



EUROPEAN CENTRAL BANK

EUROSYSTEM

Economic Costs of Supply Chain Decoupling

Bdl-ECB-WB workshop

Rome – 16/06/2023

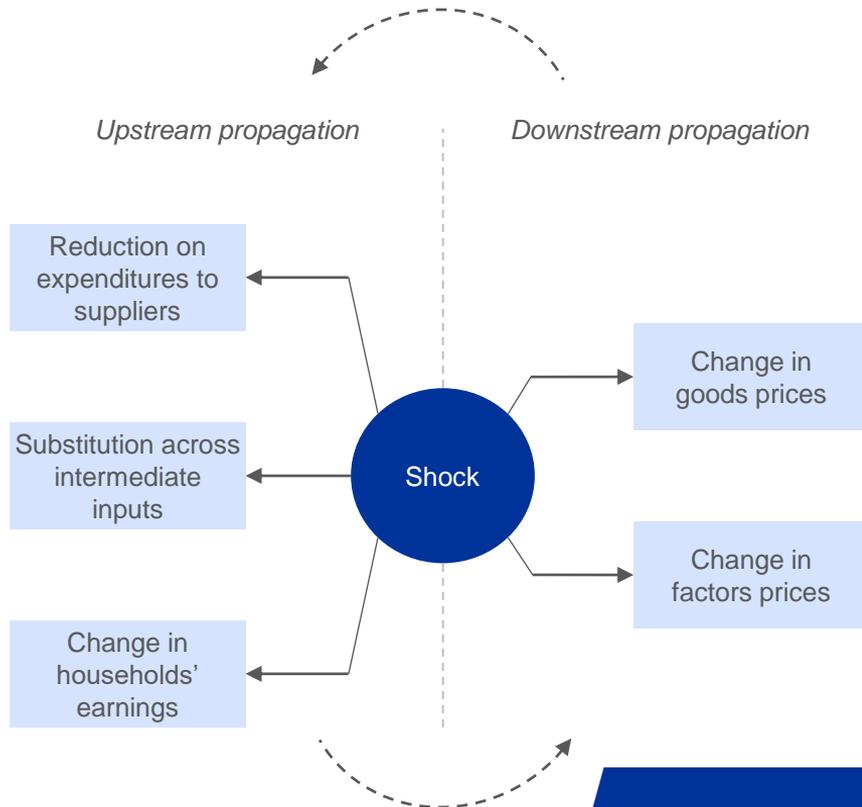
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Motivation and key findings

- Increasing role of **geopolitical considerations** in global trade relations
- Growing literature on the impact of **a reversal of GVC integration**
- We quantify a range of **fragmentation scenarios** using Baqaee and Farhi (2023)
 - Inclusion of (short-term) rigidities
 - Impact beyond welfare (prices, trade, wages)

