



EUROPEAN CENTRAL BANK

EUROSYSTEM

Navigating a fragmenting global trading system: insights for central banks

27th Annual DNB Research Conference,
Amsterdam

21 November 2024



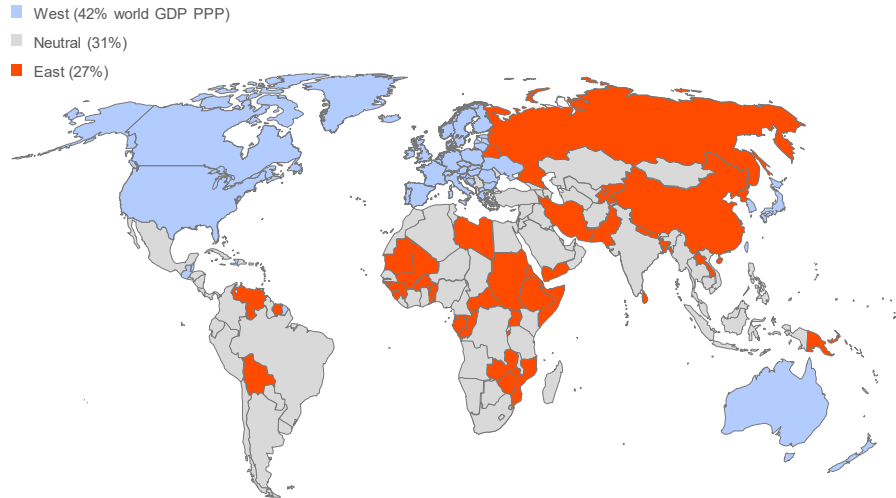
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Member of the Executive Board

Defining geo-economic trade fragmentation*

* These slides draw on the forthcoming ESCB report “Navigating a fragmenting global trading system: insights for central banks”.

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

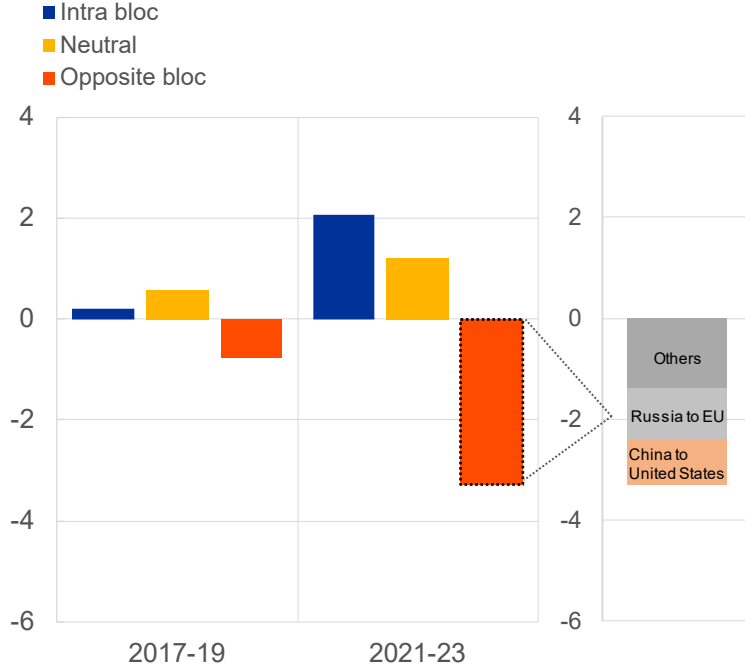


Notes: The allocation of countries to blocs is based on the geopolitical index developed by den Besten et al. (2023). This index is based on the voting patterns of countries at the United Nations General Assembly (UNGA) and includes additional measures of political alignment and economic ties between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

