EUROPEAN CENTRAL BANK

EUROSYSTEM

Navigating a fragmenting global trading system:

insights for central banks

Workshop on: “Geopolitical shifts and economic integration in Latin America and Europe”

09 May 2025
Banco de España

Maria Grazia Attinasi (ECB), Michele Mancini (Banca d’Italia)
on behalf of the members of the IRC Workstream on Trade Fragmentation

Outline

- Why a Report on geoeconomic trade fragmentation?
- Four key findings
- Four policy implications
- Four insights for central banks

Why a Report on geoeconomic trade fragmentation?

Geoeconomic trade fragmentation has first-order implications for central banks

→ **Large** and **frequent shocks** along a potentially lengthy fragmentation process

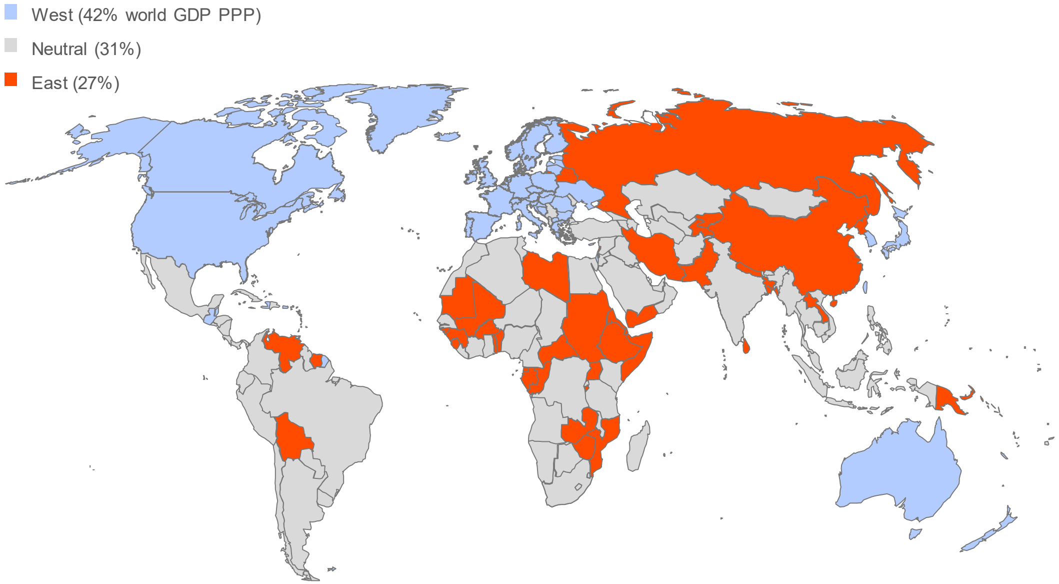
- **Weaponisation of specific supply lines**
- **Broad-based protectionism**

This report (*ECB OP 365)*: provide insights for central banks to **better understand the ongoing trade fragmentation process,** an input for monetary policy design.

Defining geoeconomic *trade* fragmentation

Policy-driven reversal of global trade integration motivated by domestic economic policy objectives, and geopolitical as well as strategic considerations.

Basic setup: three geopolitical blocs



Notes: The allocation of countries to blocs is based on the geopolitical index developed by den Besten et al. (2023). This index is based on the voting patterns of countries at the United Nations General Assembly (UNGA) and includes additional measures of political alignment and economic ties between countries.

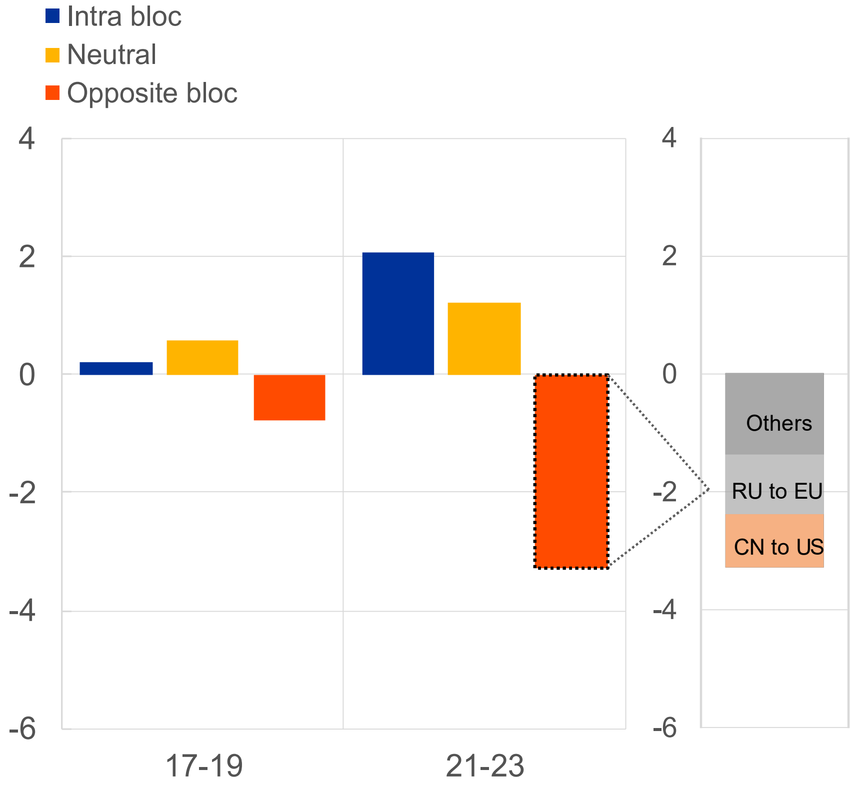
Q1:Trade fragmentation: where do we stand?

- ***Ongoing fragmentation process is selective.***
- *Some supply chains are **lengthening**.*
- *Firms are **de-risking from China**.*