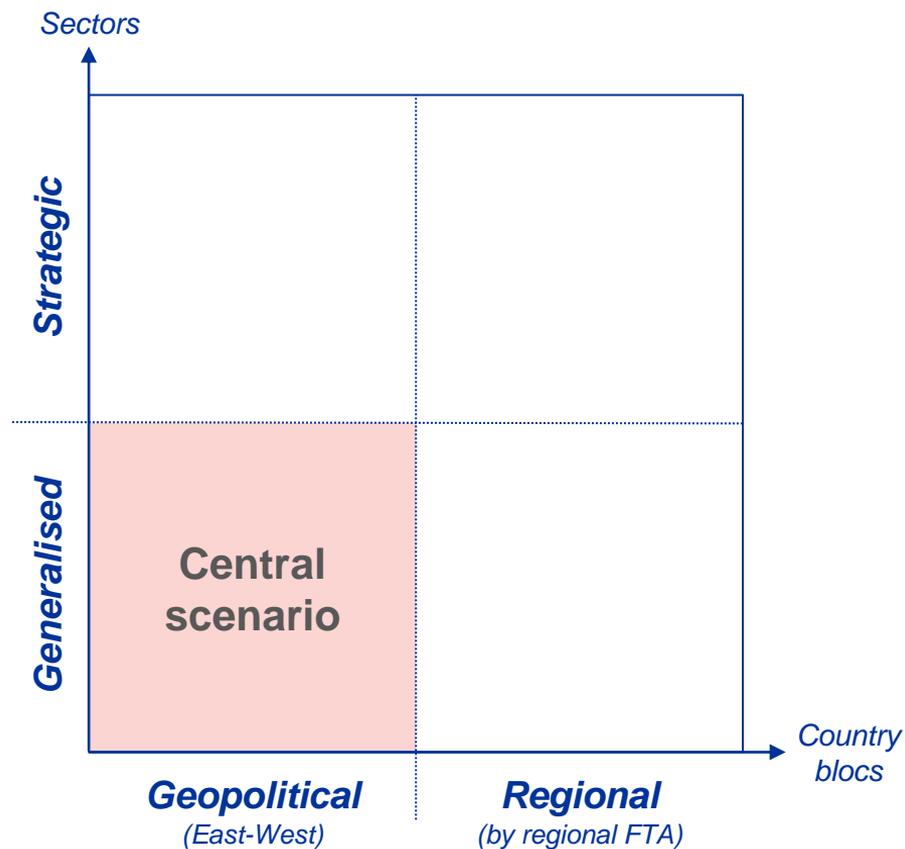
Baqaei-Fahri model



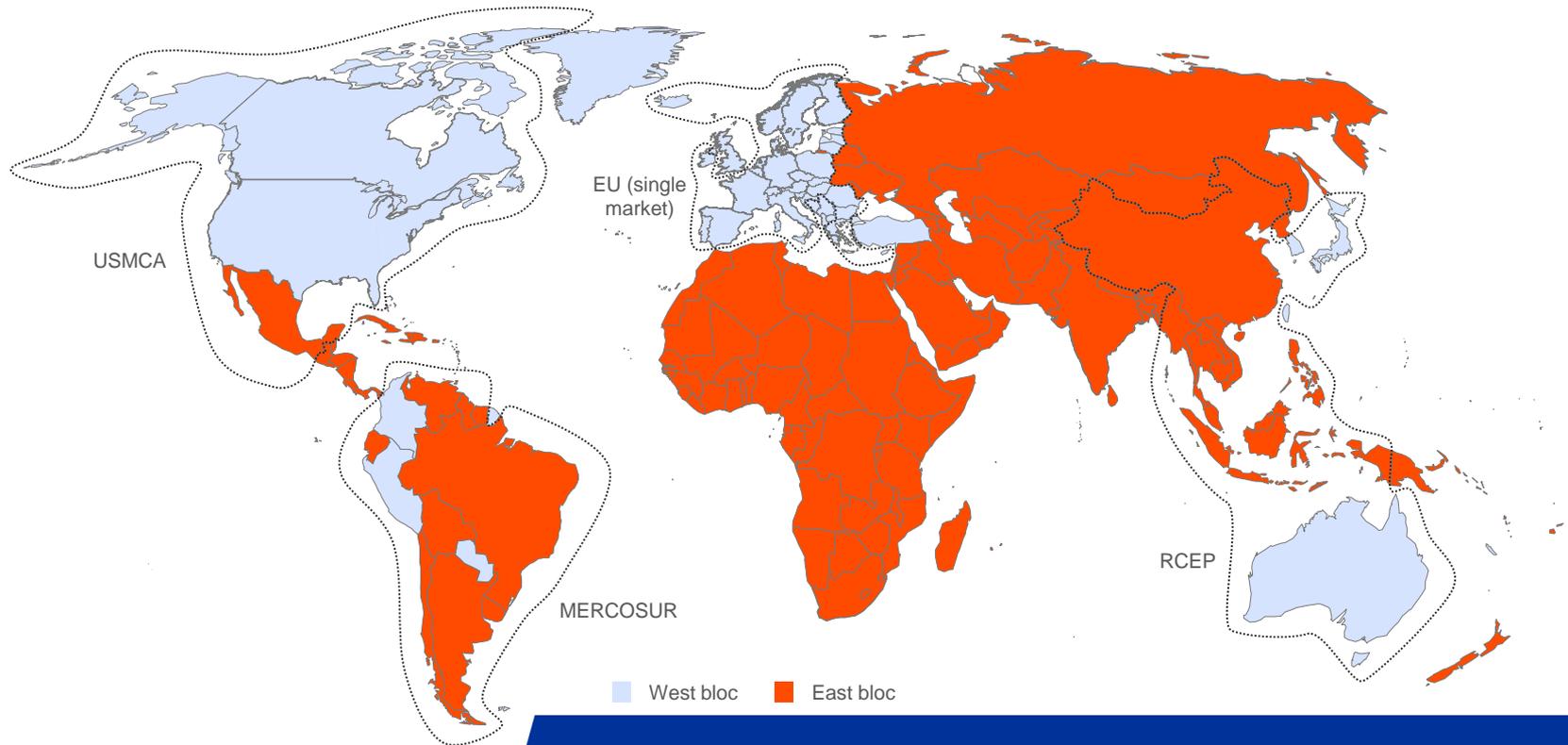
- **41 countries / 30 sectors** model accounting for global sectoral interlinkages
- Accounts for **non-linearities** while other workhorse trade models rely on linear production functions
- Propagation both to **downstream consumers** (prices) and to **upstream suppliers** (revenues)
- Impact dependent on the **direct and indirect linkages** given by the input-output structure