Ongoing selective decoupling along geopolitical lines

Western bloc's import shares

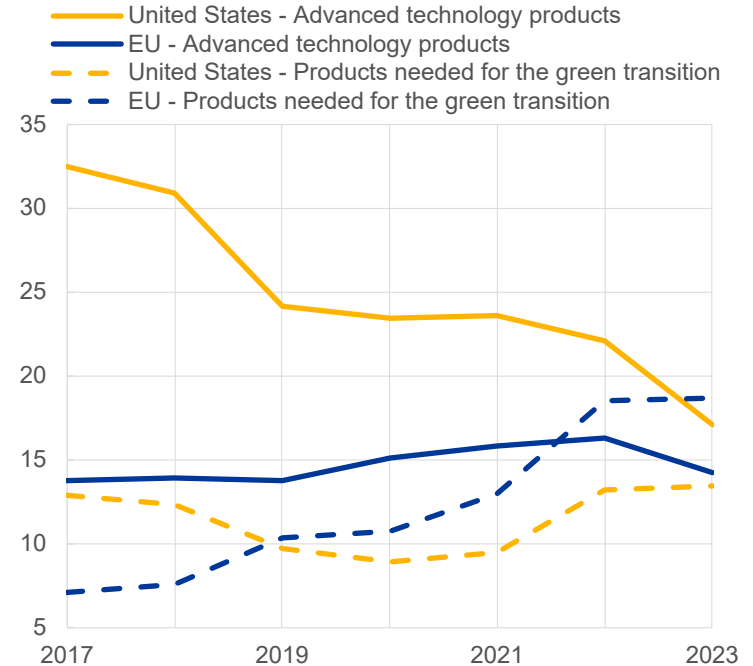
(percentage points; percentage points change)



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

Share of imports from China by product category

(percentage)

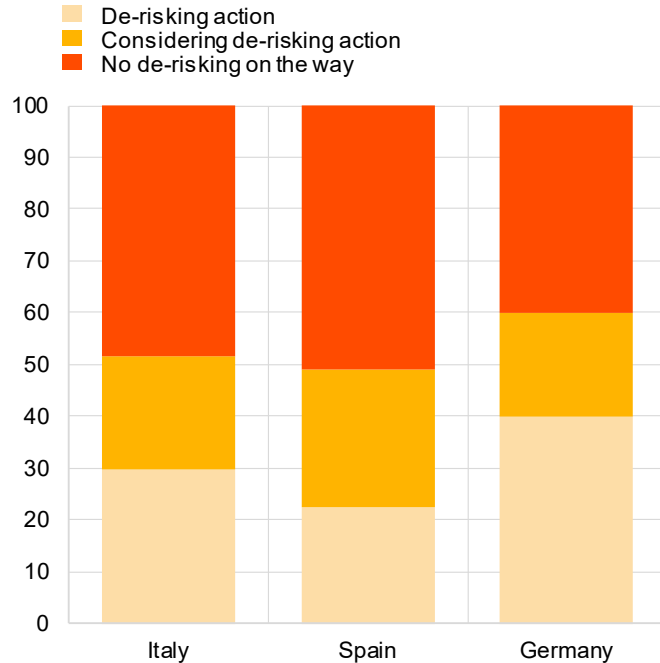


Sources: Conteduca et al. (2024a) and Trade Data Monitor.

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

Actions taken to reduce exposure to China

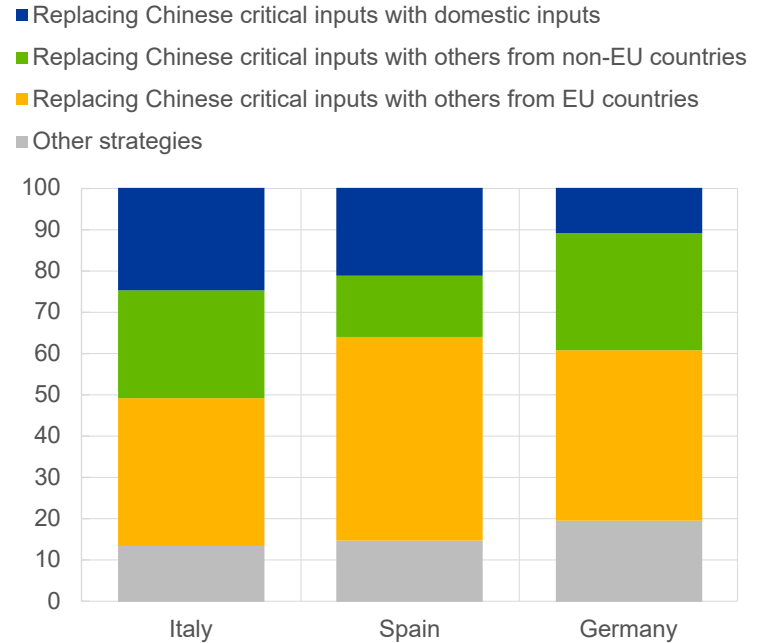
(percentage of firms relying on critical Chinese inputs)



Sources: Banca d'Italia, Deutsche Bundesbank and Banco de España. Manufacturing firms only.

