

# Geopolitical challenges for agricultural and food systems in Europe

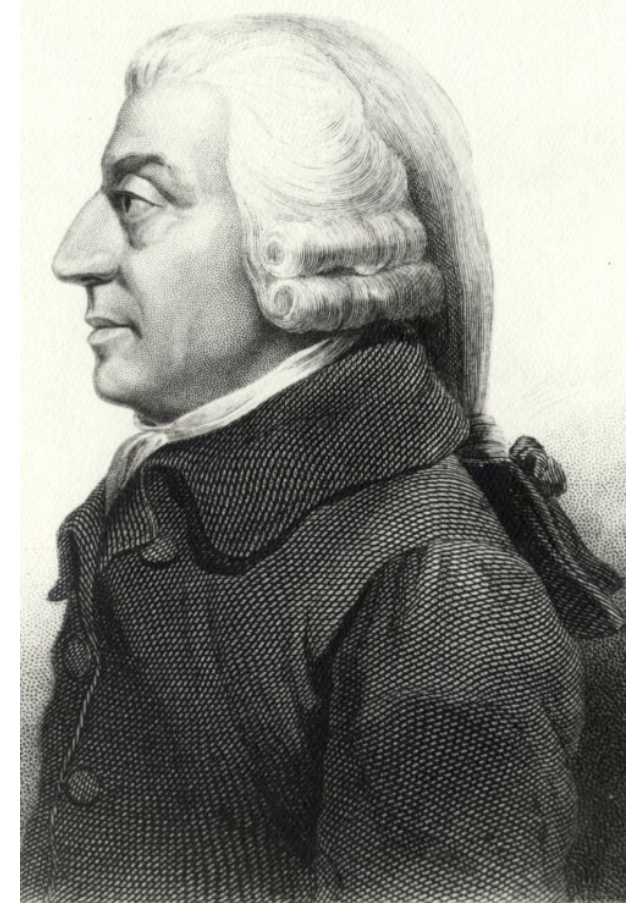
Gabriel Felbermayr

34th annual conference of the Austrian Society of Agricultural Economics  
September 19, 2024

# GEOECONOMICS: A RE-EMERGENCE

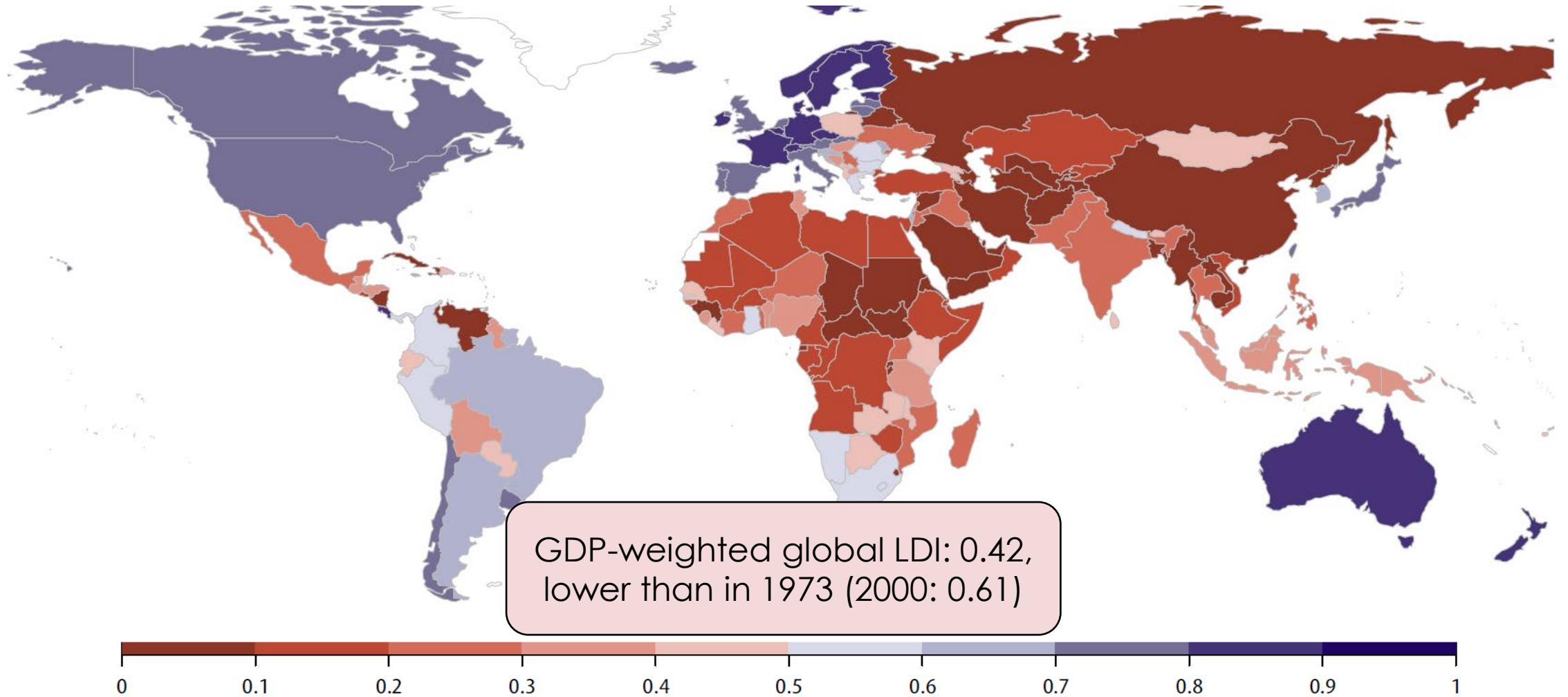
## Definition: The pursuit of geopolitical aims with the help of economic instruments

- War by other means (Blackwill and Harris, 2016)
- Weaponized Interdependence (Farrell and Newman, 2019)
- EU: Conditionality in trade policy (Maggi, 2016)
  
- Long tradition in economics, too (Adam Smith, 1776)
  - Specialization creates **dependencies**
  - **Smith:** „... defence, however, is of much more importance than opulence“ (Book IV, Chapter II, p. 465)
    - Therefore, if needed, restrictions to foreign trade „the act of navigation [banning Dutch ships] is, perhaps, the wisest of all the commercial regulations of England“.
    - Art. XXI GATT „National Security Exemption“