Ongoing *selective* decoupling along geopolitical lines

Western bloc’s import shares

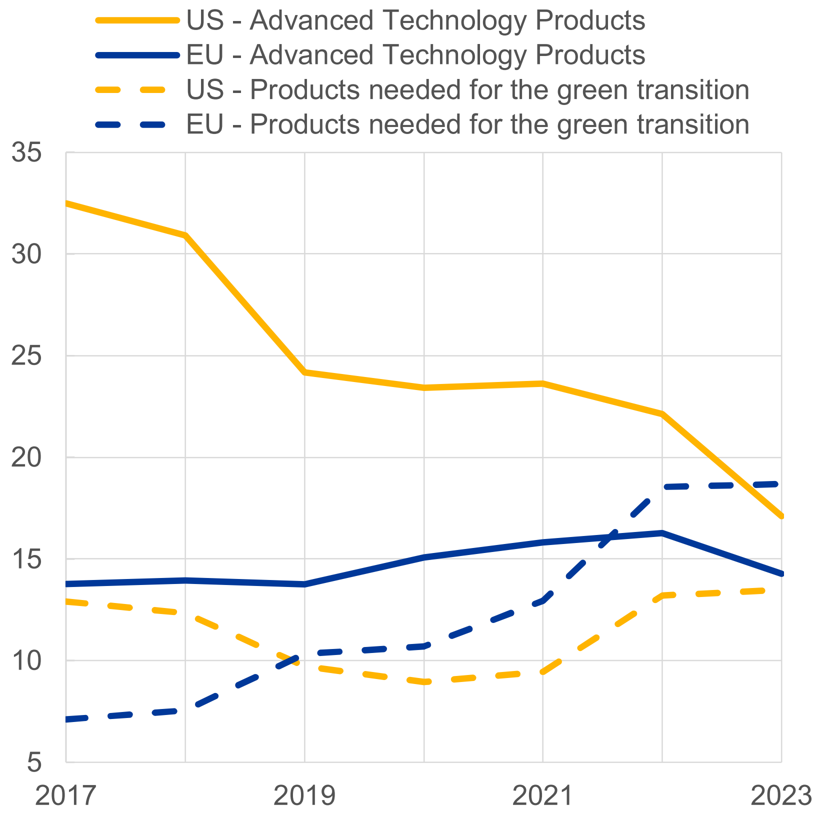
(percentage points; p.p. change)



Sources: Conteduca et al. (2024a) and Trade Data Monitor.

Share of imports from China by product category

(percentage)

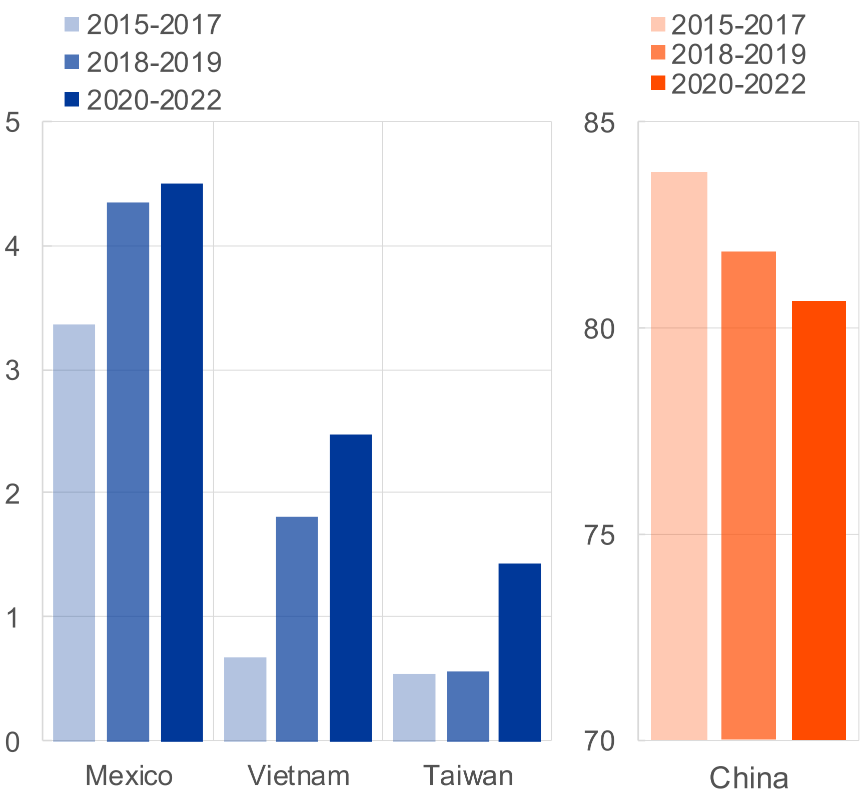


Sources: Conteduca et al. (2024a) and Trade Data Monitor.

Since 2018 signs of *supply chains lengthening*

Share of Chinese value added in US imports

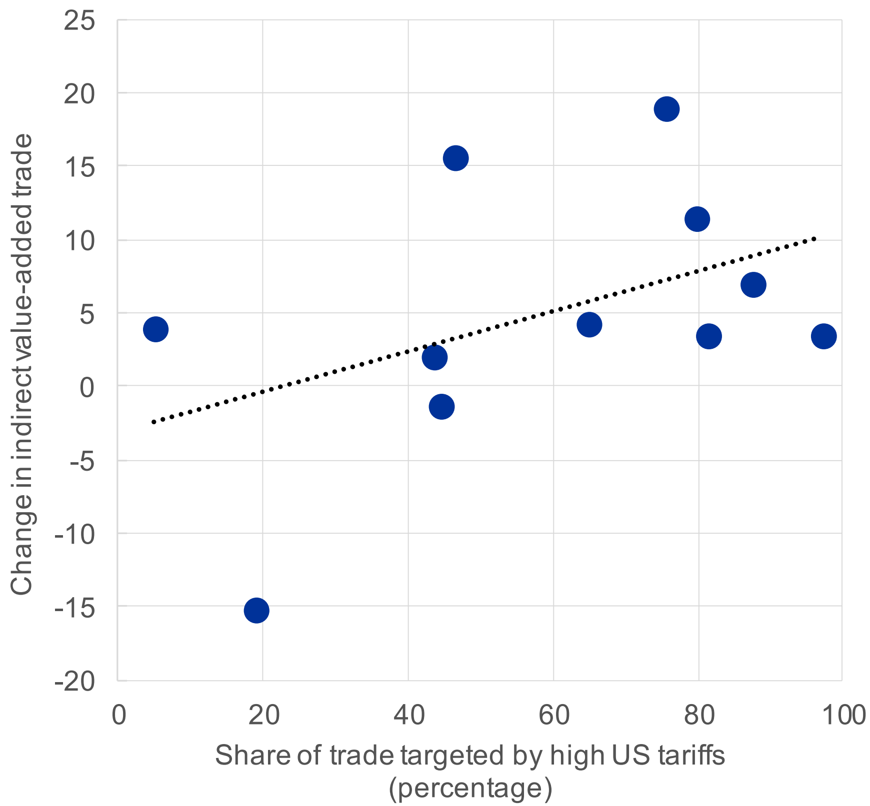
(% share of total Chinese value added imported by the US)



Sources: Conteduca et al. (2024).
Notes: Based on ADB MRIO data and Borin and Mancini (2023).