De-risking strategies implemented

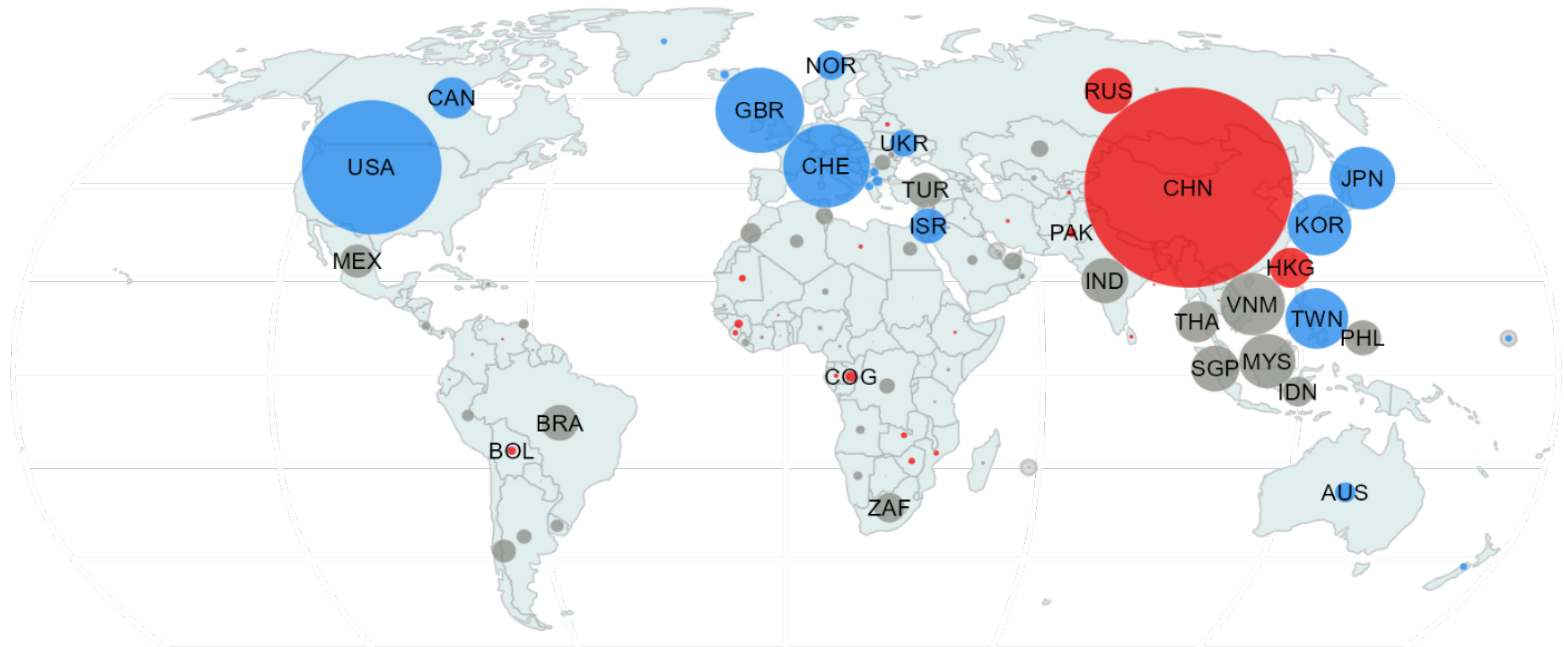
(percentage of firms taking de-risking actions)



Sources: Banca d'Italia, Deutsche Bundesbank and Banco de España. Manufacturing firms only.

