the authors use different estimation methods for FDI flows (Poisson pseudo-maximum likelihood – PPML) and non-FDI stocks (ordinary least squares – OLS), which renders any comparison and interpretation of the results somewhat difficult. In addition, Aiyar et al. (2024) analyze greenfield FDI *flows*[4] using fDi Markets data, while the IMF (2023) studies non-FDI *stocks*. To address these issues, we use a single comprehensive dataset for FDI and PI stocks from comparable sources. We use the same empirical methods to analyze both variables and we are therefore able to compare and interpret the results in a more consistent manner.

Summarizing, the literature does not (yet) provide clear guidance as to whether deglobalization or fragmentation are happening or have already happened. Studies on capital flows and cross-border investment suggest potentially sizable and significant effects of geopolitical fragmentation, but a causal interpretation is not possible in most of them.[5] Also, those that focus on pure

[3] ISMs may be introduced for a variety of reasons, the most relevant for our purpose being concerns about national security. In October 2020, for instance, the EU introduced FDI screening in response to concerns about national security but also to protect its industries, e.g. from a transfer of protected technology to potential geopolitical rivals. Reasons for implementing ISMs may also include the protection of key infrastructure sectors such as health, energy or telecommunications from foreign takeovers. Security concerns can play a role here as well but not necessarily. See, for instance, UNCTAD (2023) or Bencivelli et al. (2023) for more details and further literature on ISMs.

[4] As robustness check they also study brownfield FDI *flows* (M&A).

[5] While we do not study the drivers of (de)globalization in this analysis, possible drivers of deglobalization or fragmentation may include an increased desire for supply chain resilience (e.g. reshoring efforts of medical supplies during and after the COVID-19 pandemic), geopolitical tensions between countries or regions (e.g. the US-China trade dispute resulting in friend- or near-shoring) or populist political pressures resulting in more inward-oriented economic policies (e.g. discussions of immigration to the UK before Brexit).

aggregate global capital flows may miss information from a potentially increased concentration of sources and/or destinations of investment. It follows that analyses of bilateral capital flows and cross-border investment become more important, especially in the context of geopolitical fragmentation.

2 The impact of geopolitical fragmentation on international investment

In this section, we address the empirical relationship between geopolitical fragmentation and cross-border investment using a gravity model.

2.1 Data

For geopolitical fragmentation, we use data on voting behavior at the United Nations General Assembly (UNGA) from Bailey et al. (2017). This dataset is widely used in political science but also in recent contributions in international economics (e.g. Aiyar, 2024, or IMF, 2023). Our main variable of interest is the ideal point distance (IPD), a measure for differences in foreign policy preferences between country pairs. It is calculated by first estimating unilateral ideal points for each country, based on its voting behavior, using the USA as the country of reference. Subsequently, the IPD is derived by computing the absolute value of the differences in ideal points between country pairs. The dataset provides an alternative measure, the Lijphart Index of Agreement (see Lijphart, 1963), calculated by simply relying on the voting similarities of each country pair. We transform it linearly to obtain the more prominent S-score as proposed by Signorino and Ritter (1999).[6] Bailey et al. (2017) and Voeten (2021) argue that the IPD offers a few advantages which make it suitable for comparisons across time, particularly as it incorporates UNGA agenda changes. This is why we rely on the IPD as our main variable in our gravity model analysis. However, the IPD and the S-score are highly correlated (0.872) in our sample and the robustness analysis shows that we obtain similar estimates when using the two different measures.

To provide some intuition about the IPD, chart 1 shows the unilateral ideal point estimates for selected countries over time. To illustrate the main dynamics, consider first the case of Iran. While the country was, geopolitically, located between China and Brazil in the 1970s, the situation changed after the Islamic Revolution of 1979. Iran's new foreign policy agenda led to a significant change in the country's voting behavior at the UNGA, increasing its geopolitical distance to almost all other countries. In the case of Iran, we would then expect cross-border investment from countries at the other end of the geopolitical spectrum (the USA or the UK, for instance) to decrease significantly or drop to zero (as it happened). The other case is Russia, which was an outlier until the fall of the Soviet Union in 1991. Since then, it has moved to a more geopolitically central position, which is possibly associated with increasing both in- and outward cross-border investment.[7] Notwithstanding some movements across time periods, China's foreign policy

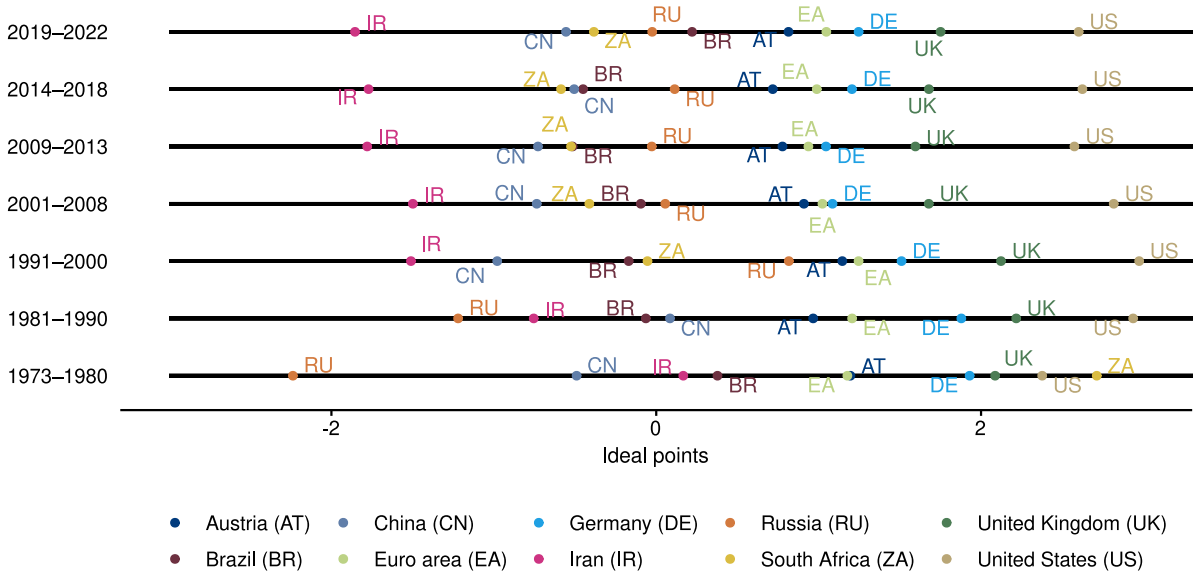
[6] The S-score is an Euclidian measure of distance between every country pair in the UNGA and is calculated as follows: $S_{ab} = 1 - \frac{\sum|Y_{av} - Y_{bv}|}{V}$; v = 1…n (index of votes), ab = any two countries *a* and *b*, Y_{av} = voting behavior of country *a* in vote *v* (yea = 1, abstain = 0, nay = 3), Y_{bv} = voting behavior of country *b* in vote *v* (yea = 1, abstain = 0, nay = 3). The S-score then takes a value between 1 (all countries maximally agree) and –1 (all countries maximally disagree). For more details, see Signorino and Ritter (1999).