Uncertain decoupling

- Increase in **iceberg trade costs** (non-tariffs barriers)
- Shock on trade in **intermediates** but not in final products – reflecting recent friend-shoring policies
- **150 p.p.** increase as a stylised exercise to shut down GVC – in line with literature (Bachmann et al, 2022; Goes and Bekker, 2022)



Heterogenous country blocs



Accounting for rigidities

Flexible

Rigid

Wage flexibility

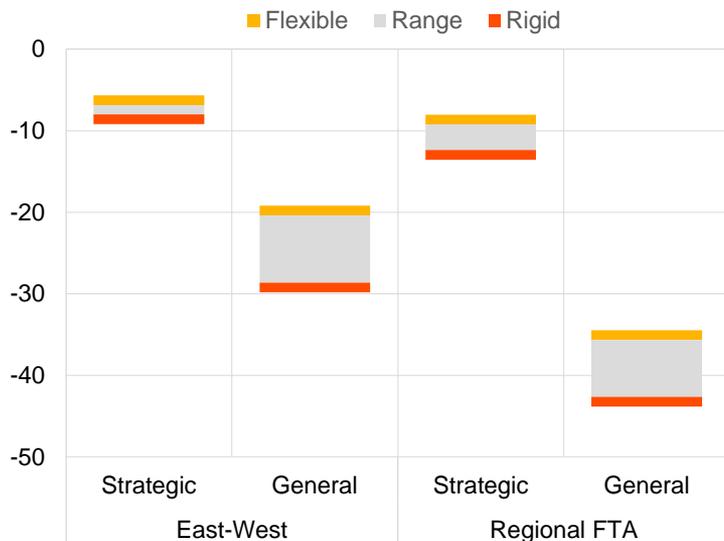
- **Flexible** with exogenous (**constant**) supply of labour
- Sticky: **constant** with endogenous (**flexible**) supply of labour

Substitution elasticities

- 90% **upper** confidence band from Atalay (2017) across inputs
- **Unitary elasticity** (Cobb-Douglas) across factors
- **Lower** estimates from Atalay (2017) across inputs
- **Severe** elasticity of Bachmann et al. (2022) across factors

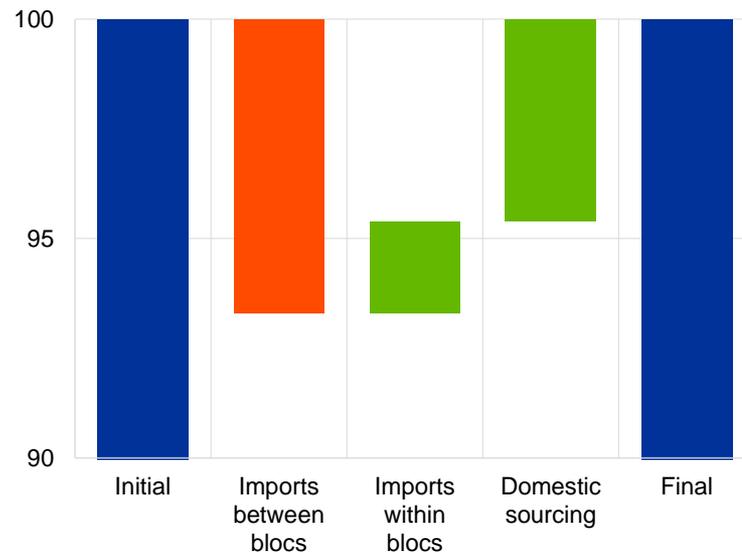
Trade effects

Real imports
(World, % change from initial state)