Halving the supply of critical inputs from high-risk countries

EU imports of key inputs from non-EU countries, by partner alignment

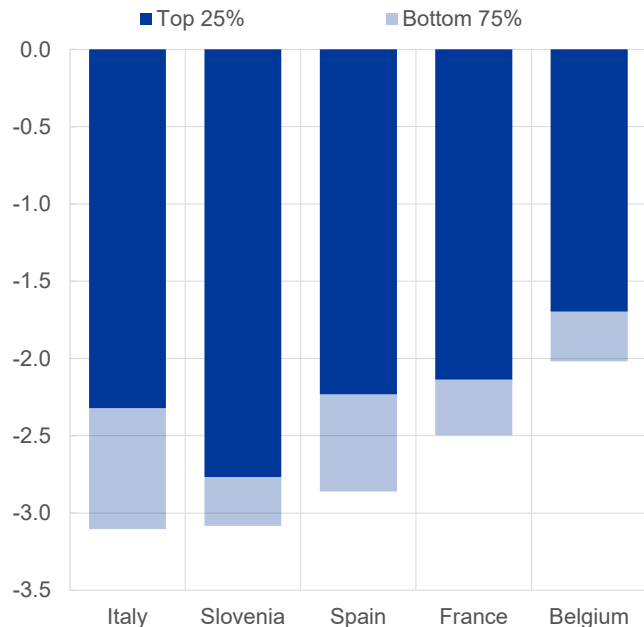


Sources: Author elaborations based on CEPII BACI 2022 data.

Note: The size of the circles represents the relative share of each non-EU country's exports of foreign critical inputs (FCI) in EU imports of FCI from all non-EU countries.

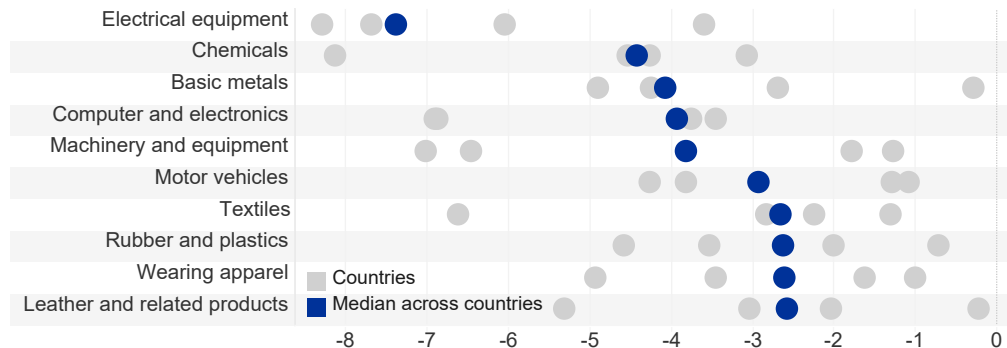
Shortages of critical inputs have widely diverging effects

Change in manufacturing value-added (percentage change)



Sources: Author elaborations based on Panon et al. (2024).

Change in value-added, by sector (percentage change)



Sources: Author elaborations based on Panon et al. (2024).

Trade fragmentation scenarios

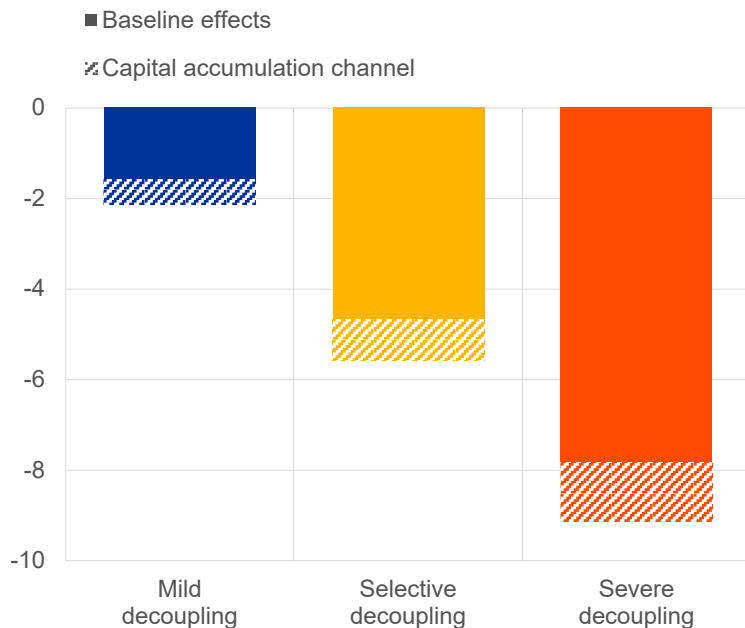
Assumptions underlying scenarios of trade fragmentation

