RESEARCH

Geoeconomic Fragmentation and Foreign Direct Investment
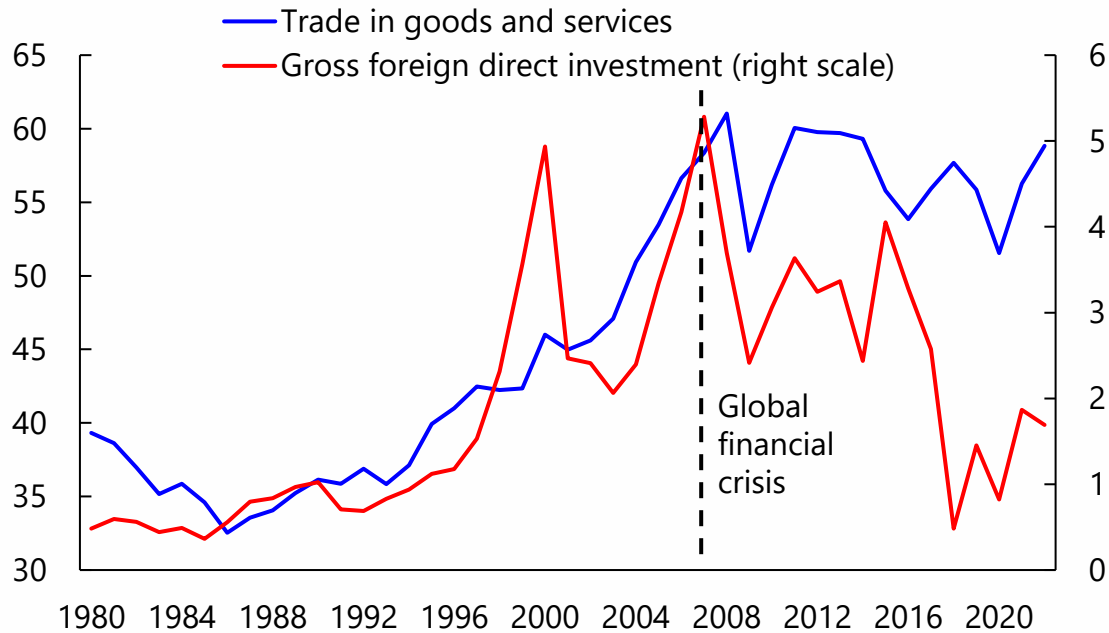
APRIL 2023 SPILLOVER WEO CHAPTER

APRIL 2023

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WORLD ECONOMIC OUTLOOK

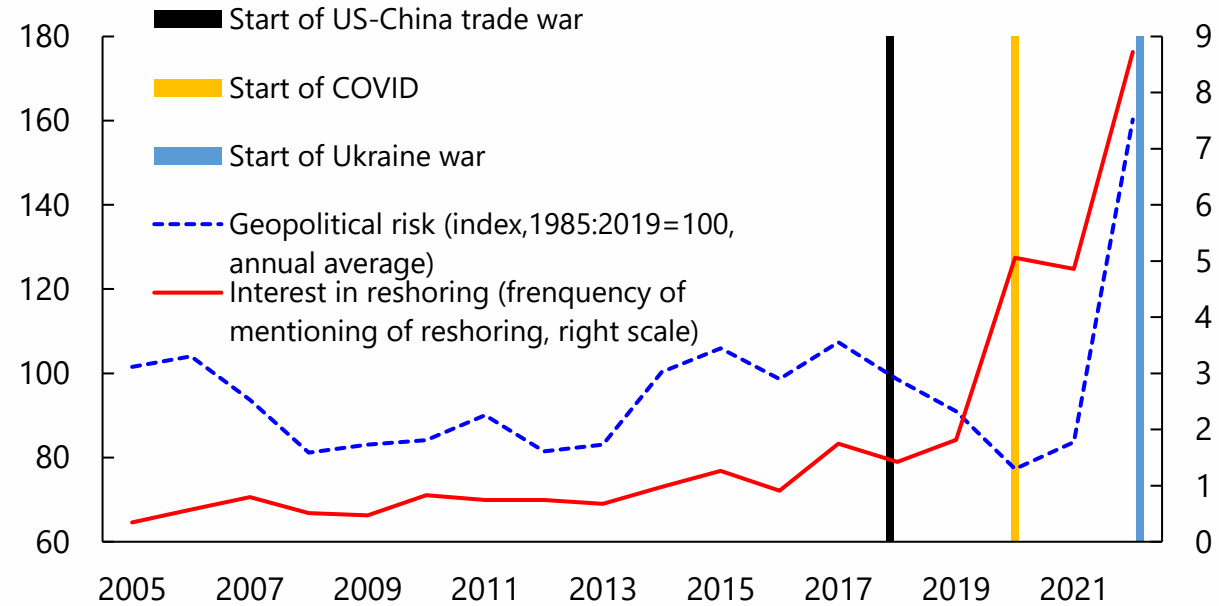# Growing interest in friend-shoring amid rising geopolitical tensions