[7] A word of caution on the interpretation of ideal points: Correspondence with one of the authors of Bailey et al. (2017) made it clear that e.g. the war in Ukraine does not per se lead to the geopolitical repositioning of a country in the UNGA as long as it does not result in a change of foreign policy preferences. We are also not certain whether and how voting in emergency

preferences have not changed much over time. Following some initial "zig-zagging," the country's foreign policy preferences, as revealed in the UNGA, remained relatively stable since the early 2000s. Finally, the euro area aggregate shows little change in its foreign policy preferences, although its geopolitical distance to the United States has increased moderately over time. Nonetheless, such a moderate change of geopolitical distance seems insufficient for us to expect major swings in cross-border investment activities.

Chart 1

Unilateral ideal points, period averages



Source: Bailey et al. (2017).
Note: Based on UN General Assembly (UNGA) voting behavior, ideal points estimate countries' foreign policy preferences. South Africa was suspended from the UNGA in 1974 due to its apartheid regime and rejoined in 1994 after democratic elections had taken place. Russia was represented by the Soviet Union until 1991.

For our analysis, we take data on FDI stocks from the OECD FDI statistics, the IMF's Coordinated Direct Investment Survey (CDIS) and the FinFlows database (see Nardo et al., 2020, for details).[8] For portfolio investment, we use the IMF's Coordinated Portfolio Investment Survey (CPIS) as the main source and the FinFlows database to supplement missing values. Further, we obtain the standard gravity variables (i.e. distance, contiguity, common colonial history and common language) from the Centre d'Études Prospectives et d'Informations Internationales (CEPII; see Conte et al., 2022, for a description of the dataset). Finally, the bilateral investment treaties in force were taken from Alschner et al. (2021). Table 1 shows the summary statistics for the maximum available sample. On average, the stock of portfolio investment is higher than the stock

sessions enters the database of Bailey et al. (2017). However, there have been only 11 emergency sessions since 1956, and we assume that voting behavior in an emergency session does not deviate too far from that in a regular session.

[8] We use OECD FDI data wherever available. If data for specific years are missing, we fill in the gaps by interpolating using growth rates from the CDIS database. Additionally, we rely on CDIS and FinFlows when adding information for country pairs for which OECD data are fully missing. Our complete dataset is composed of observations from the following sources: CDIS (23,246), FinFlows (25,326), OECD (71,364); gaps in OECD data are interpolated by using the growth rate derived from CDIS (3,614).

of FDI. This shows the importance of stock and bond markets across the globe. The mean statistics also suggest that more countries seem to share a common language (comlang) rather than a common border (contig) or a common colonial past (comcol). Overall, the analysis covers 79 source countries, 189 destination countries, and the sample period range is from 2001 to 2022.

Table 2 shows the bi-variate correlations in the analysis, which have the expected signs – e.g. FDI is positively correlated with PI; both investment variables are negatively related to geopolitical and geographical distance (ln(dist)). Finally, sharing a border or a language or ratifying a bilateral investment treaty (BIT) are associated with higher investments.

Table 1

Summary statistics

Variable	Mean	Standard deviation	Standard deviation (between)	Standard deviation (within)	Number of observations	Minimum value	Maximum value
FDI	3,441.7	25,524.38	16,742.36	10,645.67	123,550	0	1,406,424.1
Portfolio investment	5,680	45,831.53	29,738.52	19,908.47	123,550	0	2,221,054.2
IPD(t-1), standardized	1.34	1	0.96	0.24	123,550	0	6.1
Ln(dist)	8.51	0.93	0.86	0	123,550	4	9.9
Contig	0.03	0.17	0.15	0	123,550	0	1
Comcol	0.03	0.17	0.19	0	123,550	0	1
Comlang	0.11	0.32	0.32	0	123,550	0	1
BIT	0.33	0.47	0.42	0.14	123,550	0	1

Source: Authors' calculations.
Note: IPD(t-1) = ideal point distance, lagged; ln(dist) = geographical distance, logged; contig = common border; comcol = common colonial past; comlang = common language; BIT = bilateral investment treaty.

Table 2

Correlation matrix

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) FDI	1							
(2) Portfolio investment	0.690	1						
(3) IPD(t-1), standardized	-0.019	-0.010	1					
(4) Ln(dist)	-0.120	-0.086	0.322	1				
(5) Contig	0.117	0.124	-0.139	-0.389	1			
(6) Comcol	-0.014	-0.019	-0.082	-0.065	0.038	1		
(7) Comlang	0.064	0.064	0.049	-0.017	0.112	0.156	1	
(8) BIT	0.028	0.016	-0.120	-0.401	0.102	-0.031	-0.062	1

Source: Authors' calculations.
Note: IPD(t-1) = ideal point distance, lagged; ln(dist) = geographical distance, logged; contig = common border; comcol = common colonial past; comlang = common language; BIT = bilateral investment treaty.

2.2 Gravity model specifications

To test the importance of geopolitical fragmentation, as measured by the IPD from Bailey et al. (2017), we use the workhorse model of international trade applied to cross-border investment.