Tariffs and redirection of value added

(y-axis: change in CN value added reaching US between 2017-2022; x-axis: % share of US imports targeted by high tariffs)

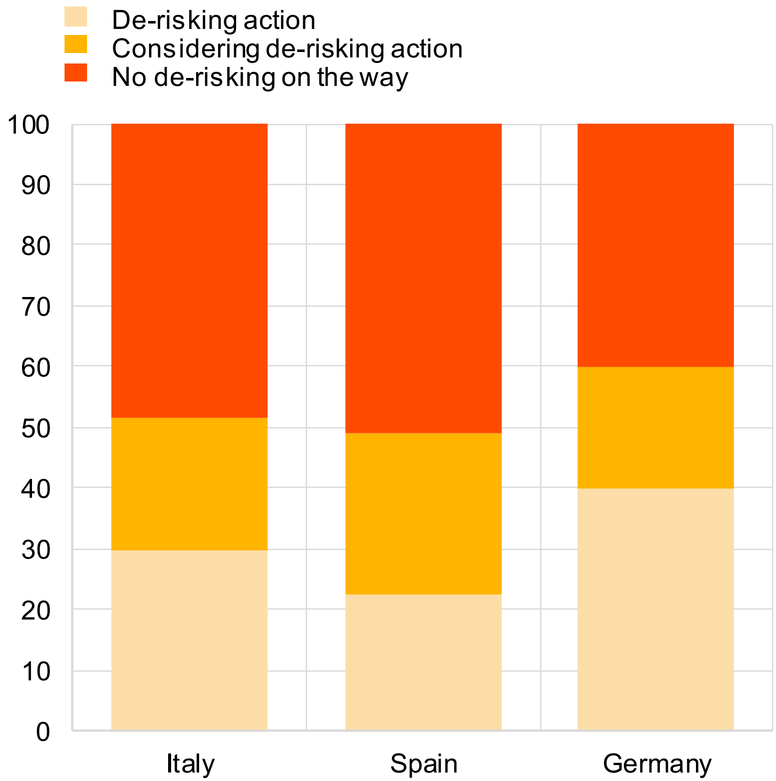


Sources: Conteduca et al. (2024).
Notes: Based on ADB MRIO, Trade Data Monitor (TDM) and US tariff data from the Peterson Institute for International Economics.

Firms are *de-risking* from China, mainly via EU-shoring

Actions taken to reduce exposure to China

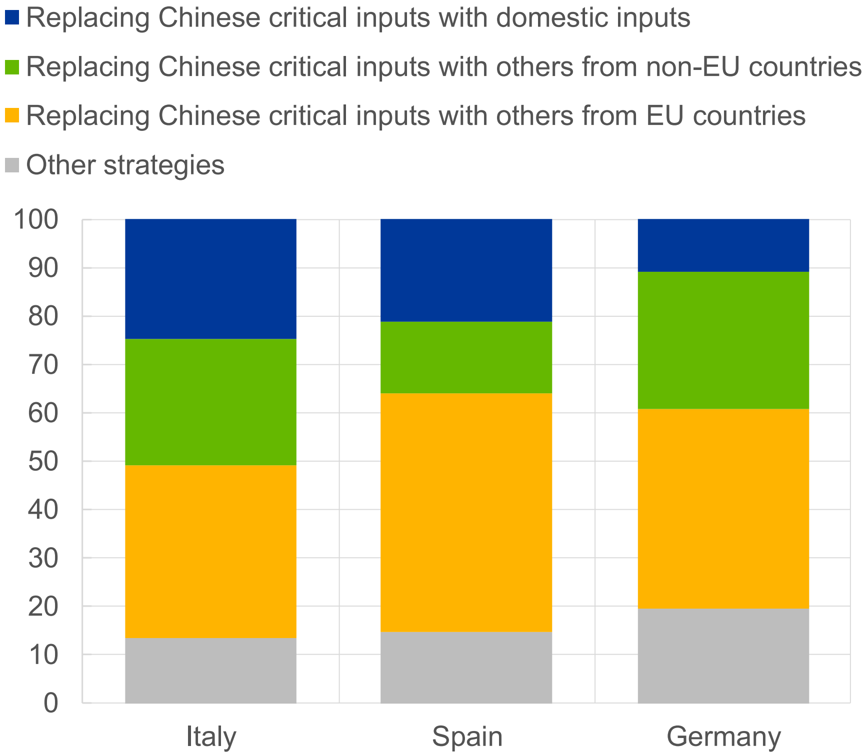
(percentage of firms relying on critical Chinese inputs)



Sources: Banca d’Italia, Deutsche Bundesbank and Banco de España. Manufacturing firms only. See Balteanu et al. (2024) and Bottone et al. (2024).

De-risking strategies implemented

(percentage of firms taking de-risking actions)



Sources: Banca d’Italia, Deutsche Bundesbank and Banco de España. Manufacturing firms only. See Balteanu et al. (2024) and Bottone et al. (2024).

Q2: Supply chain risks and impact of supply disruptions

- *Firms **highly exposed** to supply chain risks.*
- *Input **shortages** have **pervasive albeit heterogeneous effects across firms, sectors and regions.***

A *stress test* to assess the impact of supply disruptions

BUILDING BLOCKS OF THE ANALYSIS

1 — **Framework**

Firm-level framework to map input shortages into value-added losses, conditional on degree of inputs substitution

2 — **Granular data**

Firm-level imports matched with balance sheet data for Belgium, France, Italy, Spain, Slovenia

3 — **Inputs at risk**

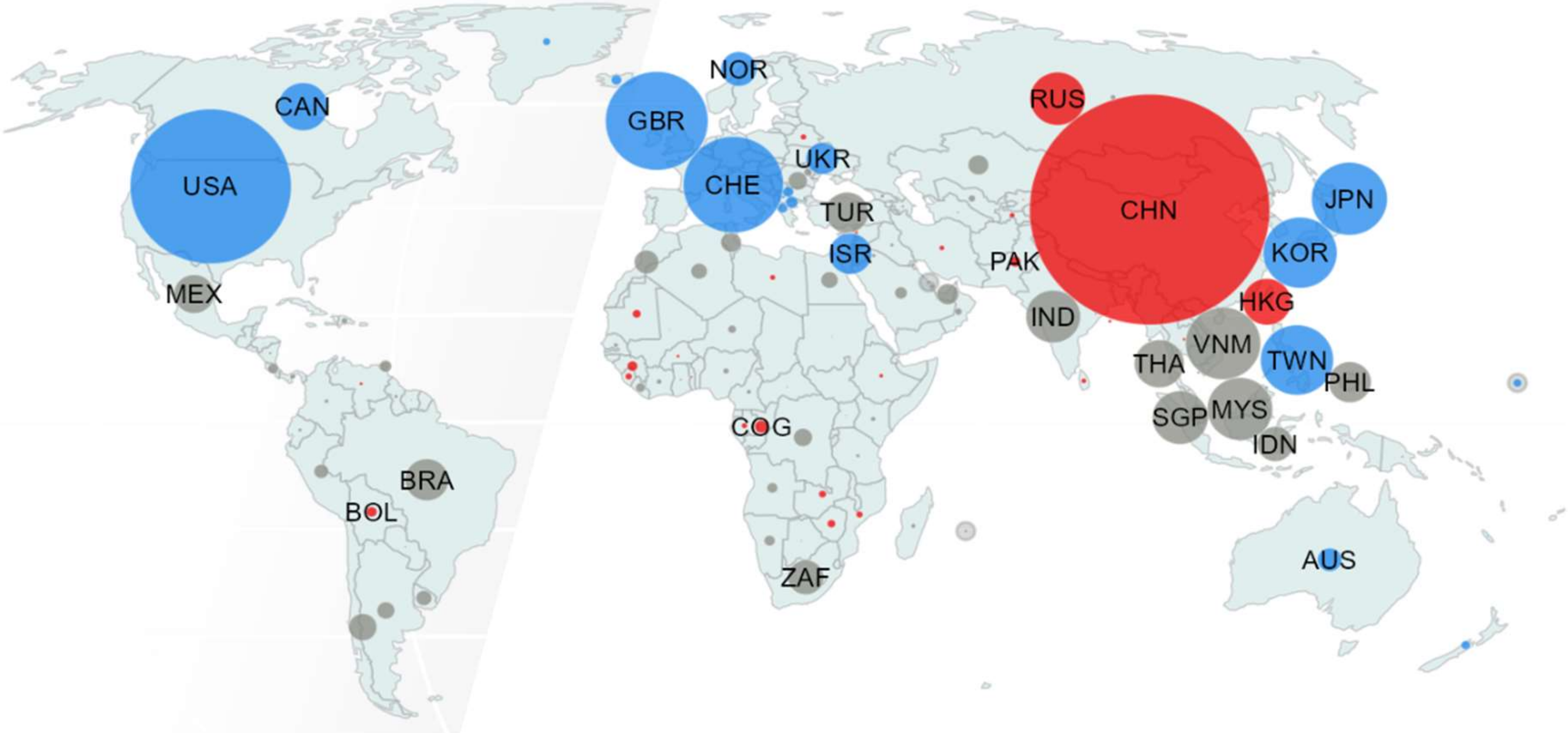
A list of inputs whose supply could be halted by trade restrictions.