# MISSING TRUST IMPLIES A ZERO-SUM LOGIC

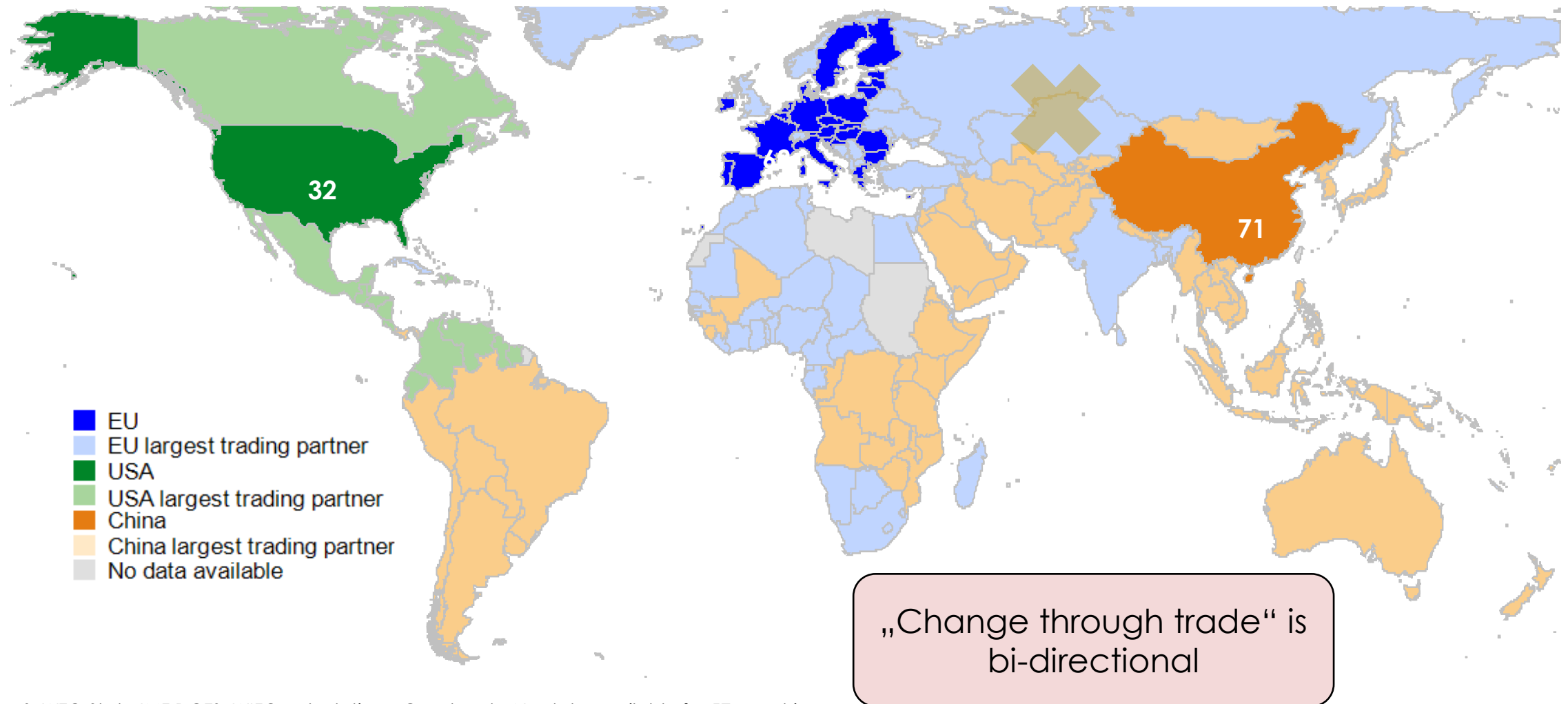
Liberal Democracy Index 2023 (0,1)



S: V-Dem data v14, Liberal Democracy Index (LDI) for 2023 (<https://www.v-dem.net/publications/democracy-reports/>)