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

Trade fragmentation entails sizeable output losses

Global real GDP

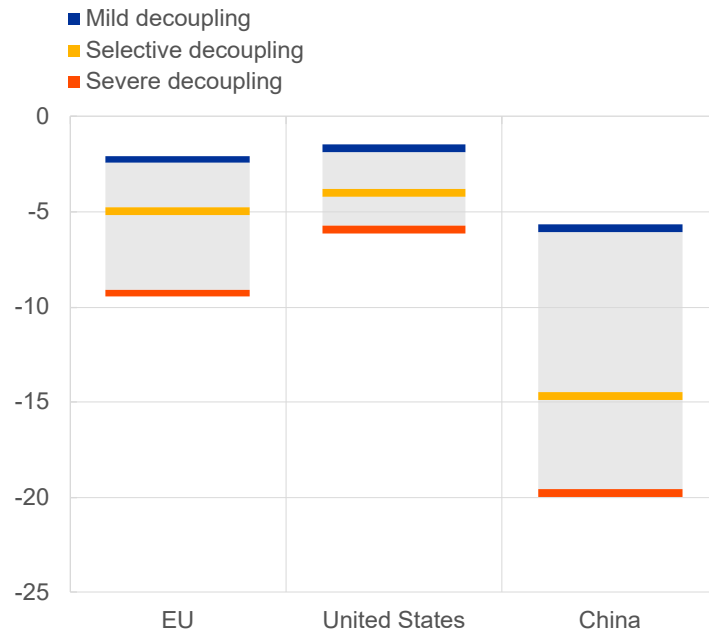
(percentage deviation from steady state)



Notes: Results obtained with the Baqaee and Fahri (2024) model. 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)

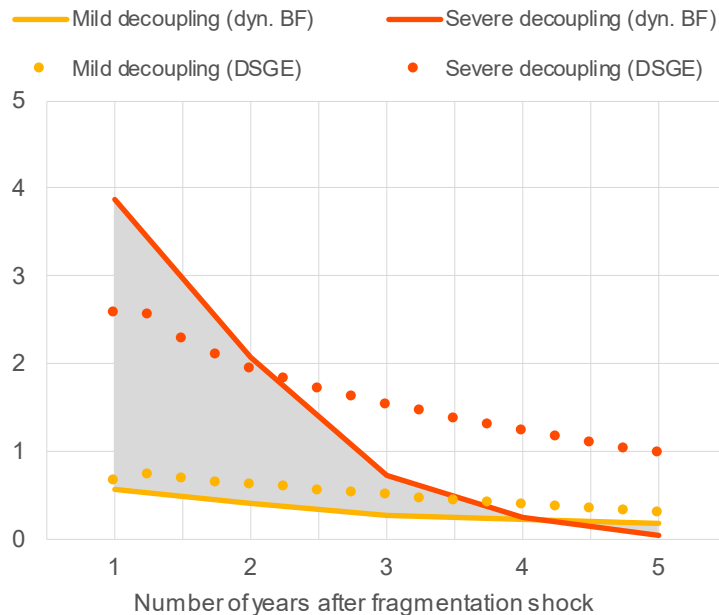


Sources: Conteduca et al., (2024b), OECD TiVA, EORA, and authors' calculations. Notes: Results obtained with the Baqaee and Fahri (2024) model. Non-linear impact simulated through 25 iterations of the log-linearised model. Values include the additional impact from capital accumulation channel. The EU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

Inflationary effects of trade fragmentation subside gradually

Global inflation

(annual percentage changes, percentage deviation from no fragmentation)