4 — **Scenario**

Sudden stop of half ot the imports of key inputs from high-risk countries.

Halving the supply of *critical* inputs from high-risk countries

EU imports of key inputs from Extra-EU, by partner alignment

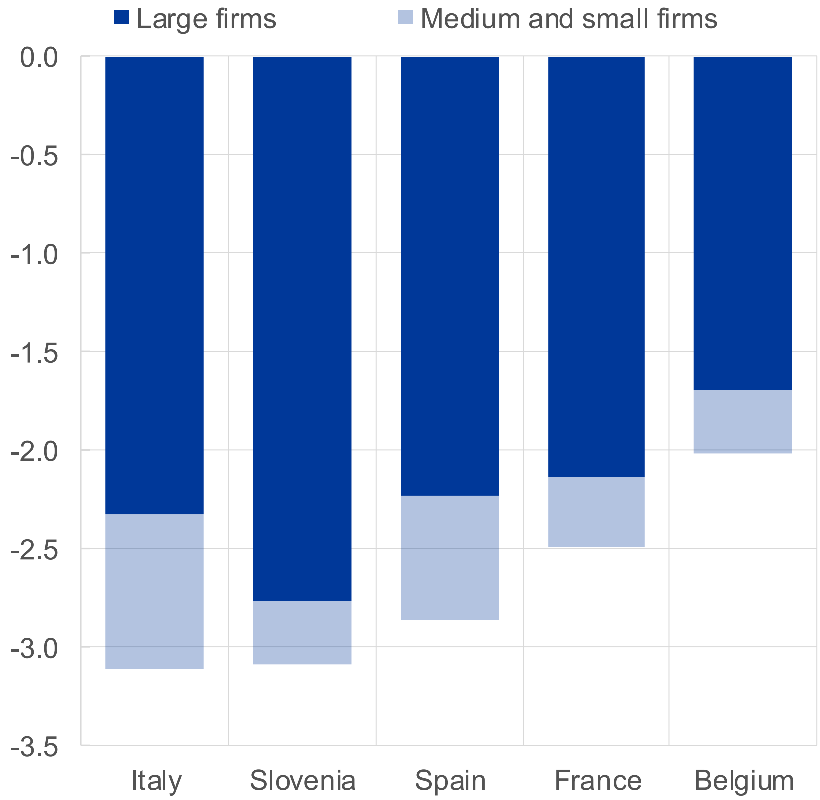


Sources: Authors' own elaborations based on CEPII BACI 2022 data.
Notes: The bubbles represent the share of each extra-EU country's exports of FCI in EU imports of FCI from all extra-EU countries.

Shortages of critical inputs have *very heterogeneous effects*

Change in manufacturing value-added

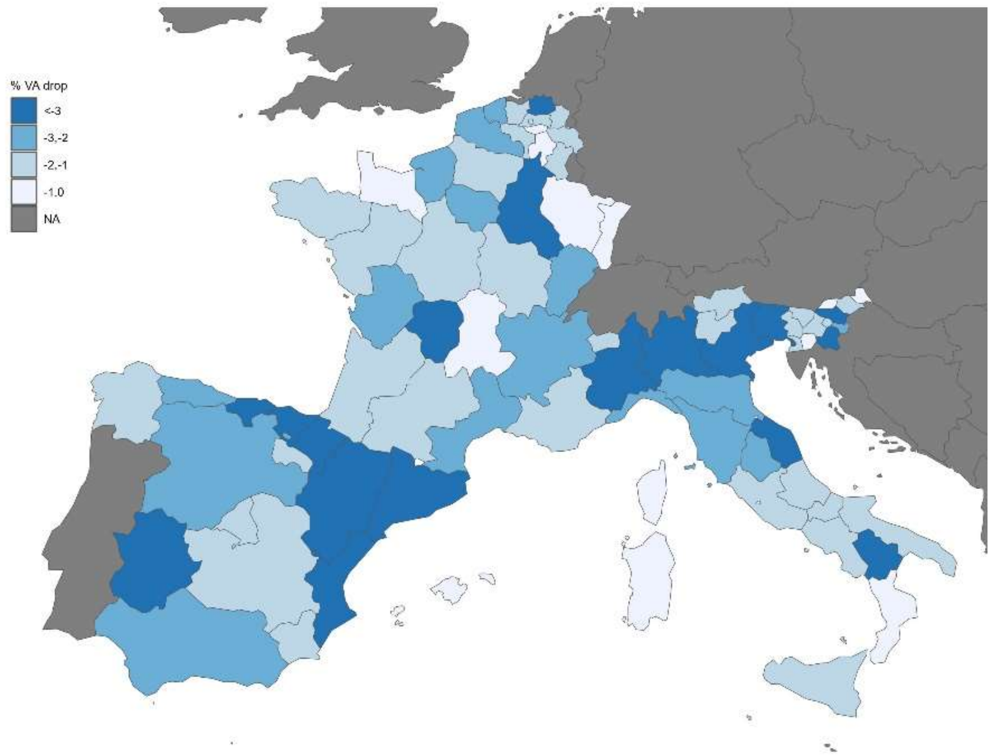
(percentage change)



Sources: Authors' own elaborations based on Panon et al. (2024).
Large firms: Top 25% of the firm size distribution. Medium and small firms: Bottom 75% of the firm size distribution.