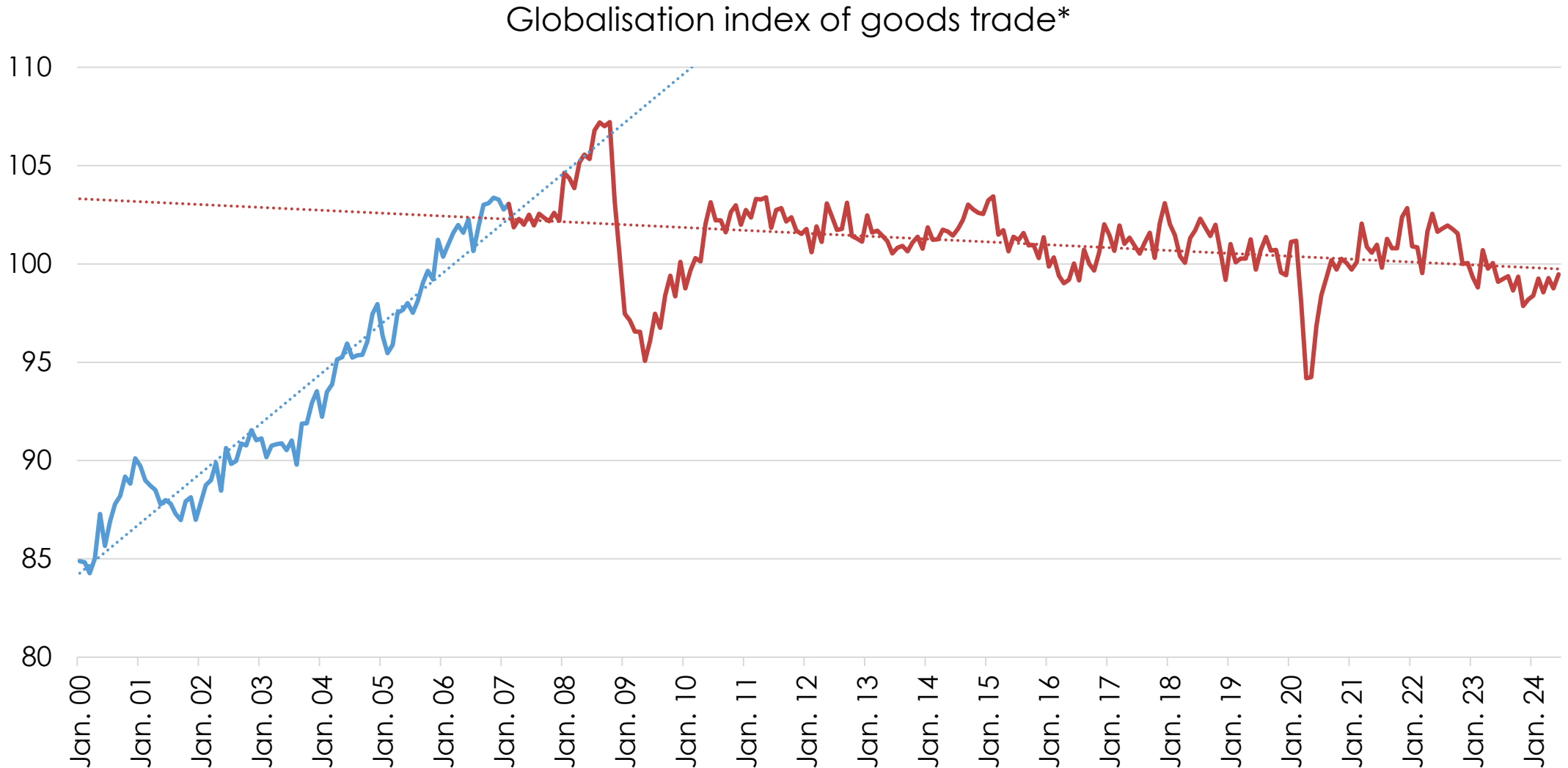
# THE EMERGENCE OF A MULTIPOLAR TRADING SYSTEM

Countries, for which the EU, the US or China is the top trade partner, 2023



S: WTO Stats, IMF DOTS, WIFO calculations. Goods only. No data available for 57 countries.

# FROM HYPER- TO SLOW- TO DE-GLOBALIZATION?

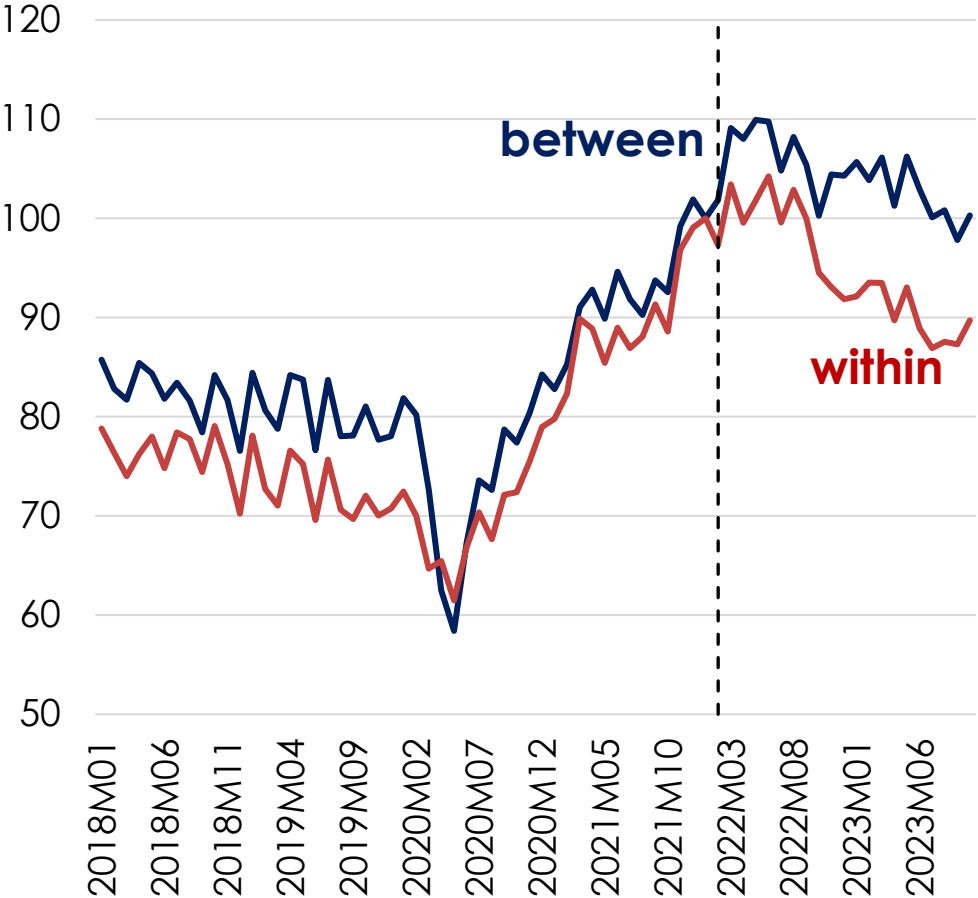


Q: CPB. Own illustration. \*Volume of international goods trade relative to global industrial production, price adjusted.

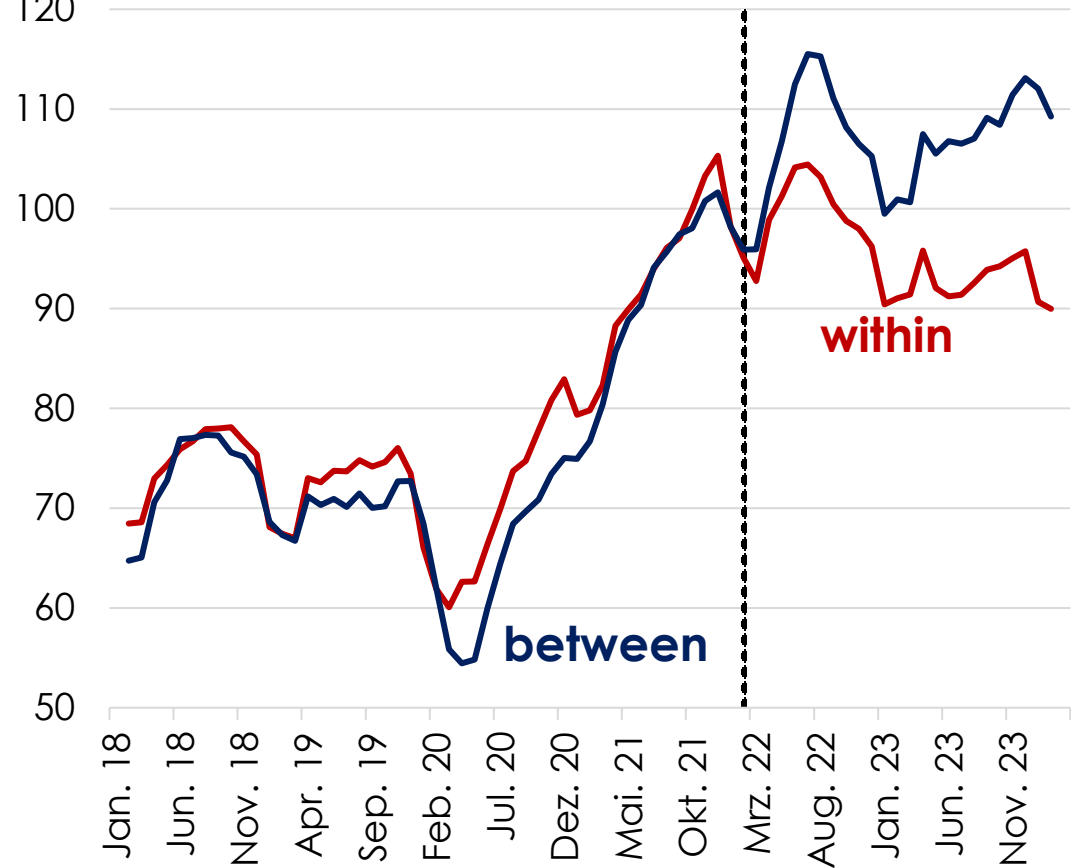
# BRICS+: DECOUPLING FROM THE REST?