The gravity model of trade is the standard tool for assessing the relevance of barriers for cross-border economic exchange (see Guiso et al., 2009, and Bergstrand et al., 2014, for an empirical application, or Kox and Rojas-Romagosa, 2020, for a theoretically founded empirical application to FDI[9]). We base our empirical model on Anderson and Van Wincoop (2003)[10], who provided the first theoretical foundation to the widely known gravity model put forward by Tinbergen (1962).

The equation for estimation is the following,

$$x_{i,j,t} = \alpha_1 * ipd_{i,j,t-1} + \alpha_2 * \ln(dist_{i,j}) + \alpha_3 * contig_{i,j} + \alpha_4 * comcol_{i,j} + a_5 * comlang_{i,j} + \alpha_6 * bit_{i,j,t} + \beta_{i,t} + \gamma_{j,t} + \upsilon_{i,j,t}, (1)$$

where $x_{i,j,t}$ are stocks of FDI (*FDI*) or portfolio investment, as indicated respectively in the regression tables between country *i* and country *j* in year t.[11] ipd is the (standardized) geopolitical distance (lagged one year to allow investment to react and to reduce endogeneity concerns); $contig, comcol$ and $comlang$ are dummy variables that indicate whether countries share a common border, a common colonial past or a common language (respectively). bit is another dummy variable, which is time variant and takes the value of one when both countries have a bilateral investment treaty (or zero otherwise) which entered into force in year t. $\ln(dist)$ shows the natural logarithm of the distance between the capital cities of country *i* and *j*. $\beta_{i,t}$ and $\gamma_{j,t}$ are source/destination country-year fixed effects to account for multilateral resistance.[12] In addition, these dummies allow us to partial out business cycle movements and anything that is country specific and time variant, like the institutional framework of the source or destination country. Finally, $\upsilon_{i,j,t}$ is the error term, of which we assume that it is well behaved. We will use the PPML estimator for equation (1), as proposed by Silva and Tenreyro (2006). The PPML estimator allows for the inclusion of zeros in the dependent variable and reduces the heteroskedasticity concerns that might arise due to the alternative logarithmic transformation of the exponential form of the theoretical gravity model.

We expect to find a negative estimate for IPD, since increasing geopolitical differences could, for instance, deter trust in the fair treatment of foreign investors or source countries could decide that it is not in their interest to invest in the destination country despite a potentially positive commercial outcome. Geographical distance should have a negative sign, since the monitoring costs of investments increase with geographical distance and the latter also captures cultural

[9] Kox and Rojas-Romagosa (2020) developed a microfounded partial equilibrium model analyzing bilateral FDI within the gravity framework, providing a testable equation similar to that of Anderson and van Wincoop (2003). The model from Kox and Rojas-Romagosa (2020) was based on recent work by Anderson et al. (2019, 2020). Anderson et al. (2019) investigated the links between trade and investment and their corollaries to welfare mostly from a theoretical perspective; while Anderson et al. (2020) delved into the relationship between trade and investment but with a focus on economic growth.

[10] See Bergstrand and Egger (2007) for one of the first theoretical foundations for the gravity model of trade applied to FDI (providing a testable equation similar to the one introduced by Anderson and van Wincoop (2003)).

[11] We focus on stocks rather than on flows because flows are more volatile and can also take negative values, which the PPML estimator cannot handle.

[12] Multilateral resistance terms allow to control for third-country effects. This is important when assessing barriers in economic exchange between countries; e.g. when assessing the importance of the distance between Australia and New Zealand, one needs to consider who the alternative trade partners of these countries are and account for this.

differences which could affect business relationships (Giuliano et al., 2014). The negative relationship between geographical distance and cross-border investment is expected to be weaker than in the case of international trade (which proxies for trade costs in that case), since in the case of a multinational company, a higher geographical distance might be an incentive to serve that market via FDI rather than by exporting. This would make the coefficient less negative than in the case of international trade (this last argument would not apply for portfolio investment). Contiguity, sharing a common colonial past and sharing a common language are expected to have a positive sign since they are proxies for "closeness" – in terms of geography or "culture" (this could also extend to a common legal system and to smaller communication costs). Finally, signing, ratifying and having a free trade agreement in force are expected to increase investment since the aim of such agreements is to create optimal conditions between investor countries – from the promotion to the protection of investments (Egger and Merlo, 2012).

2.3 Baseline results

Table 3 shows the results of estimating equation (1) with the PPML estimator. For both investment vehicles, we first estimate a model that only includes IPD and then a second one where we add the different covariates of the gravity model and assess whether the importance of IPD persists while we add variables that could be correlated with it, like geographical distance. We then estimate a PPML regression with bilateral fixed effects which controls for all the country-pair time-invariant heterogeneity. In columns (1) to (3) (which show the determinants of FDI), our variable of interest, IPD, shows the expected sign and is statistically significant at the 1% level in columns (1) and (2). As expected, the estimated coefficient for IPD in column (2) is smaller than in column (1) since we control for a wide array of bilateral variables that could be correlated with IPD. An increase of one standard deviation (all else being equal) is associated with a 34.6% decrease in FDI (column (2)). Column (3) does not indicate a statistically significant relationship between FDI and IPD when controlling for bilateral fixed effects. This could be because most of the variation of the IPD variable is cross-sectional rather than "within" (see table 1).