"Slowbalization"
(Percent of GDP)

Rising geopolitical tensions and foreign direct investment fragmentation 1/
(Index; frequency of mentions of reshoring on right scale)

The pandemic, supply-chain disruptions, and rising geopolitical tensions have brought the risks and potential costs of fragmentation to the center of the policy debate, as policymakers urge firms to make supply chains more resilient through reshoring/friend-shoring of FDI

The chapter studies how geoeconomic fragmentation could affect FDI, and the resulting global spillovers

Sources: IMF, *World Economic Outlook;* Bailey, Strezhnev, and Voeten (2017); Hassan and others (2019); NL Analytics; and IMF staff calculations.
1/ Measures the frequency of mentions of reshoring, friend-shoring , or near-shoring in firms' earnings calls.
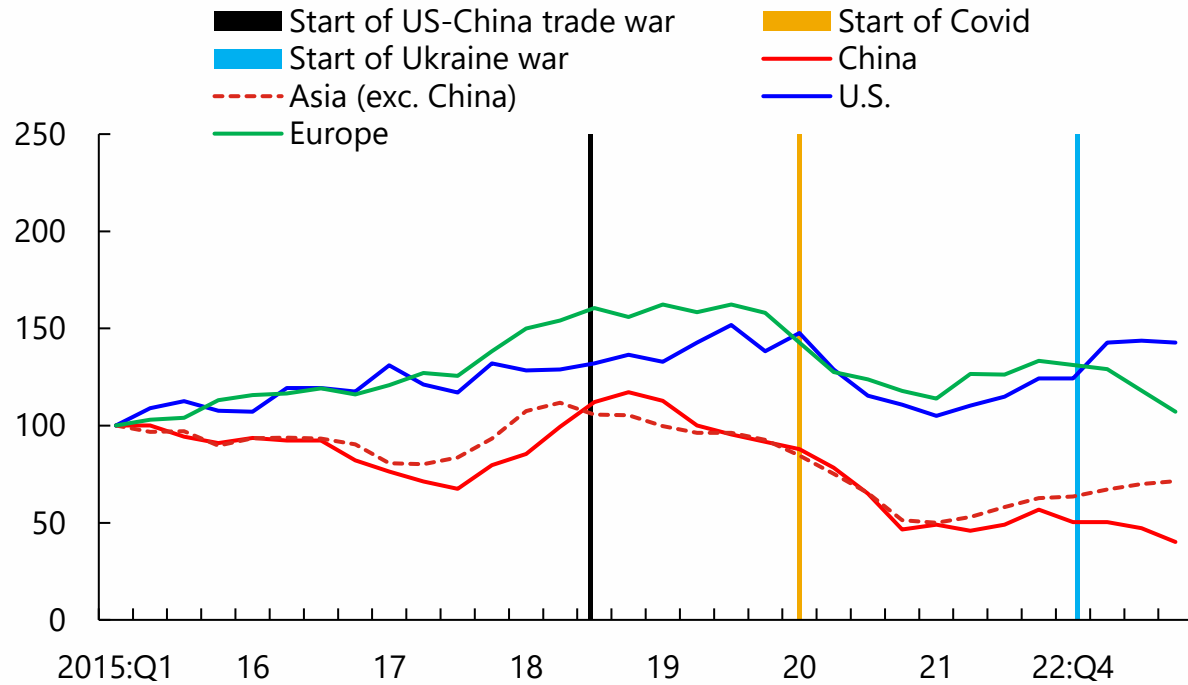
Main questions

1. Are there already signs of FDI fragmentation?
   - Yes, there is evidence of reallocation of FDI across countries, especially in strategic sectors

2. Does geopolitical alignment affect FDI flows?
   - Yes, especially in EMDEs, in recent years and in strategic sectors

3. Which countries and industries are more exposed to reshoring?
   - EMDEs are more exposed than AEs, although strategic vulnerability is high amongst both

4. Through which channels does FDI affect host countries?
   - FDI spillovers come from vertical FDIs, toward competing firms in AEs and suppliers in EMDEs

5. What will be the economic costs of fragmentation and how are they distributed across countries?
   - Costs are economically meaningful and larger for EMDEs
   - Uncertainty costly especially for nonaligned countries

Evidence on FDI Fragmentation

# Investment-level data point to fragmentation in greenfield FDI

Foreign direct investment in strategic sectors
(Number of investments, four-quarter moving average, 2015:Q1 = 100)

Legend:
- Start of US-China trade war
- Start of Ukraine war
- Asia (exc. China)
- Europe
- Start of Covid
- China
- U.S.