Trade (in current US\$) within and between blocks

**(a) UN voting patterns**



**(b) BRICS +**

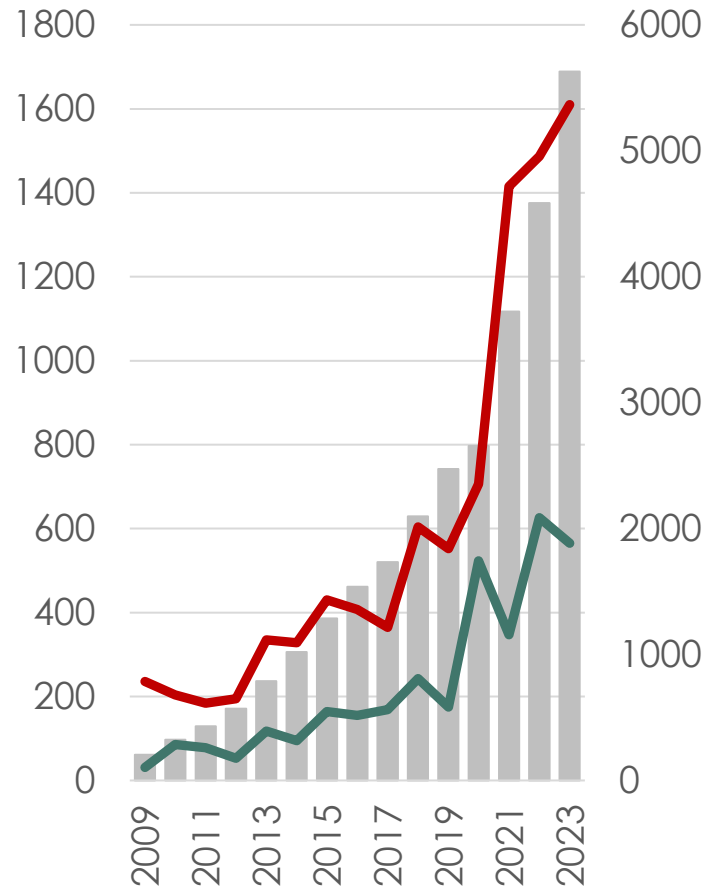


S: BACI-Data. Own calculations and illustration.