Regarding the control variables, geographical distance has a negative sign, indicating that if countries are further apart, less foreign direct investment between them is expected. A 1% increase in bilateral distance – holding all else constant – is associated with a decrease in bilateral FDI of approximately 0.5%, on average (model (2)). Contiguity and common language have the expected sign, but are not statistically significant. This could be because, when partialing out all country- and time-specific variables, sharing a colonial past is correlated in the sample with having a common language and potentially being a neighboring country. Unexpectedly, having a bilateral investment treaty in force has no significant relationship with bilateral investment positions. This might be because certain countries might be more prone to sign treaties because of time-invariant factors that we do not control for.[13]

Columns (4) to (6) show the results for portfolio investment. The main difference with FDI is that the size of the coefficient of IPD is smaller and that the coefficient in column (6) is statistically significant. We believe that these differences might be explained by the fact that PI relies less on political factors and portfolio investors mostly care about returns (this is why the size of the IPD

[13] In column (3), when we control for time-invariant country pair heterogeneity, we do find that the coefficient is statistically significant (and has the expected sign). We refrain from using this as our main model since IPD, our variable of interest, mostly shows cross-sectional variation (see table 1).

coefficient is smaller for PI than for FDI). Also, PI is much more volatile and therefore reacts more strongly to changes in the political differences between country pairs (in contrast, FDI is a long-term investment, with high exit costs). The time variation between country pairs with respect to the entry into force of bilateral investment treaties does not seem to matter for portfolio investment since these agreements usually focus on matters that are more important for long-term investors (e.g. equal treatment of domestic and foreign companies in public procurement; dispute settlement rules; compensations in case of expropriations; economic incentives for investments like tax rebates).

Overall, our results suggest a negative relationship between geopolitical distance and cross-border investment. When we focus on a particular variation in the data using country-pair fixed effects, the estimated coefficients are smaller in size and sometimes insignificant. We refrain from using this as our main model since IPD, our variable of interest, mostly has cross-sectional variation (see table 1). Therefore, in the following heterogeneity analysis, we proceed by focusing on estimates using source-/destination country-time fixed effects.

Table 3

Baseline results

	FDI			Portfolio investment		
	(1)	(2)	(3)	(4)	(5)	(6)
IPD(t-1)	-0.546***	-0.346***	-0.022	-0.288***	-0.146***	-0.105***
	(0.049)	(0.046)	(0.037)	(0.078)	(0.053)	(0.023)
Ln(dist)		-0.486***			-0.305***	
		(0.05)			(0.047)	
Contig		0.139			0.37***	
		(0.14)			(0.12)	
Comcol		0.924***			1.56***	
		(0.304)			(0.466)	
Comlang		0.156			0.358***	
		(0.118)			(0.111)	
BIT		-0.047	0.257**		0.554***	-0.061
		(0.11)	(0.105)		(0.114)	(0.063)
Constant	11.459***	14.975***	11.075***	12.071***	13.985***	12.085***
	(0.069)	(0.401)	(0.06)	(0.11)	(0.391)	(0.038)
Number of observations	123,541	123,541	122,943	123,541	123,541	122,943
Pseudo R-squared	0.868	0.896	0.983	0.927	0.955	0.994
Source country-year FE	Y	Y	Y	Y	Y	Y
Destination country-year FE	Y	Y	Y	Y	Y	Y
Source-destination country FE	N	N	Y	N	N	Y

Source: Authors' calculations.
*Note: Standard errors clustered at the country-pair level are given in parentheses. *** p < 0.01, ** p < 0.05, * p < 0.1; Y = yes, N = no; FE = fixed effects; IPD(t-1) = ideal point distance, lagged; ln(dist) = geographical distance, logged; contig = common border; comcol = common colonial past; comlang = common language; BIT = bilateral investment treaty.*

2.4 Heterogeneity analysis

We now proceed to analyzing the importance of political distance with respect to time, source and destination country income groups, and the political relationships between countries. For the time dimension, we divided the sample period into several "globalization phases"[14] and for the country income groups, we used the IMF definition of advanced economies (AEs) and emerging market and developing economies (EMDEs) from 2021 (IMF, 2021). Finally, following Bosone et al. (2024), we divide the country pairs into four groups: "friends," "close," "distant" and "rivals," creating a dummy for each group by indicating whether it belongs to the respective quartile of the distribution of IPD across the sample. To implement the heterogeneity analysis, we will interact IPD with source economy type, destination economy type and each type of relationship (based on the quartile-distribution of IPD) to observe the distinct correlations for each group.

Chart 2 panel (a) (and table A1 in the annex) shows that the negative relation between differences in geopolitical views and FDI intensified with time. While in the period from 2001 to 2008, a one standard deviation increase in IPD was related to a 24% decrease in FDI, between 2019 and 2022, this relationship amounted to a 38% decrease. Additionally, as demonstrated in table A2 column (1) in the annex, the difference in the estimates between both periods is significant. Chart 2 panel (b) shows that if the source economy is an EMDE, there is an extra "penalty" for FDI in case of geopolitical differences. The same holds true when the destination country is an EMDE country. To explain this, we hypothesize that EMDEs could have weaker institutions and political alignment could be a way to diminish this risk. Moreover, in chart 2 panel (c) we see that the IPD does not play a significant role in FDI allocation between "friends," while the coefficient is significant and very similar for the other groups. This indicates that, unlike in the case of the other "nonfriendly" groups ("close," "distant," "rivals"), an increase in geopolitical distance within "friends" does not immediately result in a decrease in FDI.[15]