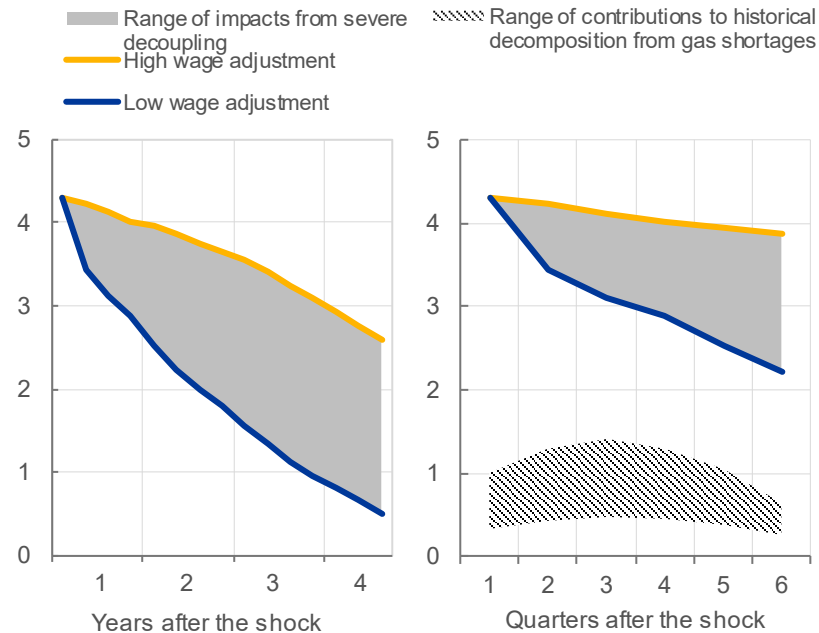


Sources: Quintana (2024a), Lechthaler and Mileva (2024), OECD TIVA, EORA, and author calculations.

Note: "Dyn. BF" refers to the dynamic extension of the Baqaee-Farhi model by Quintana (2024a) and "DSGE" refers to the Dynamic Stochastic General Equilibrium model by Lechthaler and Mileva (2024).

Euro area year-on-year core inflation

(left: p.p. deviations from baseline; right: p.p. deviations from baseline and p.p. contributions to historical decomposition)



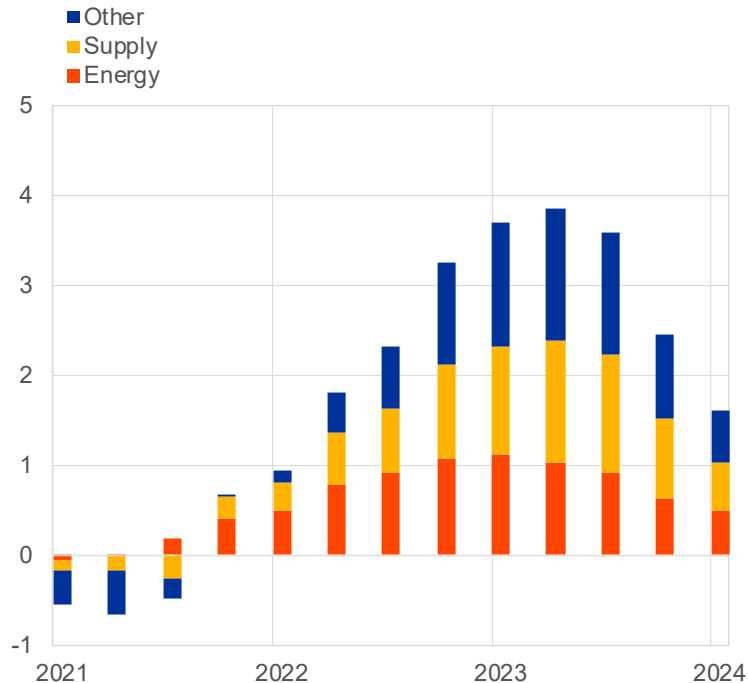
Sources: Left panel: Quintana (2024a), right panel: Quintana (2024a), Barbura et. al. (2023) (lower bound), Gazzani and Alessandri (2023) (upper bound).

Note: For the empirical estimated (right panel) the period covered is Q3 2022 – Q4 2023.

Recent inflation surge and sectoral supply shocks

Euro Area HICP core inflation

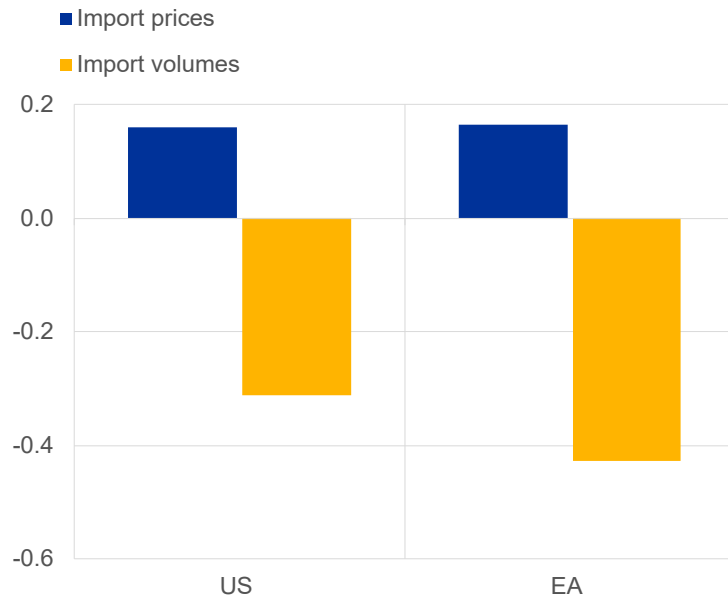
(annual percent changes, deviations from the mean implied by the model)



Sources: Bañbura, Marta, Elena Bobeica, and Catalina Martínez Hernández (2023), "What drives core inflation? The role of supply shocks".
Note: The latest observation is for the first quarter of 2024.