Change in Outward US Foreign Direct Investment, 2020:Q2–22:Q4 versus 2015:Q1–20:Q1 1/
*(Percentage point deviation from aggregate change)*
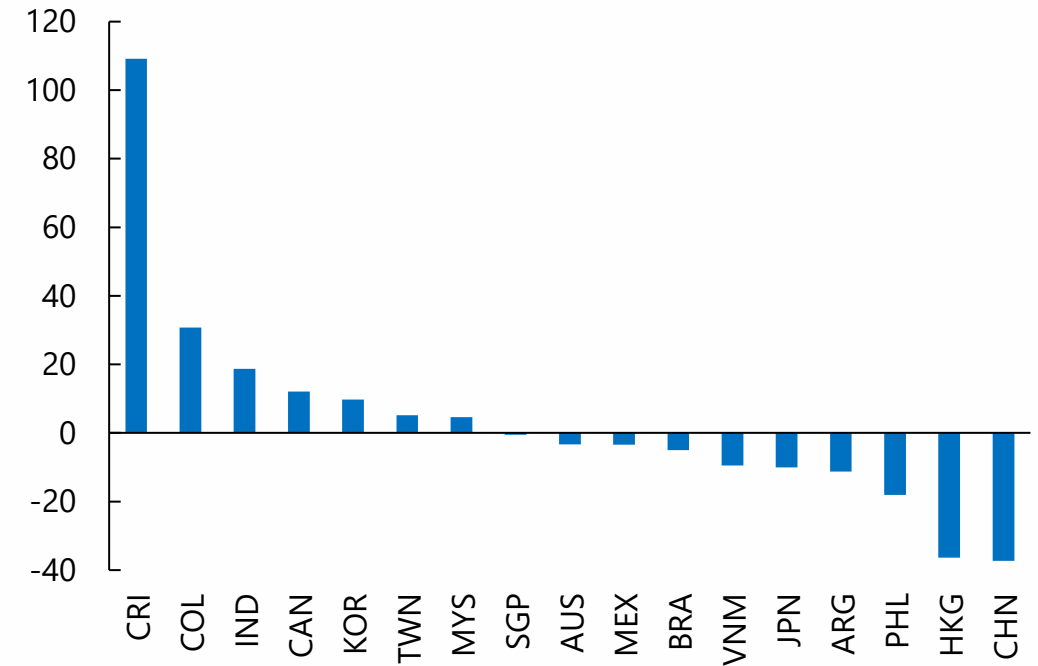
Sources: fDi Markets Database; and IMF staff calculations.

1/ Figure shows the deviation of outward US foreign direct investment change by destination from aggregate change (24 percent decline). Changes are computed using the number of greenfield foreign direct investments from the United States to Europe and Asia in 2020:Q4–22:Q2 and average number in 2015:Q1–20:Q1. Economy Labels on the x-axis uses International Organization for Standardization (ISO) country codes.

Geopolitical Alignment and FDI

More FDI between geopolitically aligned countries

Foreign direct investment between geographically and geopolitically close countries
(Percent)
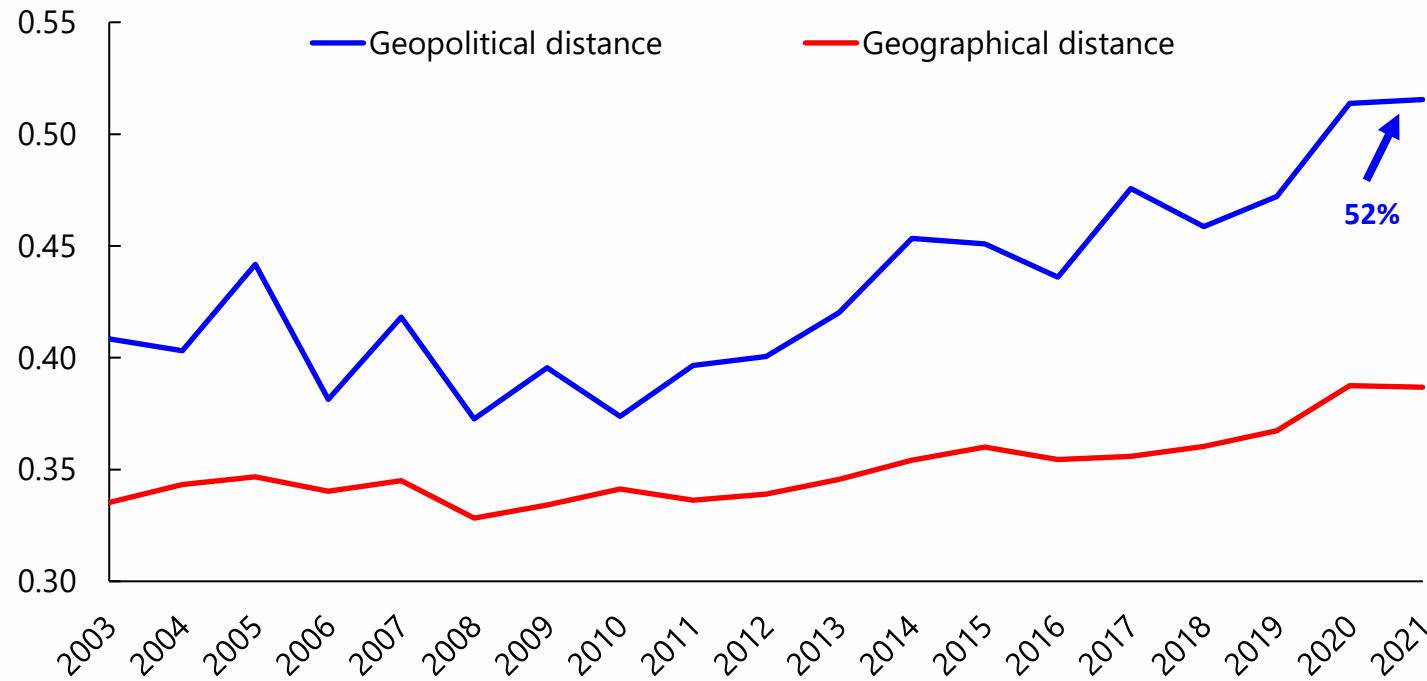
Sources: Bailey, Strezhnev, and Voeten (2017); Centre d'études prospectives et d'informations internationales, Gravity database; fDi Markets; and IMF staff calculations.
Note: Figure shows the annual share of total foreign direct investments between country pairs that are similarly distant (that is, in same quintile of distance distribution), geopolitically and geographically, from the United States.