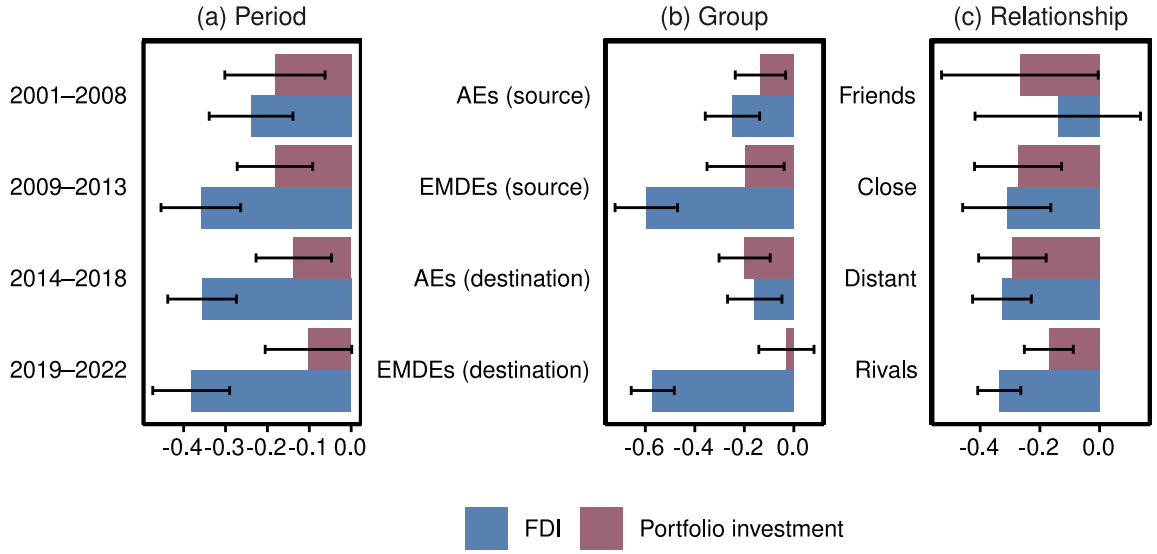
Chart 2 panel (a) suggests that the importance of geopolitical distance for portfolio investment decreases over time. However, as shown in table A2 column (2) in the annex, the differences to the baseline period (2001–2008) in estimates for periods after the financial crisis are not significant. Here, PI – on average – reacts less strongly to political differences if destination countries are EMDEs (and it is not statistically significantly different from zero). With respect to the source country, there seem to be no differences between AEs and EMDEs. This could be explained by the fact that source countries' investors mostly care about returns. Finally, chart 2 panel (c) shows that for portfolio investment, the IPD coefficient is only barely significant at the 10% level for "friendly" country pairs. Interestingly, although the IPD remains significant between "rivals," its importance appears to diminish when compared to "close" and "distant" countries. One could argue that once countries have become rivals, a further increase in geopolitical distance only leads to a comparatively smaller decrease in their bilateral portfolio allocation.

[14] 2001–2008, the "goldilocks" phase: rapid increase of capital flows until the financial crisis; 2009–2013, the "hangover" phase: decline of capital flows; 2014–2018, the "return of imperialism" phase: Russia's annexation of Crimea, Brexit, emerging US-China trade disputes; 2019–2022, the "multiple crises" phase: the COVID-19 pandemic, the return of inflation, war in Europe and indications of geopolitical fragmentation.

[15] Interestingly, when including country-pair fixed effects in this specification, the coefficient of IPD interacted with "rivals" is significantly smaller (and negative) compared to the interaction with "friends" (as a baseline), indicating that whenever the political ties between two countries considerably deteriorate, bilateral FDI allocation goes down significantly.

Chart 2

FDI, portfolio investment and geopolitical distance



Source: Authors' calculation.
Note: This chart shows the coefficients from the gravity model analysis for the ideal point distance with various interactions. In addition, 90% confidence bands are shown. AEs = advanced economies; EMDEs = emerging market and developing economies.

2.5 Robustness analysis

To assess the robustness of our results, we first use an alternative variable as a measure for political distance: the S-score by Signorino and Ritter (1999). To have comparable results, we use the standardized value as well. Table A3 in the annex shows the results for FDI and PI in columns (2) and (7), respectively. The estimates are quantitatively similar to the results in the baseline estimations, see columns (1) and (6). Since the USA is among the largest recipients and sources of FDI and PI, we remove the USA as an investment source and destination country in columns (3) and (8). We find that the coefficient of IPD is smaller for FDI when we exclude the United States, while we find no difference in the coefficient for the analogous analysis but for portfolio investment. Since the USA has a significant stock of FDI abroad and is also among the largest FDI recipients and a quick withdrawal of these investments would be difficult, taking out the largest "player" from our estimations might impact the results. Interestingly, when China is excluded, neither coefficient is affected. The reason could be that China's (relative) importance is smaller. Furthermore, a comparatively large share of investments from China is made via offshore centers with no UNGA mandate and is therefore not included in the sample.

Finally, columns (5) and (10) show the results restricting the time dimension to remove the period starting in 2020, when the COVID-19 pandemic started. Given the distress observed since the pandemic, we wanted to see whether results remained the same when we excluded this period – and that is what the results show.

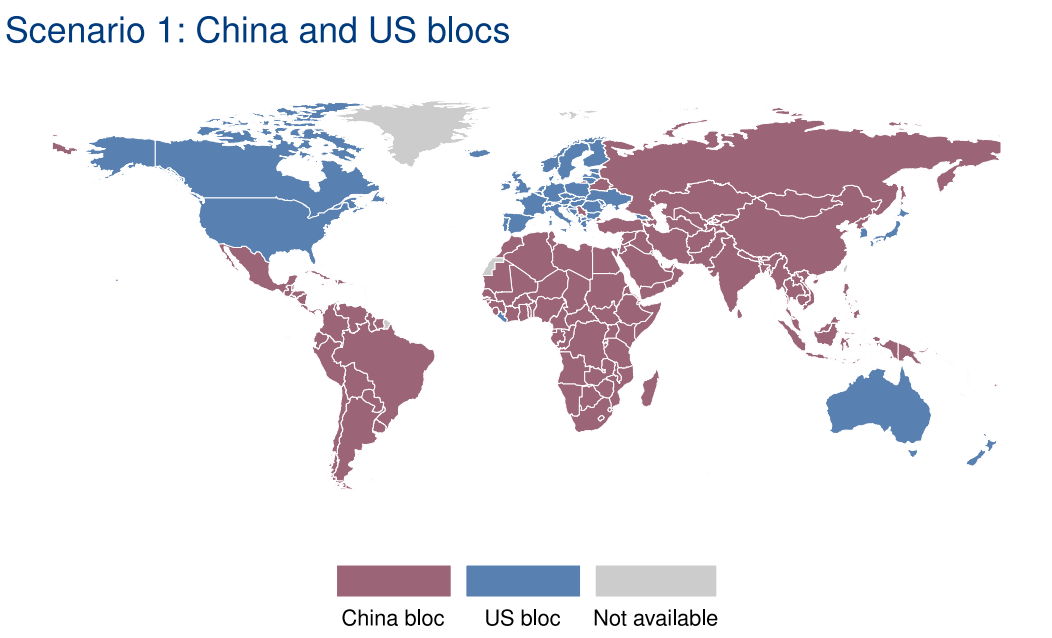
Summarizing, our analysis shows that political alignment matters more for FDI positions than for portfolio positions. Nevertheless, when we investigate the average effect on country pairs across

time, we find that the changes in IPD do not matter for long-term investments, while they matter for shorter-term investments.