Sources: Baqaee and Farhi (2023), Foreign Policy Similarity database, ECB staff calculations
Notes: Non-linear impact simulated through 25 iterations of the log-linearized model

Sourcing of intermediate inputs
(World, p.p. change, market share)

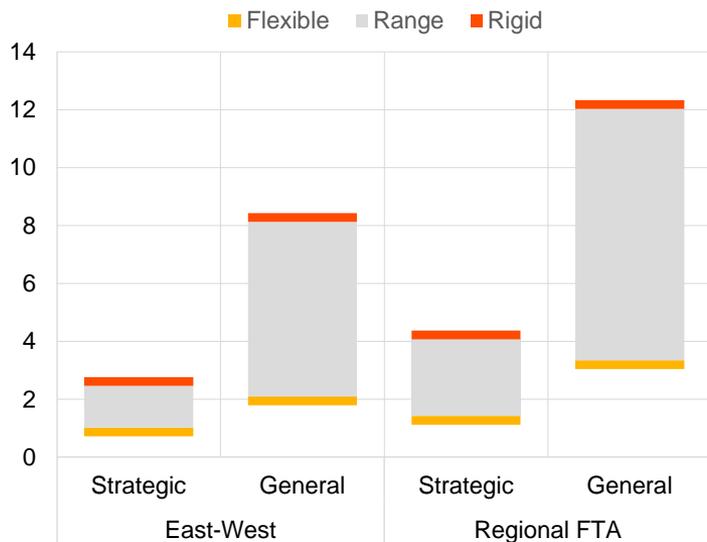


Sources: Baqaee and Farhi (2023), Foreign Policy Similarity database, ECB staff calculations
Notes: Non-linear impact simulated through 25 iterations of the log-linearized model. The chart refers to the *central* scenario (East-West decoupling generalized across sectors) under the *flexible* setup.

CPI and wages impact

CPI

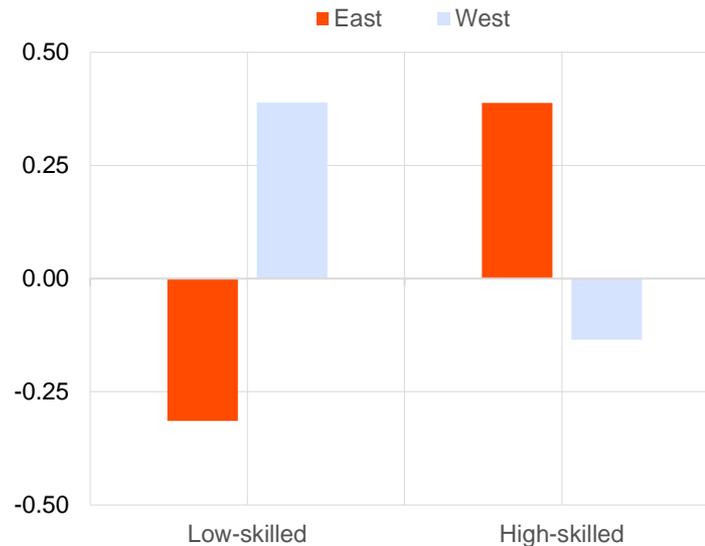
(World, % change from initial state)



Sources: Baqaee and Farhi (2023), Foreign Policy Similarity database, ECB staff calculations
Notes: Non-linear impact simulated through 25 iterations of the log-linearized model

Wages (*central scenario, flexible setup*)

(p.p., change relative to medium-skilled labour)