Change in manufacturing value-added at regional level

(percentage change)



Sources: Authors' own elaborations based on Panon et al. (2024).

Q3: Macroeconomic effects of decoupling between blocs

- *Fragmentation would entail* ***sizable output losses*** *and* ***higher inflation which would subside only gradually***

Trade fragmentation *scenarios*

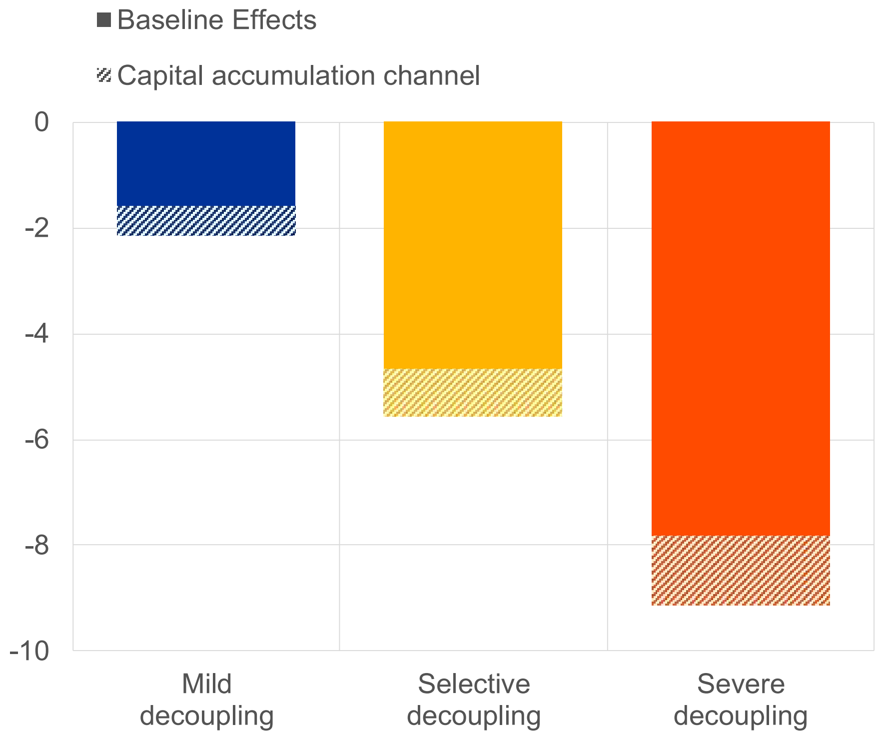
Assumptions underlying scenarios of trade fragmentation

Scenario	Sectors affected	Type of shock
Mild decoupling	All sectors	Partial trade restrictions*
Selective decoupling	Products whose supply is more prone to be weaponized**	Full trade ban for affected products
Severe decoupling	All sectors	Full trade ban

*Trade flows between East and West revert to the one observed in the mid-1990s (i.e., before sweeping trade liberalisation policies were implemented). **Trade bans are targeted at advanced technologies, raw materials, energy commodities, and products whose trade with Russia has been restricted by the EU following the invasion of Ukraine.

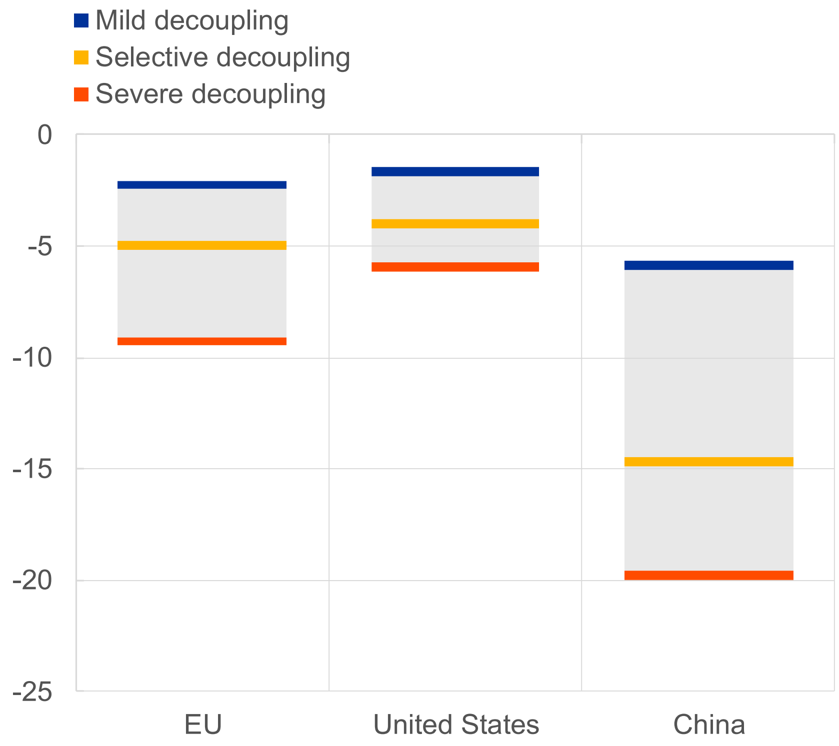
Trade fragmentation entails *sizeable* output losses

Global real GDP
(percentage deviation from steady state)



Sources: Conteduca et al., (2024b), OECD TiVA, EORA, and authors' calculations.
Notes: Non-linear impact simulated through 25 iterations of the log-linearised model. The additional impact from capital accumulation is based on Quintana (2024a). Effects of the capital accumulation channel for Selective decoupling (not feasible in Quintana, 2024a) are interpolated from mild and severe decoupling.

Real GDP by region
(percentage deviation from steady state)