3 Bloc-building scenarios

Based on the results obtained from our gravity model analysis, we present two hypothetical and simple scenarios on bloc-building that illustrate the potential impact of increased geopolitical fragmentation on global cross-border investment stocks. In scenario 1, shown in chart 3, countries are categorized by their geopolitical distance to either China or the USA and assigned to blocs accordingly[16]. A country is assigned to the US-led bloc if its geopolitical distance is shorter to the USA than to China, and vice versa. Almost all countries in Asia, Africa, Latin America and the Caribbean are assigned to the China bloc. North America, large parts of Europe, Japan, South Korea, Australia and New Zealand are assigned to the US bloc. This is certainly a rather extreme scenario, so we relaxed it in scenario 2 by allowing for a nonaligned bloc, as shown in chart 4. It comprises all countries which are neither in the quartile closest to the USA nor in that closest to China. Unlike in scenario 1, most of Asia and Latin America as well as large parts of Africa are now nonaligned.

Chart 3

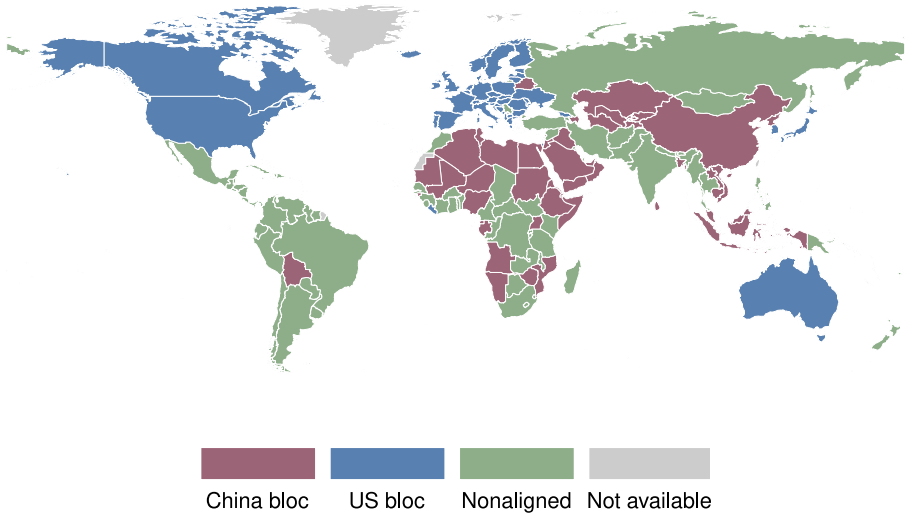


Source: Bailey et al. (2017).
Note: Blocs are established based on ideal point distances to the USA and China in 2022. Countries that are geopolitically closer to the USA are assigned to the US bloc; countries that are geopolitically closer to China are assigned to the China bloc. 2021 data are used for Türkiye and Venezuela as 2022 data are not available.

[16] See Owen (2021) for a discussion of the emergence of two US- and China-led political blocs.

Chart 4

Scenario 2: China, US and nonaligned blocs



Source: Bailey et al. (2017).
Note: Blocs are established based on ideal point distances to the USA and China in 2022. Countries that are neither in the closest quartile of the USA nor in that of China are assignd to the nonaligned bloc. The remaining countries are either in the US or the China bloc, depending on which ideal point distance is smaller. 2021 data are used for Türkiye and Venezuela as 2022 data are not available.

To assess the impact of these two bloc-building scenarios on global investment positions, we use the coefficients from column (2) in table 3 for FDI (–0.346) and from column (5) in table 3 for portfolio investment (–0.146). We use cross-border investment data for 2022. First, we assume the geopolitical distance between all countries in one bloc to all countries in the other bloc to increase by one standard deviation, which approximately equals the increase of foreign policy divergence between the USA and Chile after the election of Salvador Allende and related changes in Chile's foreign policy. Note again that a one standard deviation increase in geopolitical distance is associated with a bilateral decline of FDI and PI of 34.6% and 14.6%, respectively. Based on data on cross-border investment positions in 2022, we then reduce all bilateral stocks of investment (both FDI and PI) between the countries of the two blocs by these magnitudes, initially for the first scenario described above. All existing investment relations within a bloc (e.g. between the USA and Germany or between China and Malaysia) remain intact. The decline of bilateral cross-border investment between countries of the two blocs corresponds to a 5.4% decline in global FDI positions and a 1.2% decline in global PI in scenario 1, ceteris paribus, as shown in table 4.[17]

When we introduce a nonaligned bloc in the second scenario and perform the same analysis as for scenario 1, the global effects of a reduction in investment are significantly smaller and amount to a 1.7% decline in global FDI and a 0.4% decline in global PI (all else held constant). This is due

[17] These numbers are essentially derived from the calculated reduction in the stock of FDI (PI), using the estimated coefficients for bilateral investment positions between countries from different blocks divided by the total stock of FDI (PI) in the same year (holding all else constant).

to the fact that the nonaligned bloc does not change its investment relations with either the US- or the China-led bloc. As before, there is no change of bilateral investment positions between countries of the same bloc. In other words, a smaller number of countries engage in geopolitical divestment (we still have two blocs but with fewer countries overall), which has a smaller effect on global cross-border investment.

Table 4

Bloc-building scenarios: results

	Scenario 1: US and China blocs		Scenario 2: China, US and nonaligned blocs	
	One standard deviation	3.2 standard deviations	One standard deviation	3.2 standard deviations
	(1)	(2)	(3)	(4)
	%			
FDI	-5.4	-15.6	-1.7	-4.9
Portfolio investment	-1.2	-3.8	-0.4	-1.3

Source: Authors' calculations.
Note: Results are based on the coefficients from the gravity analysis.