Results:

- **Baseline**: increasing the distance from 75th to 25th percentile is associated with a FDI decline of 17%

- **By income groups**: coefficient three (two) times as large if destination (source) country is EMDE, and not significant if AE

- **By sector**: coefficient is 19% larger on strategic investment than on other sectors

Gravity model for ideal point distance and foreign direct investment
(Semielasticities)
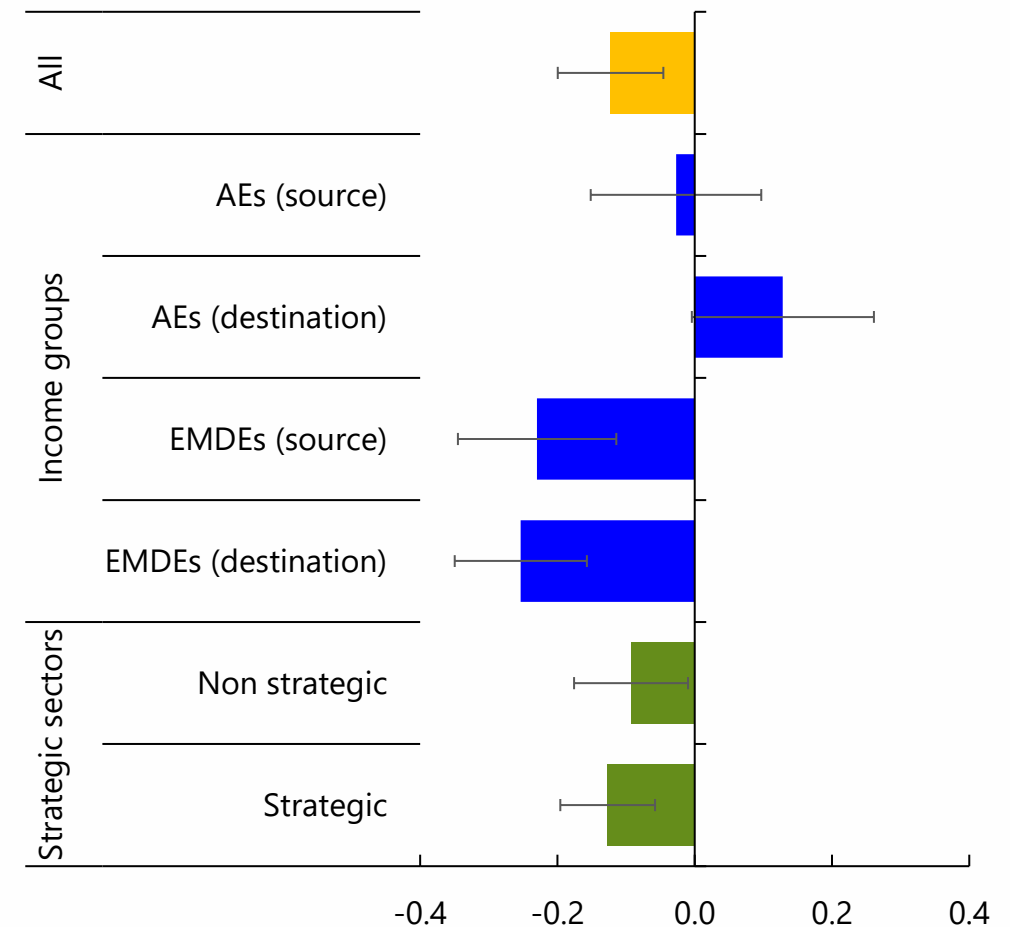
Sources: Atlantic Council; Bailey, Strezhnev, and Voeten (2017); Centre d'études prospectives et d'informations internationales, Gravity database; fDi Markets; NL Analytics; and IMF staff calculations.
Note: Coefficients of ideal point distance are estimated from gravity model for number of FDI. AEs = advanced economies; EMDEs = emerging market and developing economies.