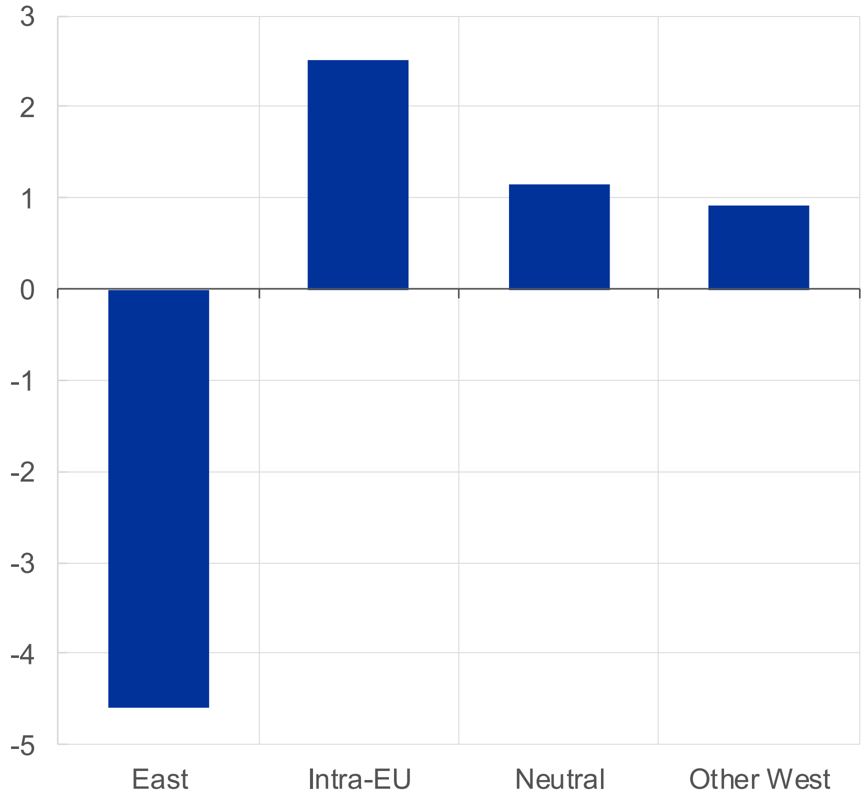


Sources: Conteduca et al., (2024b), OECD TiVA, EORA, and authors' calculations.
Notes: Non-linear impact simulated through 25 iterations of the log-linearised model. Values include the additional impact from capital accumulation channel. The EU aggregate includes also results for EFTA countries due to model-based aggregation

A selective decoupling entails regionalization of supply chains

Change in the share of EU supply chains by sourcing country

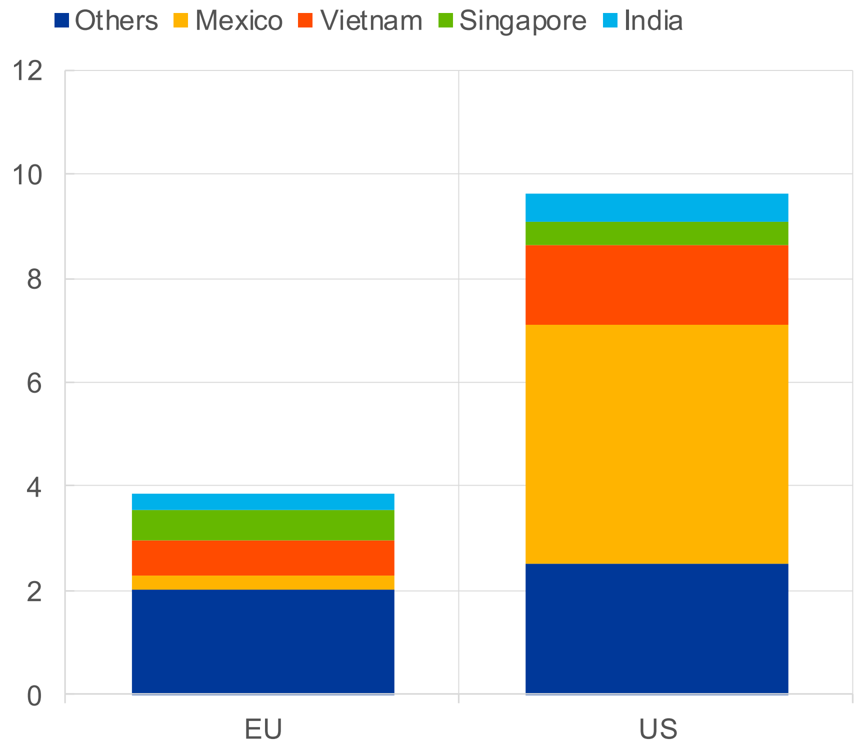
(percentage point deviations from the steady state)



Sources: Conteduca et al. (2025), OECD TiVA, EORA, and authors' calculations.

Change in the share of Chinese indirect value-added imports

(percentage point deviations from the steady state)

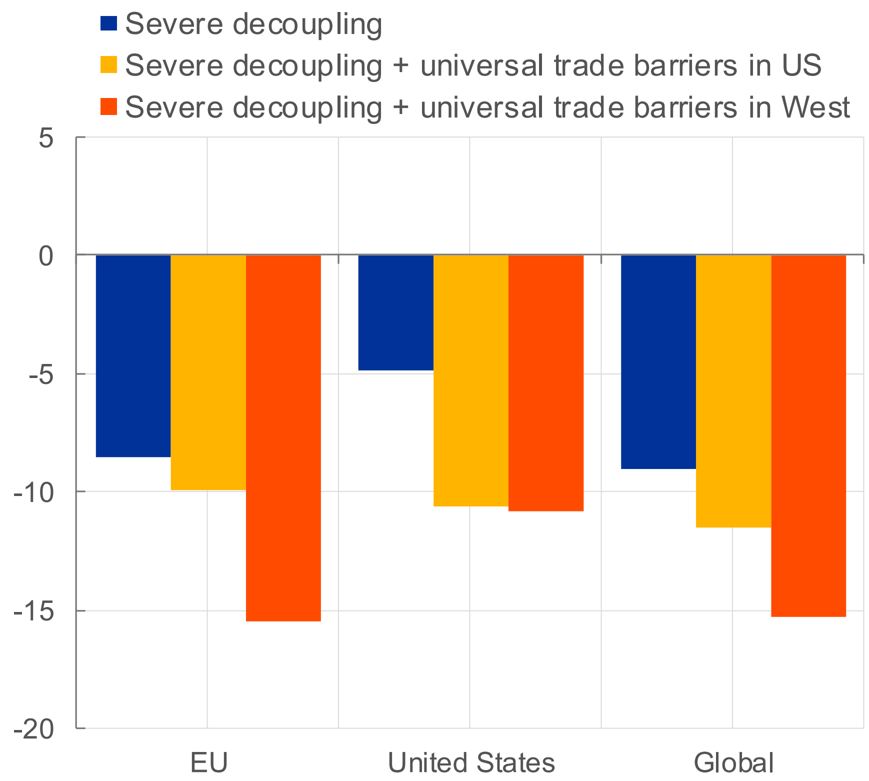


Sources: Conteduca et al. (2025), OECD TiVA, EORA, and authors' calculations.

Navigating fragmentation as friends or foes?