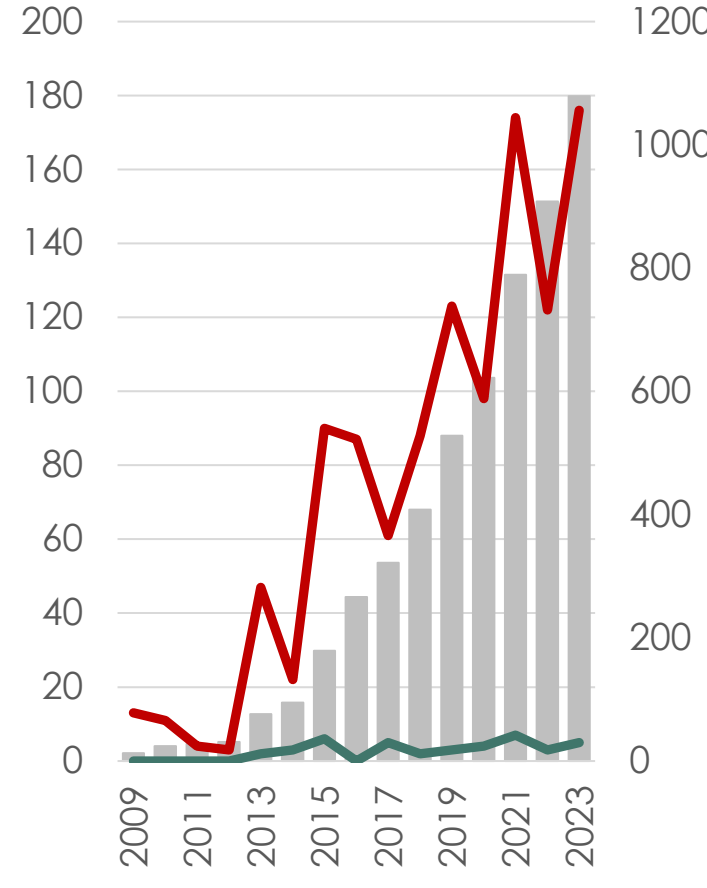
# PROTECTIONISM IS ON THE RISE

Yearly new discriminatory trade policy measures, global count

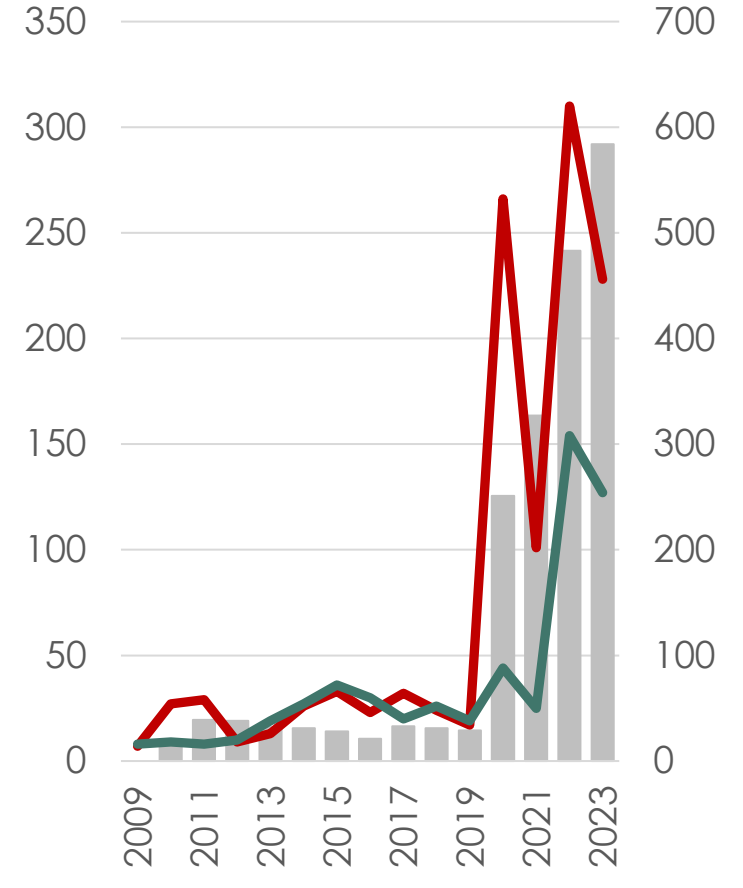
## Import Restrictions



## Export Subsidies



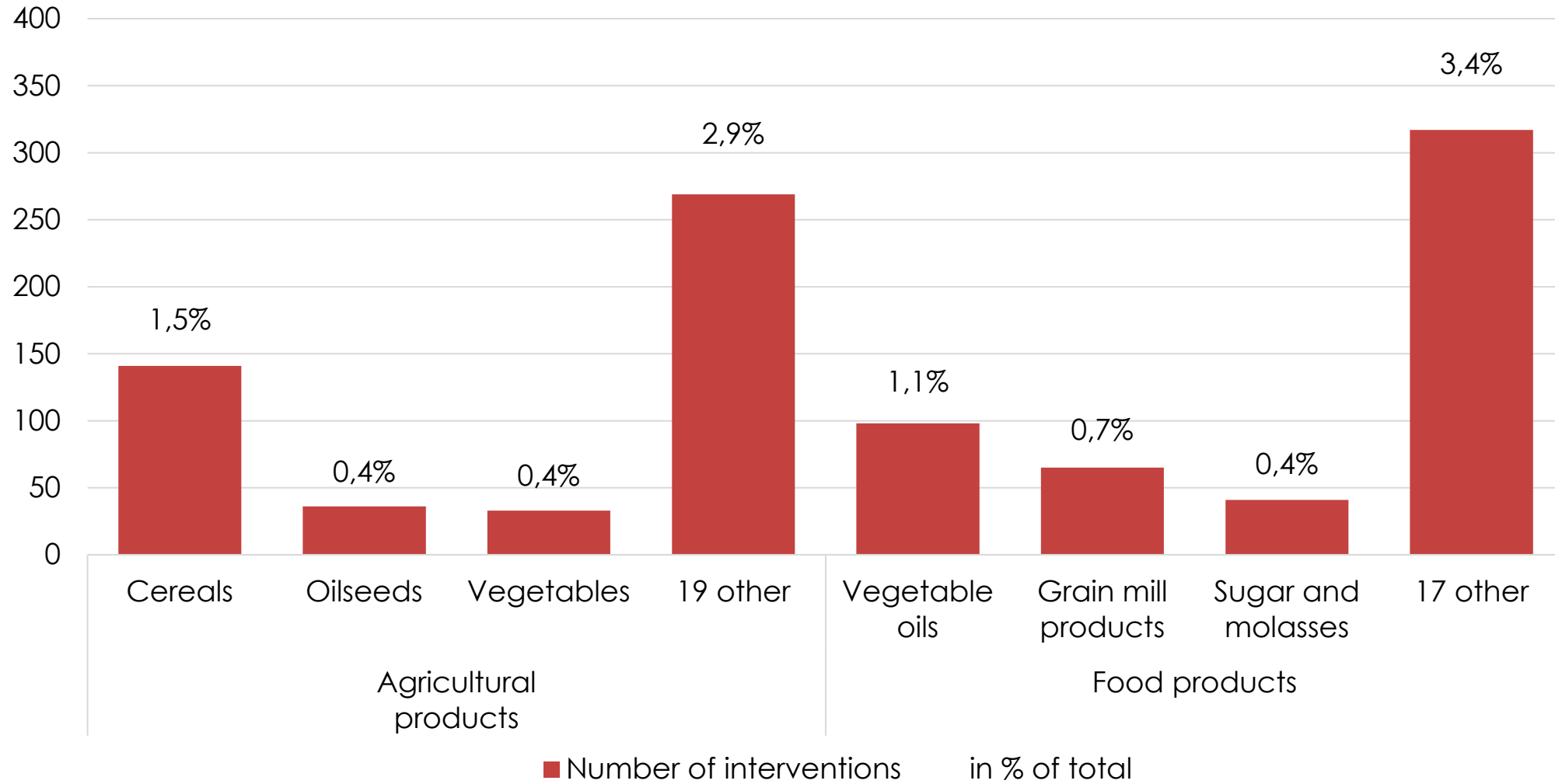
## Export Restrictions



■ net cumulative, ri. axis    ■ restrictive    ■ liberalizing

Q: Global Trade Alert. Own Darstellung. Data until Nov 2023.

# EXPORT RESTRICTIONS IN PLACE, AGFOOD PRODUCTS



Q: Global Trade Alert. Own Darstellung. Data until Sep 2023.