A Multidimensional Index of Exposure to Reshoring

A **multidimensional index of vulnerability** captures different dimensions of risks from GEF to FDI stocks

1. Geopolitical: FDI from source economies that are more geopolitically distant is more vulnerable to reshoring

2. Market power: A host economy's vulnerability to relocation in a sector may be attenuated if the host is a large player in that sector

3. Strategic: A host's vulnerability may be particularly high in sectors deemed strategic

Vulnerability index, aggregate
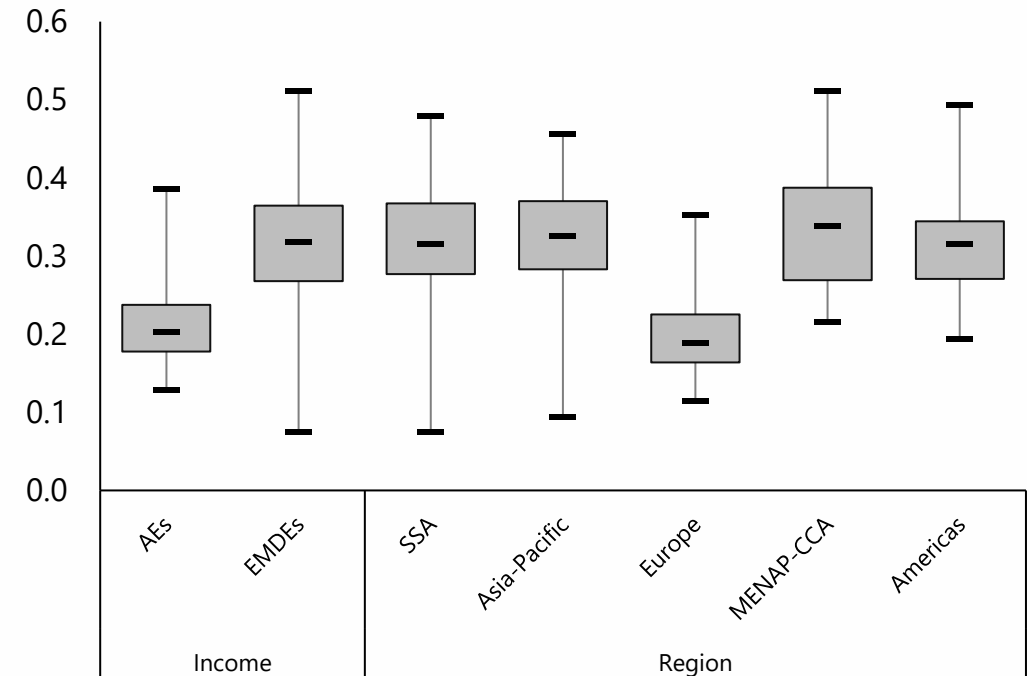
Sources: Atlantic Council; Bailey, Strezhnev, and Voeten (2017); fDi Markets; NL Analytics; Trade Data Monitor; and IMF staff calculations.
Note: Figure shows distribution of vulnerability index by income and regional groups, based on post-2009 foreign direct investment flows. AEs = advanced economies; EMDEs = emerging market and developing economies; MENAP-CCA = Middle East, North Africa, Afghanistan, Pakistan, Caucasus, and Central Asia; SSA = sub-Saharan Africa.
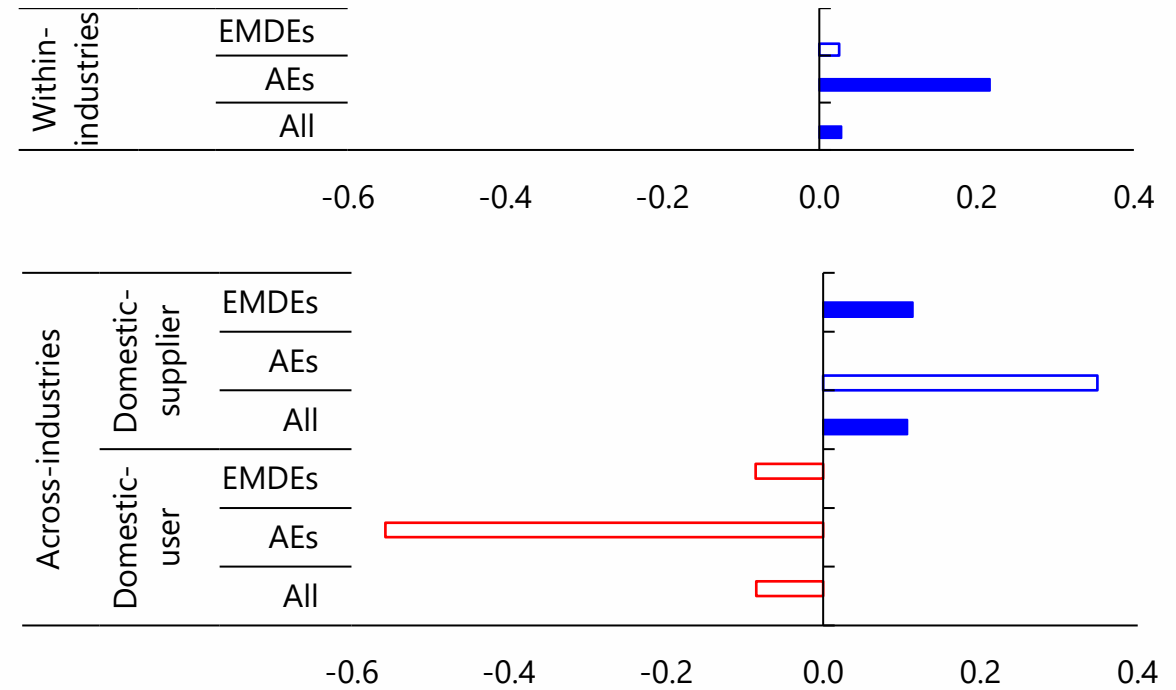
FDI Spillovers to Host Countries