Another, rather extreme, assumption would be to increase geopolitical dealignment between all countries of the US bloc and all countries of the China bloc by 3.2 standard deviations (for the two different scenarios), which equals the change in foreign policy alignment between the USA and Iran after the Islamic Revolution took place in Iran in 1979. This would then imply a complete reduction of FDI positions between the blocs (3.2 x 34.6%), which corresponds to a 15.6% decline in global FDI in scenario 1 and a 4.9% decline in scenario 2 with a nonaligned bloc.[18] The effects on portfolio investment under this extreme assumption are equivalent to a 3.8% decline in global PI in scenario 1 and a 1.3% decline in scenario 2.

The overall implications for global cross-border investment stocks are economically significant in all scenarios, but their strength depends on the degree of bloc-building and geopolitical fragmentation. However, the reader should take these results with caution since they rely on a particular "blocalization" of the world (while holding all else constant) and on specific assumptions on how investments adjust to the related political (de)alignment movements.

4 Concluding remarks

In the context of increasing geopolitical tensions and a growing debate on "deglobalization," we investigate whether increasing geopolitical fragmentation leads to a reduction of bilateral stocks of cross-border investment. To answer this question, we use a largely homogeneous dataset for a large sample of countries, employing a standard gravity model applied to cross-border capital allocation (FDI and portfolio investment) and estimated with a Poisson pseudo-maximum likelihood (PPML) regression.

[18] Since 3.2 x 34.6% is larger than 100% and we wanted to avoid negative positions in our analysis, we capped the value at 100%.

The results indicate that geopolitical fragmentation, as measured by the ideal point distance (IPD), exhibits a negative and statistically significant relationship with FDI. On average, an increase of one standard deviation is associated with a 34.6% decrease in the stock of FDI. This study also explores the corollaries on portfolio investment, revealing that the coefficient of IPD is smaller for portfolio investment than for FDI but remains statistically significant, with an increase of one standard deviation being associated with a 14.6% decrease in the stock of portfolio investment. Furthermore, we observe that the impact of geopolitical dealignment on FDI has increased over time and is larger for EMDEs – both as source and destination countries – than for other countries. Among "friendly" country pairs, the role of IPD for FDI and portfolio investment is less significant than for country pairs that are politically more distant, indicating that countries with more aligned foreign policy preferences do not immediately reduce bilateral investment when their foreign policies diverge.

Based on the obtained coefficients from the baseline specification, we conduct simple bloc-building scenarios. Assuming the world is divided into a US and a China bloc, an increase of geopolitical distance between these two blocs that is equal to the increase of IPD between the USA and Iran after the Islamic Revolution of 1979 would lead to a 15.6% reduction in global FDI and a 3.8% decrease in global portfolio investment, ceteris paribus.

Overall, our results show that political fragmentation is affecting investment with different strength with respect to the investment type in question. This is important for policymakers since FDI has the potential to be a source of technology transfer (e.g. technologies or operational practices), to support exchange rate stability (in case of incoming investments) and economic growth (especially in case of greenfield FDI), to increase international trade (given the interlinkages between cross-border investment and trade) and to improve competition (as competition increases with the number of foreign firms involved and this can improve innovation and reduce prices). Similarly, portfolio investments allow for risk diversification, improve liquidity and provide funding for projects with positive effects for the domestic economy, such as higher employment. Therefore, it is important for countries to reflect on these matters when they consider engaging in actions resulting in geopolitical fragmentation.

Future avenues of research include assessing the importance of other barriers to capital flows, such as capital controls or investment screening, and trying to identify the role of tax havens to get a better picture of the role of ultimate investors in capital allocation.

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Annex

Table A1

Heterogeneity analysis

	FDI					Portfolio investment				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
IPD(t-1)	-0.346***					-0.146***				
	(0.046)					(0.053)				
Ln(dist)	-0.486***	-0.486***	-0.492***	-0.516***	-0.485***	-0.305***	-0.304***	-0.306***	-0.3***	-0.298***
	(0.05)	(0.05)	(0.051)	(0.048)	(0.049)	(0.047)	(0.047)	(0.047)	(0.046)	(0.047)
Contig	0.139	0.136	0.122	0.115	0.142	0.37***	0.371***	0.368***	0.376***	0.392***
	(0.14)	(0.14)	(0.14)	(0.14)	(0.138)	(0.12)	(0.121)	(0.12)	(0.12)	(0.12)
Comcol	0.924***	0.919***	0.895***	0.967***	0.917***	1.56***	1.584***	1.557***	1.678***	1.515***
	(0.304)	(0.302)	(0.298)	(0.293)	(0.305)	(0.466)	(0.467)	(0.451)	(0.451)	(0.46)
Comlang	0.156	0.162	0.193	0.21*	0.154	0.358***	0.357***	0.362***	0.342***	0.327***
	(0.118)	(0.118)	(0.119)	(0.113)	(0.116)	(0.111)	(0.111)	(0.111)	(0.109)	(0.11)
BIT	-0.047	-0.051	-0.038	-0.013	-0.044	0.554***	0.56***	0.553***	0.543***	0.51***
	(0.11)	(0.11)	(0.11)	(0.104)	(0.108)	(0.114)	(0.116)	(0.114)	(0.116)	(0.107)
2001-08#IPD(t-1)		-0.239***					-0.182**			
		(0.061)					(0.073)			
2009-13#IPD(t-1)		-0.359***					-0.182***			
		(0.058)					(0.055)			
2014-18#IPD(t-1)		-0.356***					-0.137**			
		(0.05)					(0.055)			
2019-22#IPD(t-1)		-0.382***					-0.102			
		(0.056)					(0.063)			
AEs(o.)#IPD(t-1)			-0.248***					-0.135**		
			(0.067)					(0.062)		
EMDEs(o.)#IPD(t-1)			-0.596***					-0.195**		
			(0.077)					(0.095)		
AEs(d.)#IPD(t-1)				-0.158**					-0.199***	
				(0.067)					(0.063)	
EMDEs(d.)#IPD(t-1)				-0.57***					-0.03	
				(0.053)					(0.068)	
Friends#IPD(t-1)					-0.14					-0.267*
					(0.169)					(0.16)
Close#IPD(t-1)					-0.311***					-0.273***
					(0.09)					(0.089)
Distant#IPD(t-1)					-0.327***					-0.292***
					(0.06)					(0.069)
Rivals#IPD(t-1)					-0.336***					-0.17***
					(0.044)					(0.05)
Constant	14.975***	14.959***	14.918***	15.09***	14.94***	13.985***	13.97***	13.985***	13.989***	14.054***
	(0.401)	(0.402)	(0.407)	(0.391)	(0.405)	(0.391)	(0.395)	(0.39)	(0.393)	(0.394)
Number of observations	123,541	123,541	123,541	122,334	123,541	123,541	123,541	123,541	122,334	123,541
Pseudo R-squared	0.896	0.896	0.896	0.898	0.896	0.955	0.955	0.955	0.955	0.955
Source country-year FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Destination country-year FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Source: Authors' calculations.