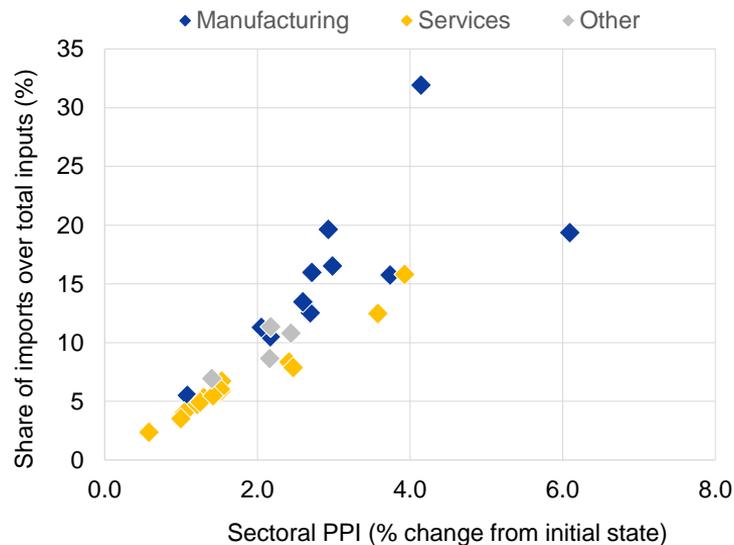


Sources: Baqaee and Farhi (2023), Foreign Policy Similarity database, ECB staff calculations
Notes: Non-linear impact simulated through 25 iterations of the log-linearized model

Sector and country heterogeneities

Sectoral PPI (*central scenario, flexible setup*)

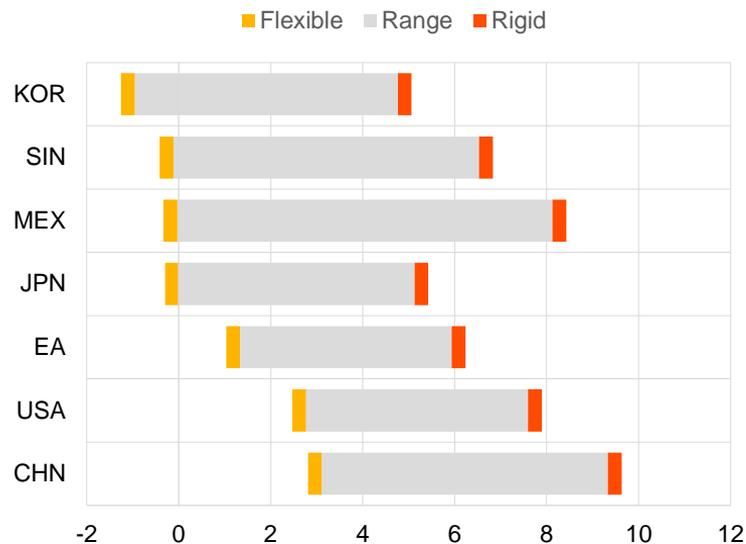
(World, % change from initial state)



Sources: Baqaee and Farhi (2023), Foreign Policy Similarity database, ECB staff calculations
 Notes: Non-linear impact simulated through 25 iterations of the log-linearized model

Country CPI (*central scenario*)

(% change from initial state)

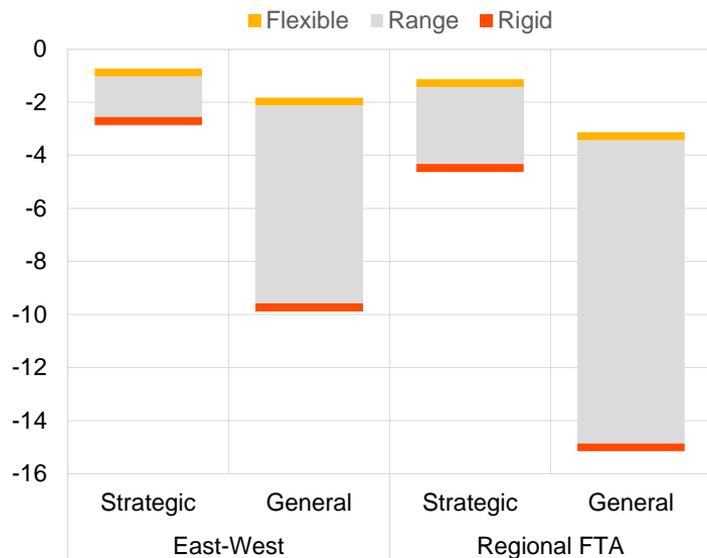


Sources: Baqaee and Farhi (2023), Foreign Policy Similarity database, ECB staff calculations
 Notes: Non-linear impact simulated through 25 iterations of the log-linearized model