Real GDP

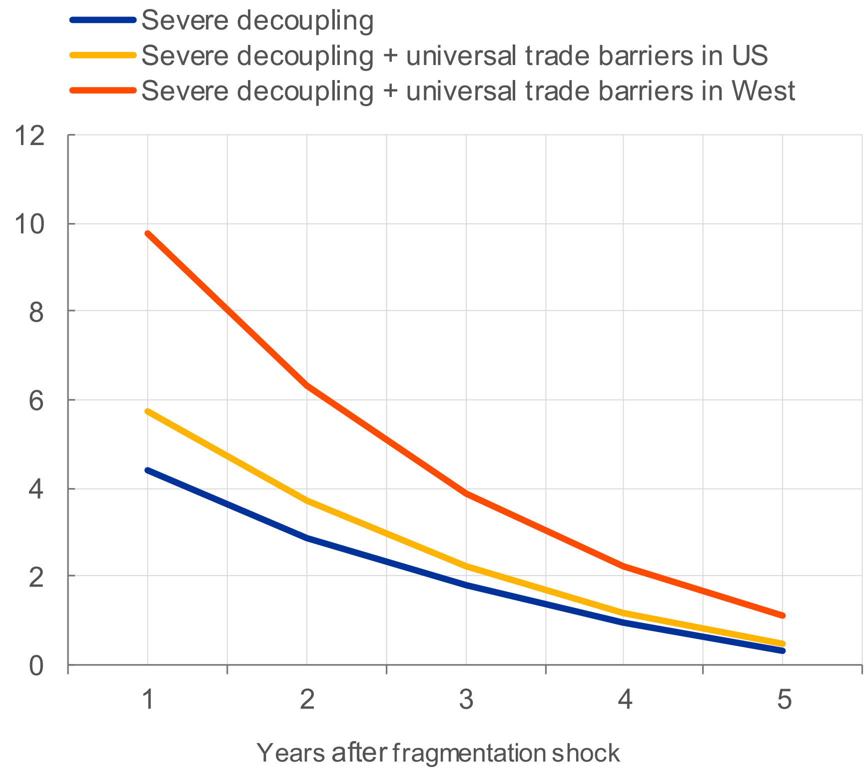
(percentage point deviations from baseline of no fragmentation)



Notes: Non-linear impact simulated through 25 iterations of the log-linearised model.

Euro area core inflation

(percentage point deviations from the steady state)



Notes: The additional impact from capital accumulation is based on Quintana (2024).

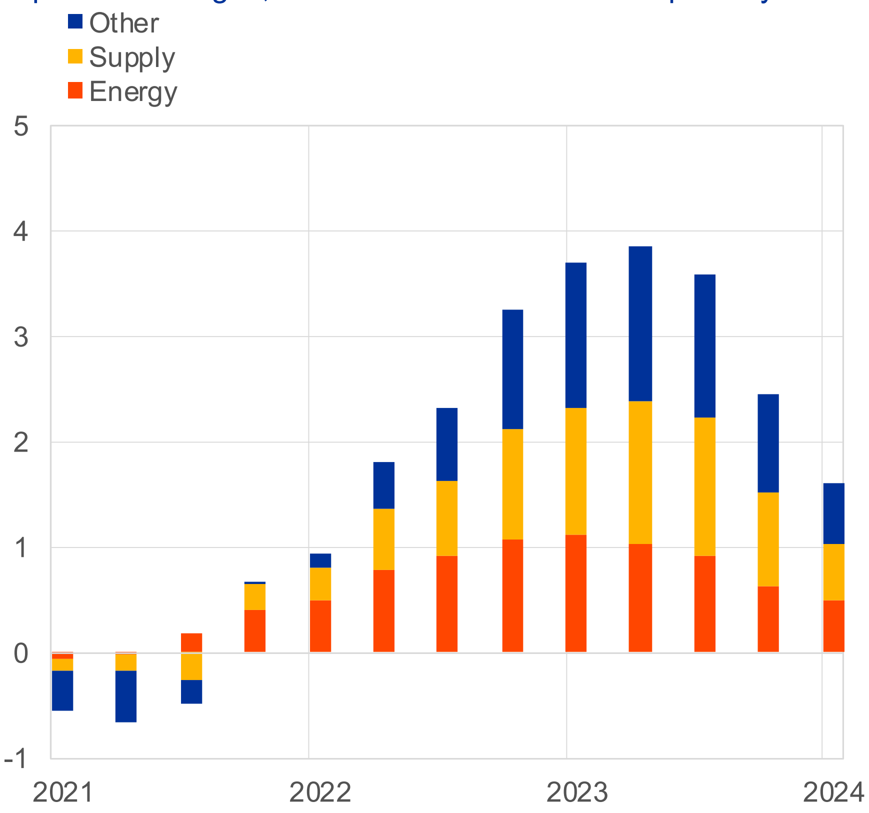
Q4: Fragmentation-driven price shocks and inflation

- *Sectoral **price shocks more frequent and larger, drivers of inflation.***
- *More **closed** global economy would face **higher inflation** due to **reduced** trade **diversification***

Recent inflation surge and *sectoral* supply shocks

Euro Area HICP core inflation

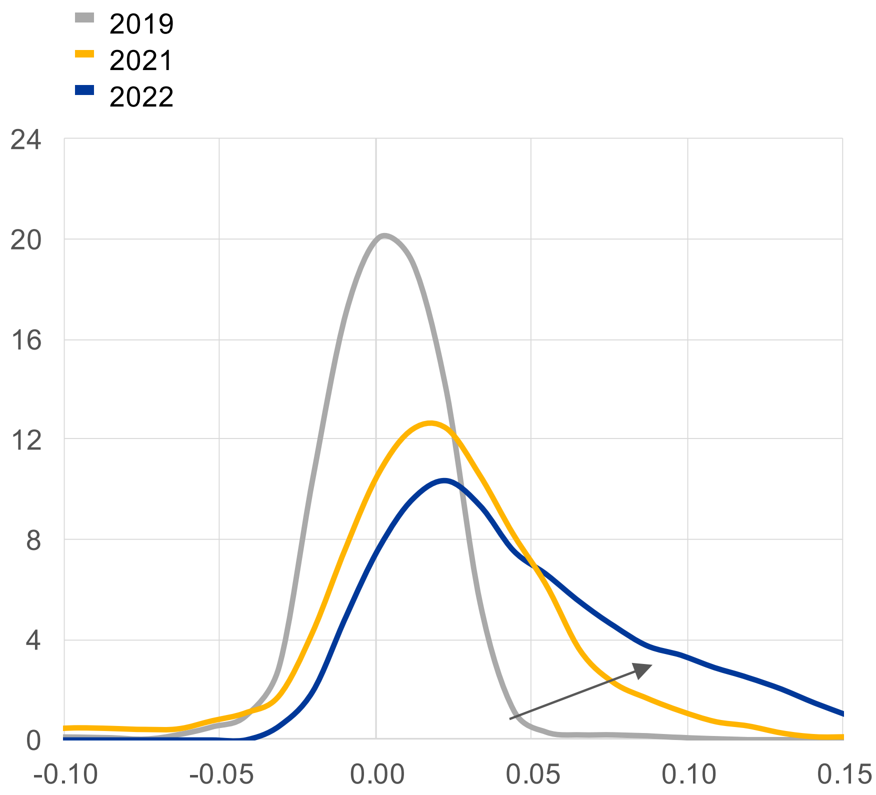
(annual percent changes, deviations from the mean implied by the model)



Sources: Bańbura et al. (2023).
Note: Last observation: 2024 Q1.