**Foreign direct investment and growth:
horizontal versus vertical 1/**
(Standardized coefficients)
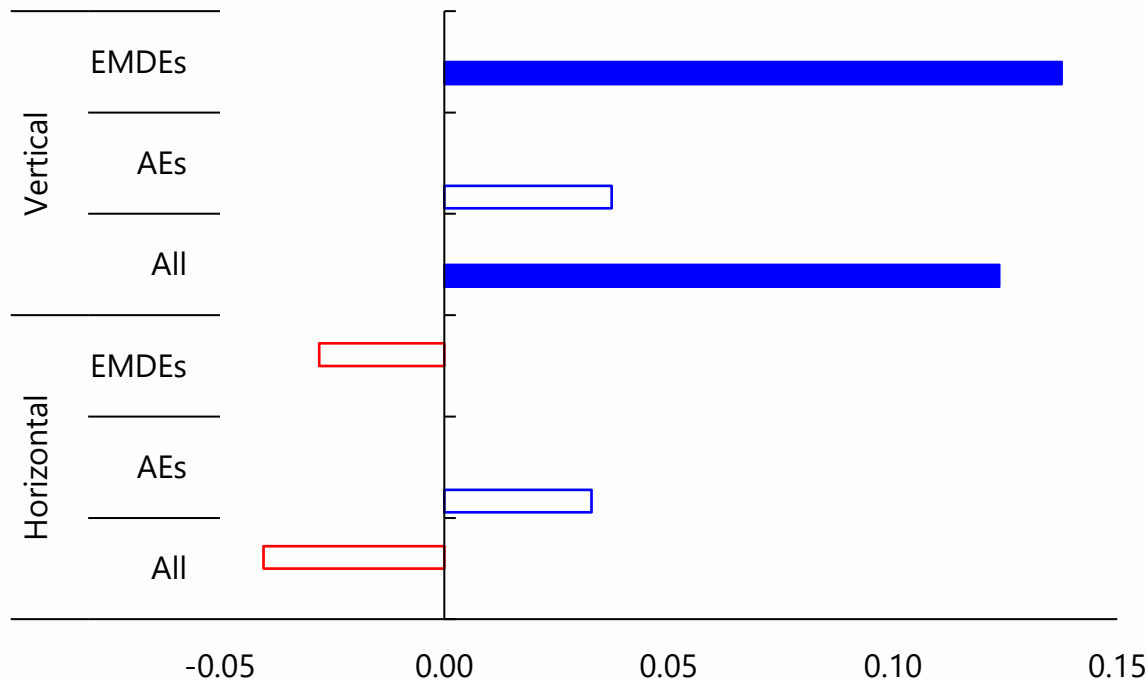
**Firm-level foreign direct investment spillovers:
Within-industries versus across-industries 2/**
(Standardized coefficients)

Sources: Export-Import Bank of Korea; and IMF staff calculations.

1/ Figure reports the standardized coefficients obtained from cross-country growth regression estimated separately for countries with horizontal foreign direct investment and those with vertical. Solid bars indicate statistical significance at 1 percent level. See Online Annex 4.3 for details. AEs = advanced economies; EMDEs = emerging market and developing economies.