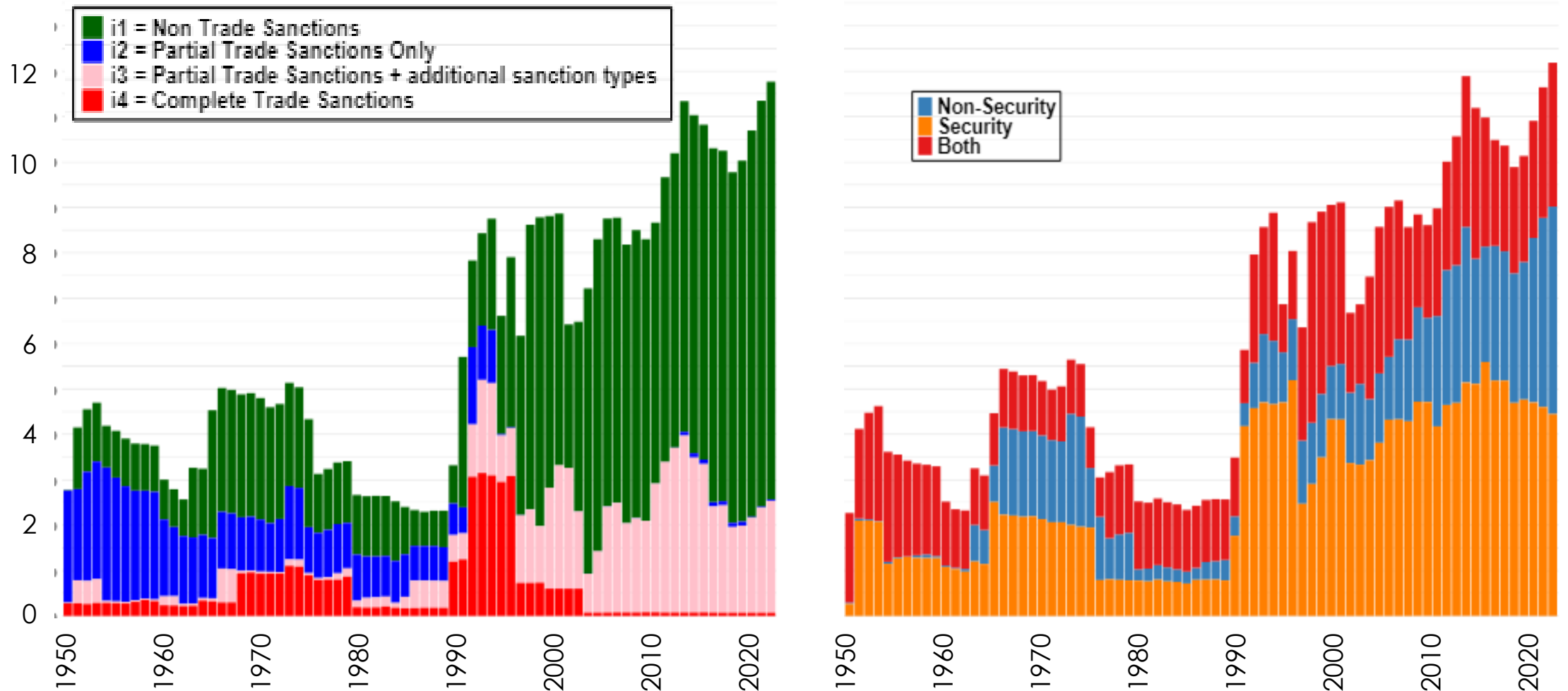


# WHY THIS IS INCREASINGLY PROBLEMATIC

- Higher volatility of agricultural productivity due to climate change makes international trade more important as an **insurance mechanism** (Costinot et al., 2015; Heiland, 2021; Mahlkow, 2023)
- Eppinger, Felbermayr, Krebs & Kukharskii (2023): Limiting trade to insulate domestic economy against foreign shocks works but is **VERY expensive**
- Yet economic security IS a legitimate concern of policy-makers. Welfare theoretic **necessary criteria for policy action** (Felbermayr & Janeba, 2024):
  1. lack of realistic substitutes (products / sources / technologies)
  2. Direct relevance for consumption
  3. Presence of externalities – inefficient private diversification
- However, **offensive use of trade policies** („weaponization“) goes beyond economic security
- **Economic sanctions** (joint work with Yoto Yotov (Philly), Costas Syropoulos (Philly), Erdal Yalcin (Konstanz), Cliff Morgan (Rice))

# ECONOMIC SANCTIONS: KEY TOOL OF GEOECONOMICS

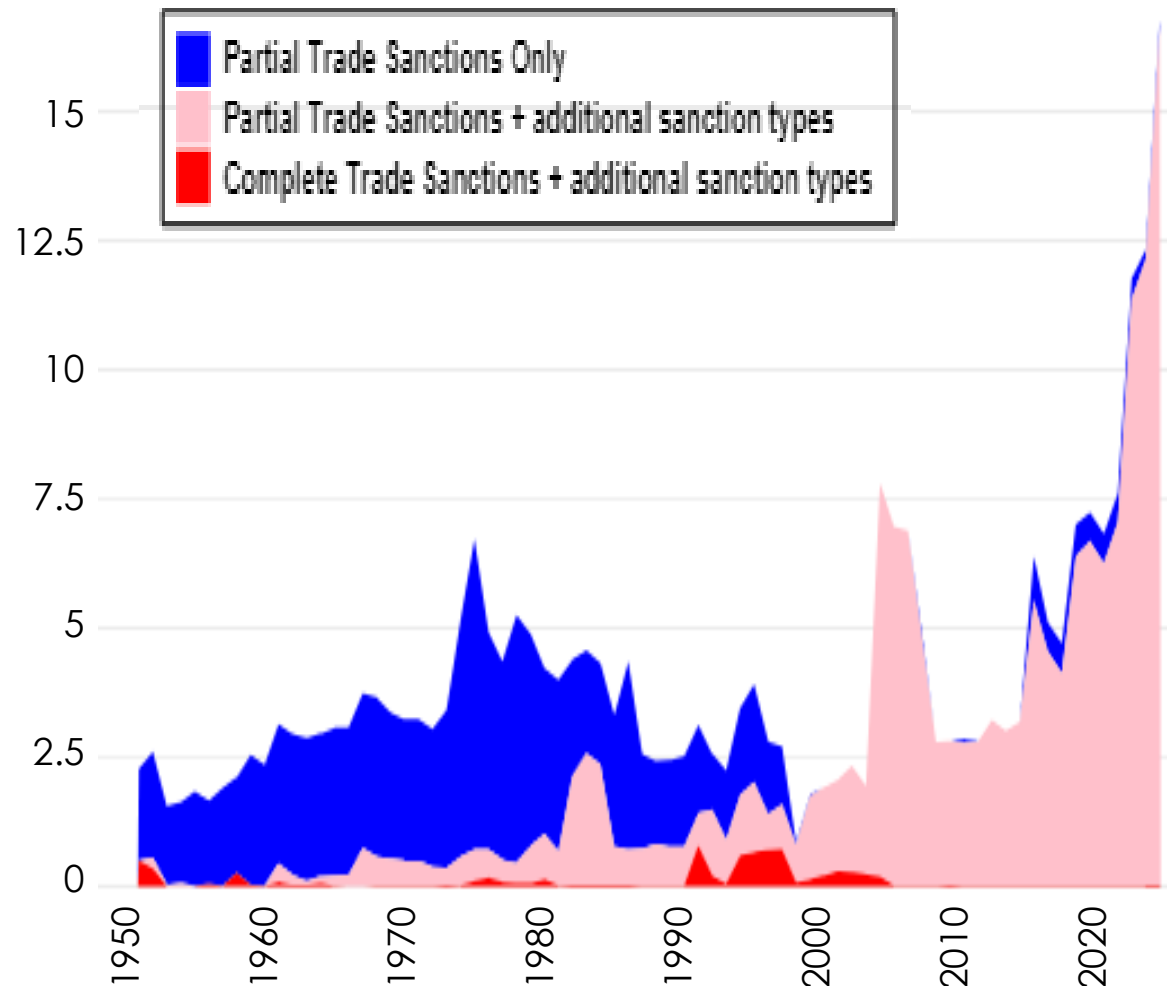
Share of country pairs affected by economic sanctions, in % (Global Sanctions Data Base)



S: Global Sanctions Data Base (GSDB v4). Yalcin, Felbermayr et al., 2024. Data until 12/2023.