*Note: Standard errors clustered at the country-pair level are given in parentheses. *** p < 0.01, ** p < 0.05, * p < 0.1; Y = yes, N = no; FE = fixed effects; IPD(t-1) = ideal point distance, lagged; ln(dist) = geographical distance, logged; contig = common border; comcol = common colonial past; comlang = common language; BIT = bilateral investment treaty.*

In chart 2 panel (a) we observe that the confidence intervals are very close to one another, so we provide an alternative specification to assess the difference between them. Here, the baseline period is from 2001 to 2008, and we observe that the three follow-up periods are different to the baseline (table A2).

Table A2

Heterogeneity analysis, period differences

	FDI	Portfolio investment
	(1)	(2)
IPD(t-1)	-0.239***	-0.182**
	(0.061)	(0.073)
Ln(dist)	-0.486***	-0.304***
	(0.05)	(0.047)
Contig	0.136	0.371***
	(0.14)	(0.121)
Comcol	0.919***	1.584***
	(0.302)	(0.467)
Comlang	0.162	0.357***
	(0.118)	(0.111)
BIT	-0.051	0.56***
	(0.11)	(0.116)
2009-13#IPD(t-1)	-0.12*	-0.001
	(0.064)	(0.043)
2014-18#IPD(t-1)	-0.117**	0.045
	(0.058)	(0.045)
2019-22#IPD(t-1)	-0.143**	0.08
	(0.068)	(0.072)
Constant	14.959***	13.97***
	(0.402)	(0.395)
Number of observations	123,541	123,541
Pseudo R-squared	0.896	0.955
Source country-year FE	Y	Y
Destination country-year FE	Y	Y

Source: Authors' calculations.
*Note: Standard errors clustered at the country-pair level are given in parentheses. *** p < 0.01, ** p < 0.05, * p < 0.1; Y = yes, N = no; FE = fixed effects; IPD(t-1) = ideal point distance, lagged; ln(dist) = geographical distance, logged; contig = common border; comcol = common colonial past; comlang = common language; BIT = bilateral investment treaty.*

Table A3

Robustness checks

	FDI					Portfolio investment				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
IPD(t-1)	-0.346***		-0.148***	-0.346***	-0.33***	-0.146***		-0.146**	-0.139***	-0.16***
	(0.046)		(0.054)	(0.051)	(0.046)	(0.053)		(0.072)	(0.053)	(0.055)
Ln(dist)	-0.486***	-0.47***	-0.797***	-0.464***	-0.507***	-0.305***	-0.289***	-0.374***	-0.274***	-0.295***
	(0.05)	(0.053)	(0.053)	(0.052)	(0.054)	(0.047)	(0.048)	(0.054)	(0.046)	(0.051)
Contig	0.139	0.104	0.123	0.196	0.121	0.37***	0.356***	0.295***	0.389***	0.345***
	(0.14)	(0.142)	(0.125)	(0.143)	(0.147)	(0.12)	(0.121)	(0.114)	(0.12)	(0.122)
Comcol	0.924***	1.056***	0.616**	1.051***	0.881***	1.56***	1.588***	1.575***	1.702***	1.618***
	(0.304)	(0.305)	(0.312)	(0.311)	(0.311)	(0.466)	(0.455)	(0.473)	(0.445)	(0.444)
Comlang	0.156	0.199	0.211*	0.138	0.151	0.358***	0.369***	0.376***	0.366***	0.406***
	(0.118)	(0.122)	(0.127)	(0.12)	(0.12)	(0.111)	(0.112)	(0.117)	(0.111)	(0.112)
BIT	-0.047	-0.076	0.045	-0.057	-0.103	0.554***	0.542***	0.228**	0.62***	0.592***
	(0.11)	(0.113)	(0.115)	(0.119)	(0.122)	(0.114)	(0.114)	(0.113)	(0.116)	(0.127)
S-score(t-1)		-0.292***					-0.156***			
		(0.052)					(0.051)			
Constant	14.975***	13.928***	15.974***	14.812***	15.084***	13.985***	13.422***	13.556***	13.714***	13.73***
	(0.401)	(0.458)	(0.392)	(0.418)	(0.438)	(0.391)	(0.422)	(0.406)	(0.384)	(0.426)
Number of observations	123,541	123,541	119,349	120,390	104,304	123,541	123,541	119,349	120,390	104,304
Pseudo R-squared	0.896	0.894	0.872	0.898	0.895	0.955	0.955	0.942	0.958	0.952
Source country-year FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Destination country-year FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Source-destination country FE	N	N	N	N	N	N	N	N	N	N
Sample	Full	S-score	Excluding USA	Excluding China	Excluding 2020–2022	Full	S-score	Excluding USA	Excluding China	Excluding 2020–2022

Source: Authors' calculations.
*Note: Standard errors clustered at the country-pair level are given in parentheses. *** p < 0.01, ** p < 0.05, * p < 0.1; Y = yes, N = no; FE = fixed effects; IPD(t-1) = ideal point distance, lagged; ln(dist) = geographical distance, logged; contig = common border; comcol = common colonial past; comlang = common language; BIT = bilateral investment treaty.*

Address: Otto-Wagner-Platz 3, 1090 Vienna
PO Box 61, 1011 Vienna, Austria
Website: www.oenb.at

Editorial board: Fabio Rumler, Maria T. Valderrama

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