Euro area PPI inflation - distribution

(y-axis: density; x-axis: year-on-year growth)

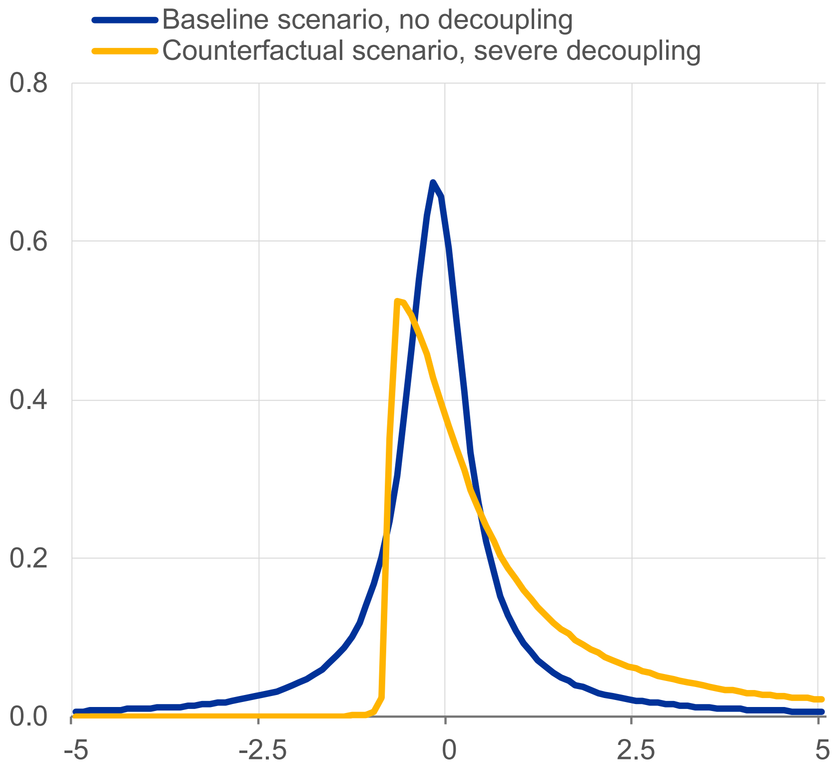


Sources: Bureau of Labour Statistics, Bureau of Economic Analysis, Eurostat and ECB staff calculations.

In more closed global economy *inflation risks* on the upside

Distribution of global input price changes in a fragmented world

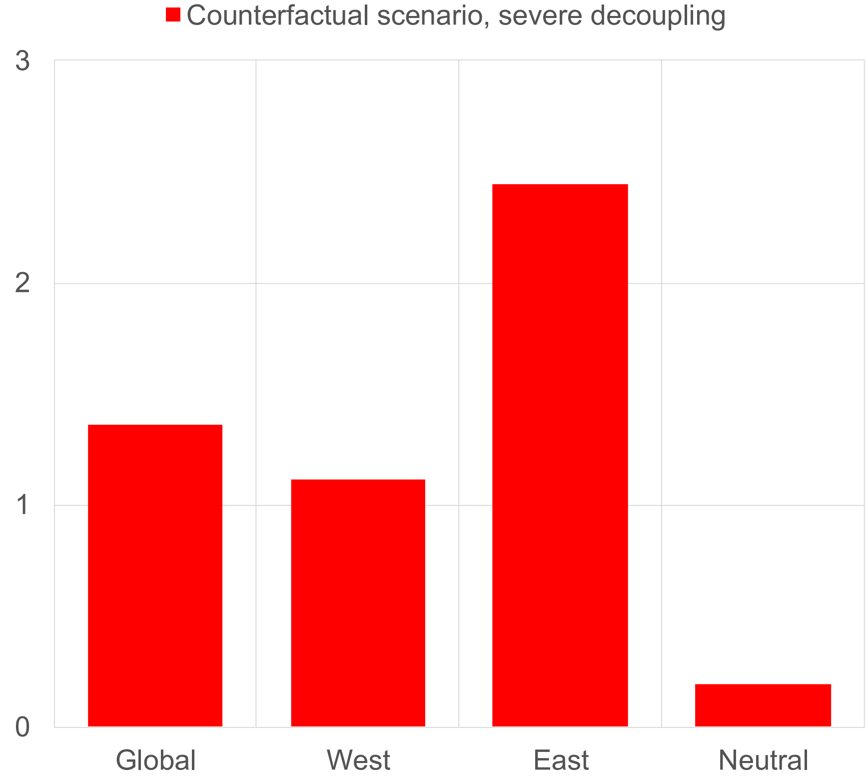
(y-axis: density; x-axis: year-on-year growth, average over time)



Sources: Boeckelmann et al. (2024) based on UNIDO, OECD and Haver.

Output volatility in a fragmented world

(standard deviation of implied output, in deviation from data)



Sources: Boeckelmann et al. (2024) based on UNIDO, OECD and Haver.

Four *policy* implications

1 Avoid broad based protectionism

…resilience legitimate concern, but tit-for-tat trade war is welfare reducing and does not fully eliminate interdependencies

2 Adopt targeted policies

…to account for heterogeneity across sector, firms, regions

3 Strengthen supply chain monitoring

…monitor production networks to understand direct and indirect foreign dependencies and risks

4 Fragmentation matters for monetary policy

…*during the transition*: larger, more frequent supply shocks; *in the long run*: reduced diversification through trade increases volatility and inflation

Four *insights* for Central Banks

1

Look beyond aggregate trade data

…use granular trade data and a disaggregated approach to monitor fragmentation

2

Regular business surveys

…for timely understanding of firm’s exposure to fragmentation risks

3

Enhance understanding of EU interdependencies

…full extent of detailed interdependencies still unknown, enhanced cooperation among NCBs and other EU institutions desirable

4

Richer set of analytical tools

…to assess impact of fragmentation shocks on activity and prices

Participants to the IRC Workstream on trade fragmentation

Deutsche Bundesbank
Khalil Makram
Kutten Ambre
Strobel Felix

Banco de España
Balteanu Irina
Campos Rodolfo
Quintana Javier
Timini Jacopo
Viani Francesca

Banque de France
Carluccio Juan
Gaulier Guillaume
Schmidt Katja
Smagghue Gabriel
Stumpner Sebastian

Banca d'Italia
Borgogno Oscar
Borin Alessandro
Bottone Marco
Conteduca Francesco Paolo
Giglioli Simona
Giordano Claire
Mancini Michele
Panon Ludovic
Savini Zangrandi Michele

Banco de Portugal
Almeida Ana M.

Suomen Pankki
Kaaresvirta Juuso
Nuutilainen Riikka

Banka Slovenije
Caka Peonare
Matavulj Noemi

European Central Bank
Attinasi Maria Grazia
Bańbura Marta
Bobeica Elena
Boeckelmann Lukas
De Castro Martins, Bernardo
Di Casola Paola
Rinalds Gerinovics
Ioannou Demosthenes
Lebastard Laura
Martínez Hernández Catalina
Meunier Baptiste
Morris Richard
Serafini Roberta

Nationale Bank van België/
Banque Nationale de Belgique
Essers Dennis

Oesterreichische Nationalbank
Lechthaler Wolfgang

Thank you!