# ECONOMIC SANCTIONS: MORE POPULAR THAN EVER

Share of world goods trade (%) at least partially affected by trade sanctions



- In 2023, about **15% of global trade is partially affected** by trade sanctions
- Other sanctions (travel, financial) affect goods flows, too
- Largely unpredictable more than 6 months ahead
- Sanctions affect trade flows directly but also indirectly (higher **uncertainty**)
- Do not expect sanctions to „work“ (in fact only 40% do)

S: Global Sanctions Data Base (GSDB v4), Yalcin, Felbermayr et al., 2024, and IMF DoTS. Data until 12/2023.

# THE EFFECTS OF SANCTIONS ON AGRICULTURAL TRADE

- Combining the GSDB v2 (Felbermayr et al., 2020) with the sectoral agri-food trade flows data base ITPD-E (Borchert et al., 2021) and standard „gravity“ covariates from CEPII
- 243 countries, 26 agricultural sectors, 2000-2016
- A „naive“ gravity model of trade, estimated with OLS (N = 1 106 626)

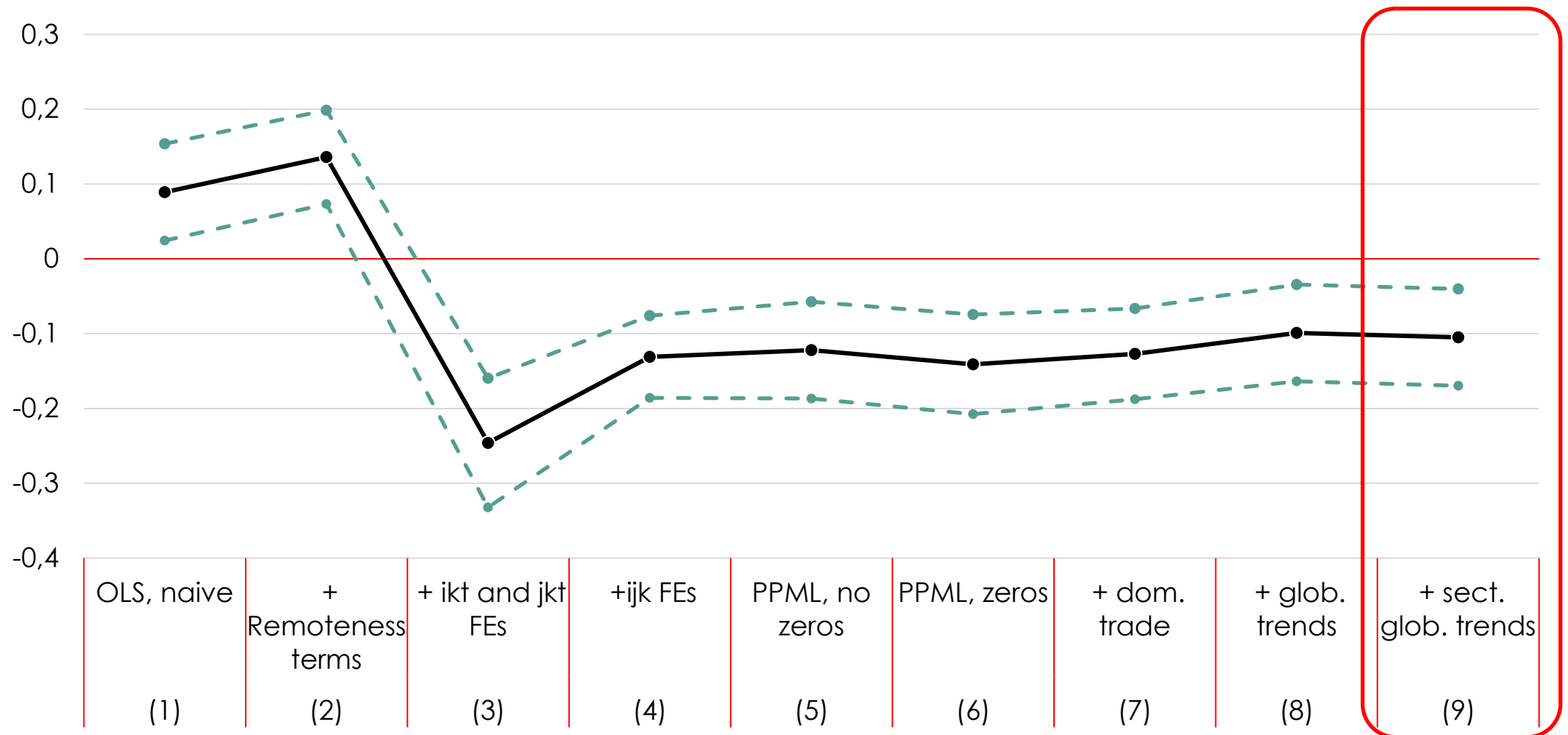
$$\begin{aligned}\ln(X)_{ij,t}^k &= \alpha_0 + \alpha_1 \ln(DIST)_{ij} + \alpha_2 CNTG_{ij} + \alpha_3 LANG_{ij} + \alpha_4 CLNY_{ij} + \alpha_5 RTA_{ij,t} \\ &+ \alpha_6 WTO_{ij,t} + \alpha_7 TRADE\_SANCT_{ij,t} + \alpha_8 OTHER\_SANCT_{ij,t} + \\ &+ \alpha_9 \ln(Y)_{i,t}^k + \alpha_{10} \ln(E)_{j,t}^k + \epsilon_{ij,t}^k.\end{aligned}$$

- State-of-the-art structural gravity model, estimated with PPML (N = 2 661 771)

$$\begin{aligned}X_{ij,t}^k &= \exp[\pi_{i,t}^k + \chi_{j,t}^k + \mu_{ij}^k + \sum_t \alpha_t^k BRDR_{ij,t} + \alpha_1 RTA_{ij,t} + \alpha_2 WTO_{ij,t}] \times \\ &\exp[\alpha_3 SANCT\_TRADE_{ij,t} + \alpha_4 SANCT\_OTHER_{ij,t}] \times \epsilon_{ij,t}^k,\end{aligned}$$