2/ Figure reports the standardized coefficients obtained from firm-level regression of labor productivity growth as a function of foreign direct investment within and across industries. Solid bars indicate statistical significance at 1 percent level. See Online Annex 4.3 for details. AEs = advanced economies; EMDEs = emerging market and developing economies.

The Costs of FDI Fragmentation

Illustrating the long-term impacts of FDI fragmentation

Modeling approach: IMF's Global Integrated Monetary and Fiscal model (adapted to include GVCs) used to assess the impact of FDI fragmentation using international investment flows as a proxy

Hypothetical scenarios:

✓ Rising barriers between geopolitical blocs, centered around the two largest economies—China and the U.S.

✓ Two representative EMDE regions: *LAC* and *India and Indonesia*, are used to explore the interaction between alignment and economic outcomes

Model regions	Closer to United States	Closer to China	Nonaligned
1. United States	✓		
2. China		✓	
3. Europe	✓		
4. Other AEs	✓		
5. India and Indonesia			✓
6. Other SE Asia		✓	
7. LAC			✓
8. ROW		✓	

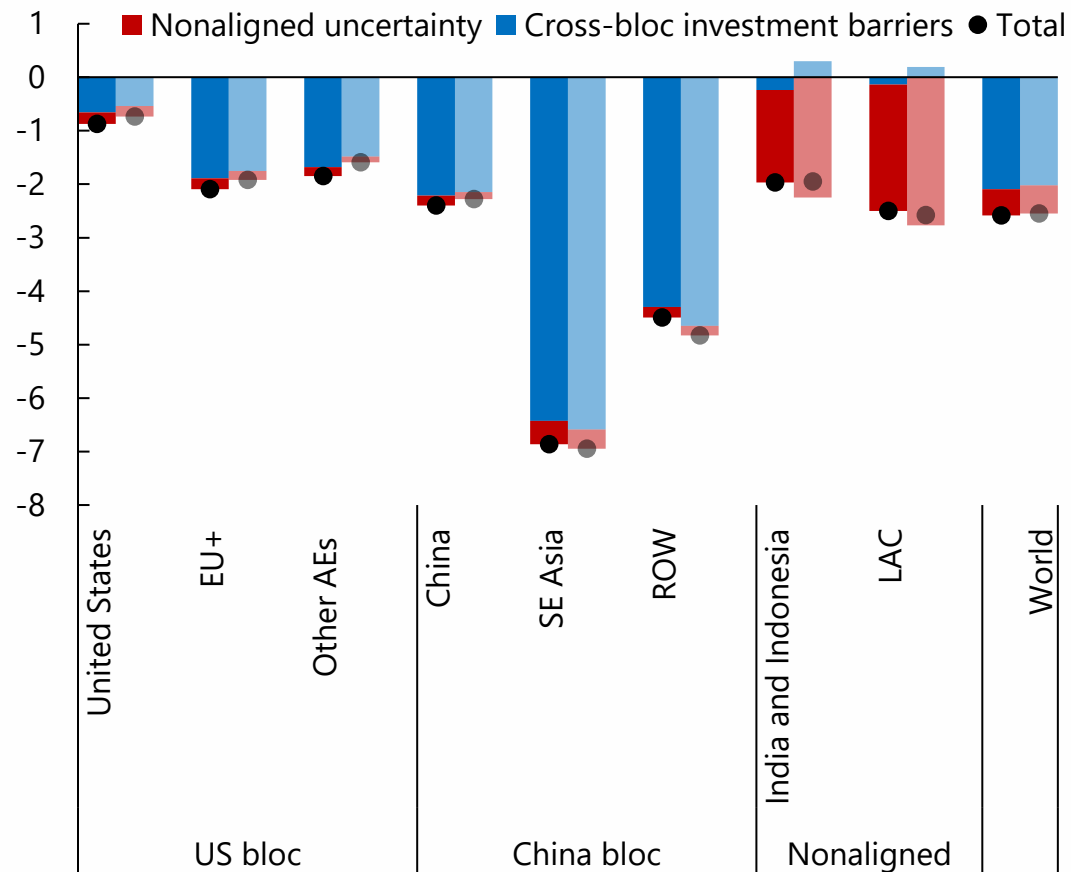Sources: Bailey et al (2017); and IMF staff calculations.