Geopolitical shocks as supply shocks

(output: trough response, percentage; prices: peak response, percentage)

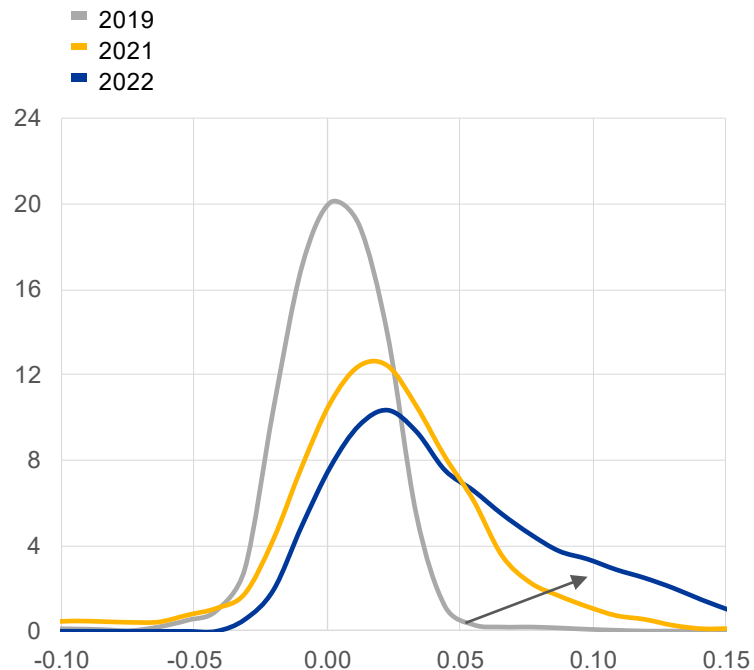


Source: Khalil et al. (2024)
Note: The chart reports effects for the US and the euro area from increasing a trading-partner's GPR index by 50% on imports and import prices from this country.

Fragmentation entails large price shocks, drives PPI inflation

Euro area PPI inflation – distribution

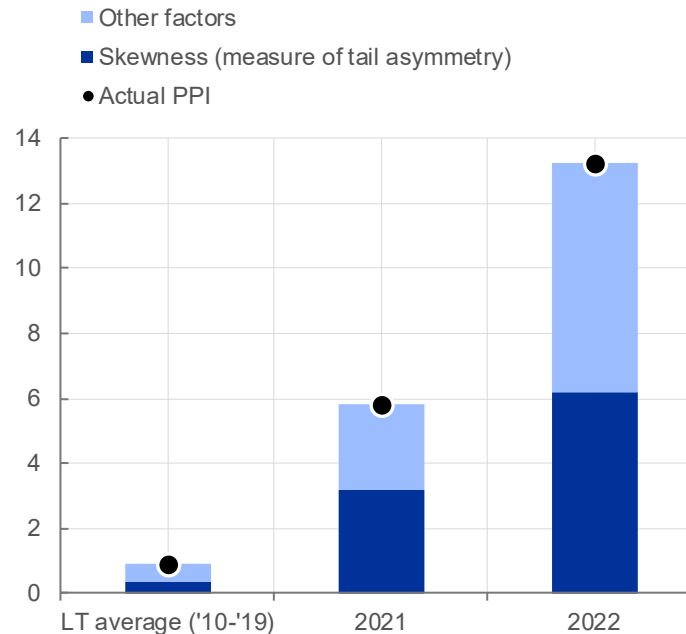
(y-axis: density; x-axis: year-on-year growth)



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

Euro area PPI inflation – decomposition

(annual percentage changes, percentage point contributions)