Welfare effects

Real GNE

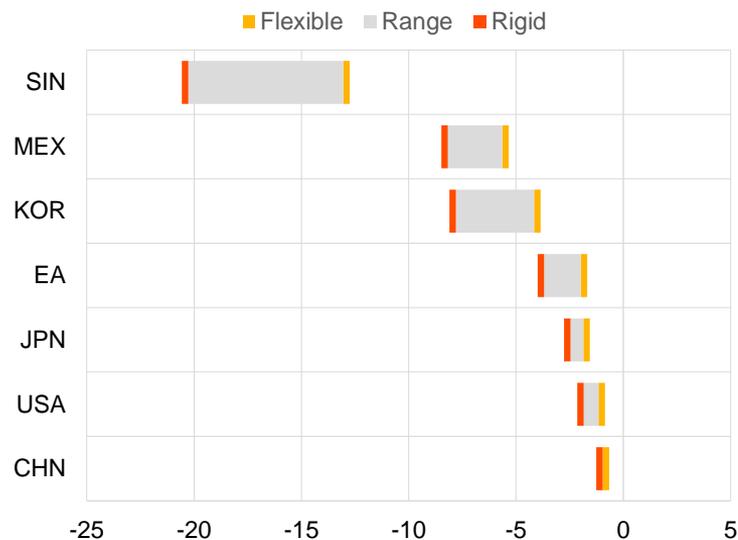
(World, % change from initial state)



Sources: Baqaee and Farhi (2023), Foreign Policy Similarity database, ECB staff calculations
 Notes: Non-linear impact simulated through 25 iterations of the log-linearized model

Country real GNE (*central scenario*)

(% change from initial state)

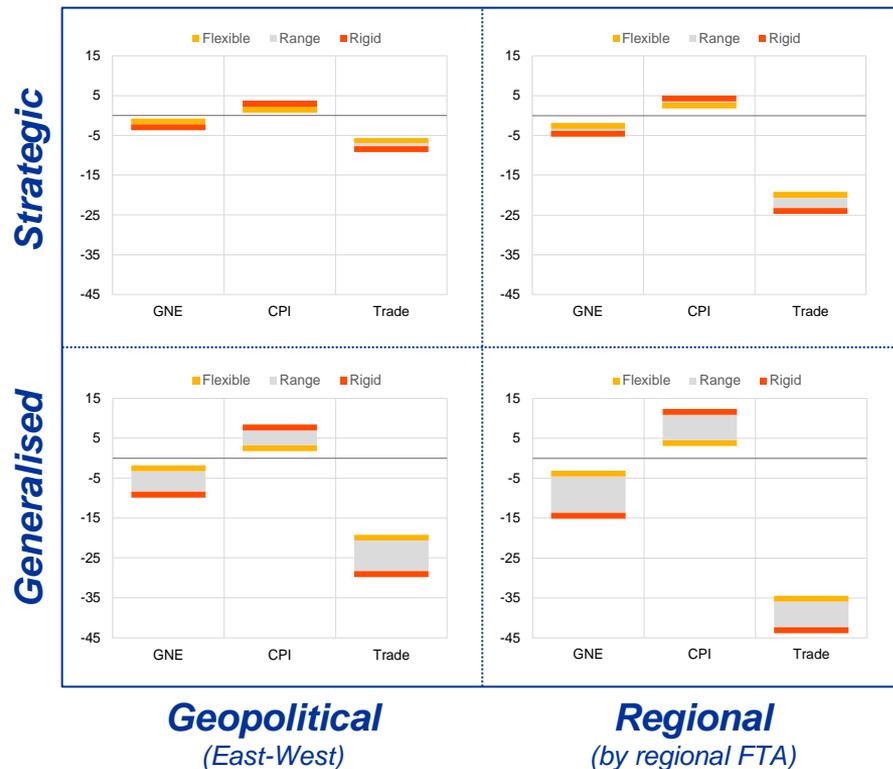


Sources: Baqaee and Farhi (2023), Foreign Policy Similarity database, ECB staff calculations
 Notes: Non-linear impact simulated through 25 iterations of the log-linearized model

Conclusion

- **Lose-lose situation** with all countries losing welfare across all scenarios – along with global trade losses
- Welfare losses in line with literature in the *flexible* setup but magnified when **adding (short-term) rigidities**
- Fragmentation also generally having an **upward effect on price levels** as well as a (minor) re-distributional impact on **wages**

Summary of GNE, CPI, and trade effects (% change from initial state)



THANK YOU