Baseline scenario: Fragmentation is modeled as a permanent rise in barriers on investment inputs between opposing blocs, with non-aligned economies fully open to both blocs

Uncertainty scenario: Uncertainty about future alignment can create an option value of waiting to invest, resulting in effective barriers for the non-aligned regions
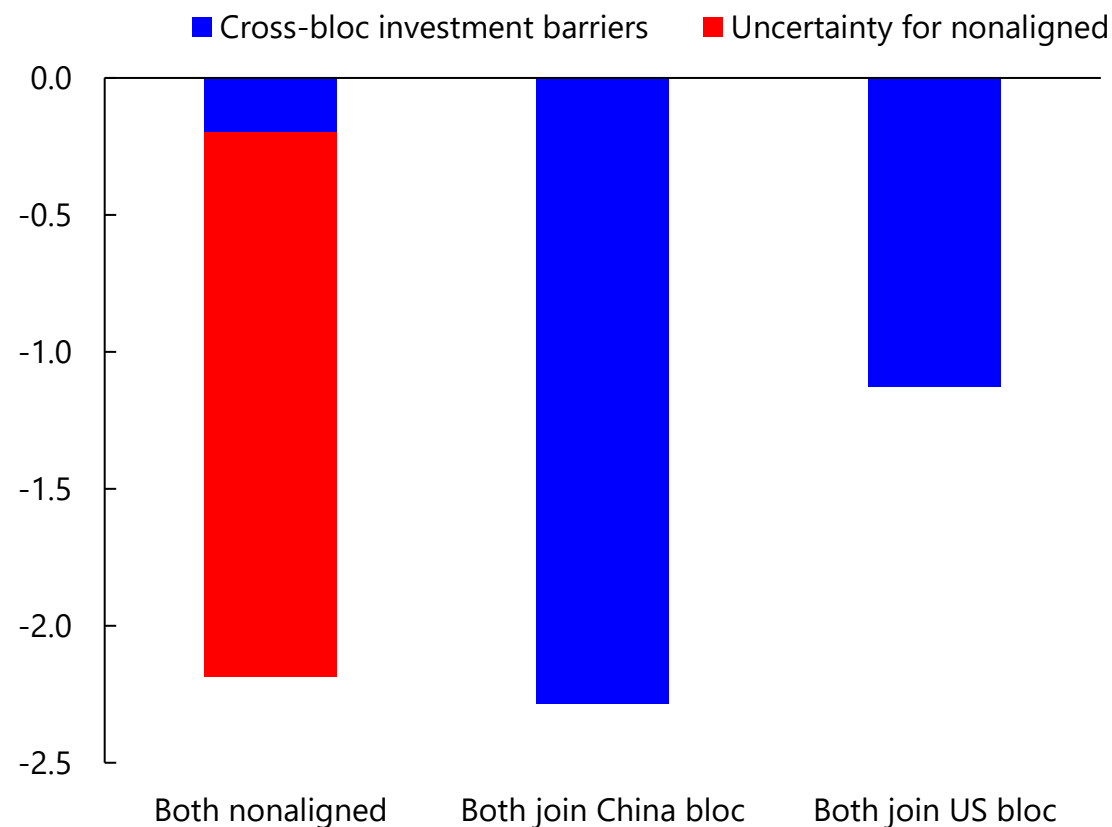
✓ These higher barriers lead to lower <u>capital stock</u> (all regions) and <u>productivity</u> (EMDEs)

Barriers to investment flows yield significant losses; diversion gains for non-aligned could be offset by lower external demand, uncertainty

Long-term GDP losses, with uncertainty for nonaligned economies 1/
(Percent deviation from no-fragmentation scenario)

Legend: Nonaligned uncertainty ■ Cross-bloc investment barriers ■ Total ●

Categories (x-axis): United States, EU+, Other AEs, China, SE Asia, ROW, India and Indonesia, LAC, World

Groupings: US bloc, China bloc, Nonaligned

Impact on GDP for bloc members: nonaligned joining blocs
(Percent deviation from no-fragmentation scenario)

Legend: ■ Cross-bloc investment barriers ■ Uncertainty for nonaligned

Categories: Both nonaligned, Both join China bloc, Both join US bloc

Source: IMF staff calculations.
1/ Darker bars denote scenario with lower elasticity of substitution (1.5) between foreign sources of investment inputs. Lighter bars denote scenario with higher elasticity of substitution (3.0) between foreign sources of investment inputs and thus a greater role for diversion. AEs = advanced economies; EU+ = European Union and Switzerland; LAC = Latin America and the Caribbean; ROW = rest of the world; SE = Southeast.

Conclusions

Policy recommendations

Widespread economic costs from geoeconomic fragmentation provide **a rationale for a robust defense of global integration**

- Preserving a multilateral dialogue is needed to avoid increasing FDI fragmentation

<u>In a more fragmented world</u>:

- Developing a **framework for international consultations**—e.g., on the use of subsidies for reshoring or friend-shoring—could help identify unintended consequences and *reduce uncertainty* on policy options, mitigating cross-border spillovers

- Policies to **promote private sector development** could reduce vulnerability to FDI relocation

- Some countries could take advantage of diversion and attract FDI, by undertaking **structural reforms**, establishing **investment promotion agencies**, and **improving infrastructure**