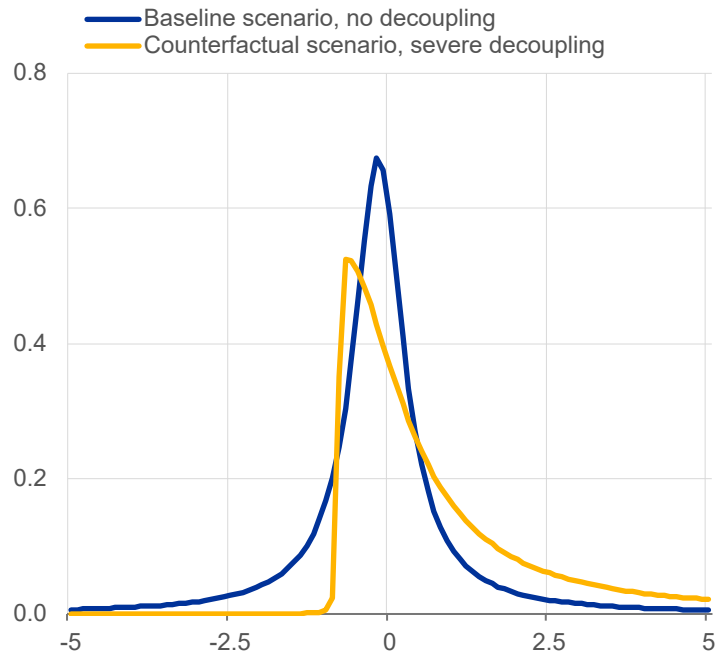
Sources: Attinasi et. al. (2024) based on Ball and Mankiw (1995), Bureau of Labour Statistics (BLS), Bureau of Economic Analysis (BEA), Eurostat and ECB staff calculations.

Note: The decomposition is based on OLS regressions of headline PPI inflation on the second and third moments (variance and skewness) of the cross-sectional distribution of (intermediate demand-weighted) input price changes as well as lagged inflation.

Fragmentation increases skewness of input price shocks

Distribution of changes in input prices in a fragmented world

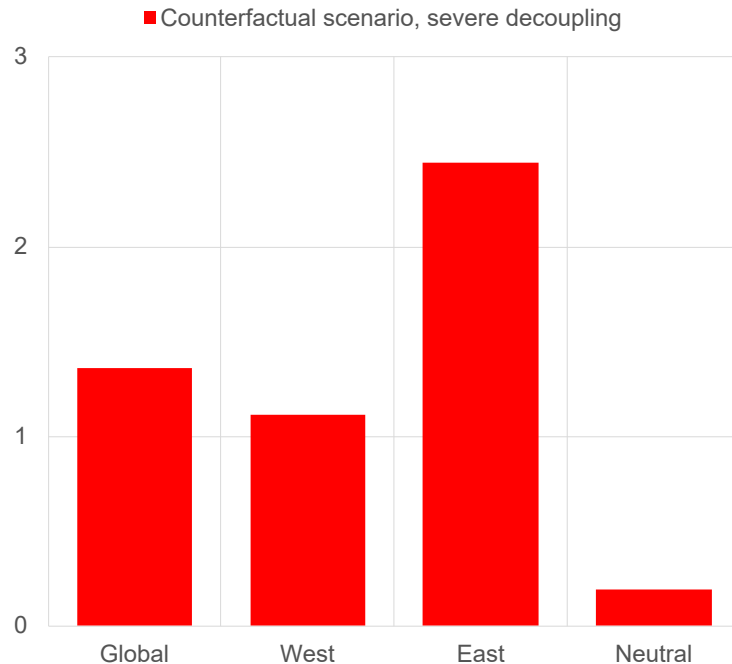
(y-axis: density; x-axis: year-on-year growth, average over time)



Sources: UNIDO, OECD, Haver and ECB staff calculations.

Output volatility in a fragmented world

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



Sources: UNIDO, OECD, Haver and ECB staff calculations.

Four policy implications

1
2

3

4

Avoid broad-based protectionism

...because while resilience is a legitimate concern, tit-for-tat trade war is welfare-reducing and does not fully eliminate interdependencies

Adopt targeted policies

...to account for heterogeneity across sector, firms, regions

Strengthen supply chain monitoring

...by monitoring production networks to understand direct and indirect foreign dependencies and risks

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

...by using granular trade data and a disaggregated approach to monitor fragmentation

2 Conduct regular business surveys

...for a timely understanding of firm's exposure to fragmentation risks

3 Enhance understanding of EU interdependencies

...as the full extent of detailed interdependencies is still unknown; enhanced cooperation among NCBs and other EU institutions is desirable

4 Richer set of analytical tools

...is necessary to assess impact of fragmentation shocks on activity and prices

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