# THE EFFECTS OF SANCTIONS ON AGRICULTURAL TRADE

Regression results, coefficients (tariff equivalents:  $\exp(\hat{\beta}) - 1)/\varepsilon$ )



S: Larch et al., 2021 ([https://ideas.repec.org/p/ris/drxlwp/2021\\_016.html](https://ideas.repec.org/p/ris/drxlwp/2021_016.html))

# THE EFFECTS OF SANCTIONS ON AGRICULTURAL TRADE

Baseline regression as in model (9)

	(1) MAIN
WTO	0.310 (0.044)**
RTA	0.039 (0.025)
TRADE_SANCT	-0.105 (0.033)**
SANCT_OTHER	0.037 (0.024)
COMPL_SANCT	
PARTL_SANCT	
EXPRT_IMPRT_SANCT	
EXPRT_SANCT	
IMPRT_SANCT	

- **Complete sanctions** reduce ag-food trade by 73%, partial sanctions only by 10%
- **Combinations** of import and export sanctions (all trade sanctions) reduces trade flows by about 30%

# THE EFFECTS OF SANCTIONS ON AGRICULTURAL TRADE

Baseline regression as in model (9), all regressions include WTO, RTA, SANCT\_OTHER indicators

	(4) BOTH
EXPRT_IMPRT_COMPL_SANCT	-1.417 (0.395)**
EXPRT_IMPRT_PARTL_SANCT	-0.255 (0.045)**
IMPRT_COMPL_SANCT	-0.334 (0.150)*
IMPRT_PARTL_SANCT	0.058 (0.044)
EXPRT_COMPL_SANCT	0.818 (0.265)**
EXPRT_PARTL_SANCT	0.135 (0.079) <sup>+</sup>
RUS_ALL/RUS_NONEU/RUS_REST	
RUS_EU	

Average effect of 2014 Russia sanctions  
Separate effects

Sanctions

# THE EFFECTS OF SANCTIONS ON AGRICULTURAL TRADE

Regressions at the broad sector-level, specs as in model (9)

	(1)	(2)	(3)	(4)	(5)
	BULK	ANIMAL	LABOR	PRCSSD	SUGARS
A. Trade Sanctions					
TRADE_SANCT	-0.064 (0.053)	-0.154 (0.090) <sup>+</sup>	-0.190 (0.061)**	-0.097 (0.061)	-0.328 (0.315)



# THE EFFECTS OF SANCTIONS ON AGRICULTURAL TRADE

Regressions at the broad sector-level, specs as in model (9)

	(1)	(2)	(3)	(4)	(5)
	BULK	ANIMAL	LABOR	PRCSSD	SUGARS
D. Sanctions by Coverage and Direction					
EXPRT_IMPRT_COMPL_SANCT	-1.411 (0.462)**	-1.138 (1.180)	-1.241 (0.208)**	-1.292 (0.275)**	-4.729 (0.637)**
EXPRT_IMPRT_PARTL_SANCT	-0.147 (0.071)*	-0.451 (0.170)**	-0.670 (0.066)**	-0.115 (0.075)	-1.336 (0.516)**
IMPRT_COMPL_SANCT	-18.515 (406.015)	0.000	-0.644 (0.167)**	-0.146 (0.158)	0.000
IMPRT_PARTL_SANCT	0.019 (0.080)	-0.017 (0.098)	0.160 (0.041)**	-0.050 (0.075)	0.192 (0.344)
EXPRT_COMPL_SANCT	0.333 (1.381)	2.083 (0.441)**	1.031 (0.243)**	0.216 (0.455)	1.430 (0.961)
EXPRT_PARTL_SANCT	0.048 (0.115)	0.035 (0.223)	0.349 (0.143)*	-0.010 (0.113)	0.390 (0.434)

# THE EFFECTS OF SANCTIONS ON AGRICULTURAL TRADE

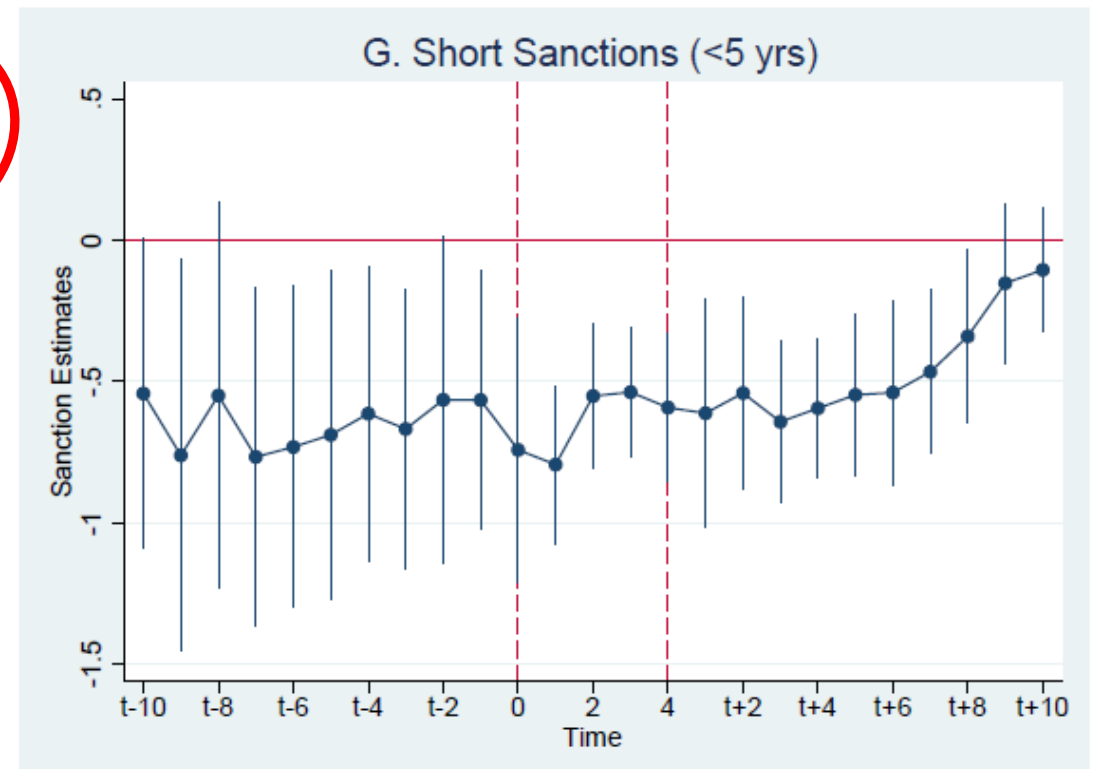
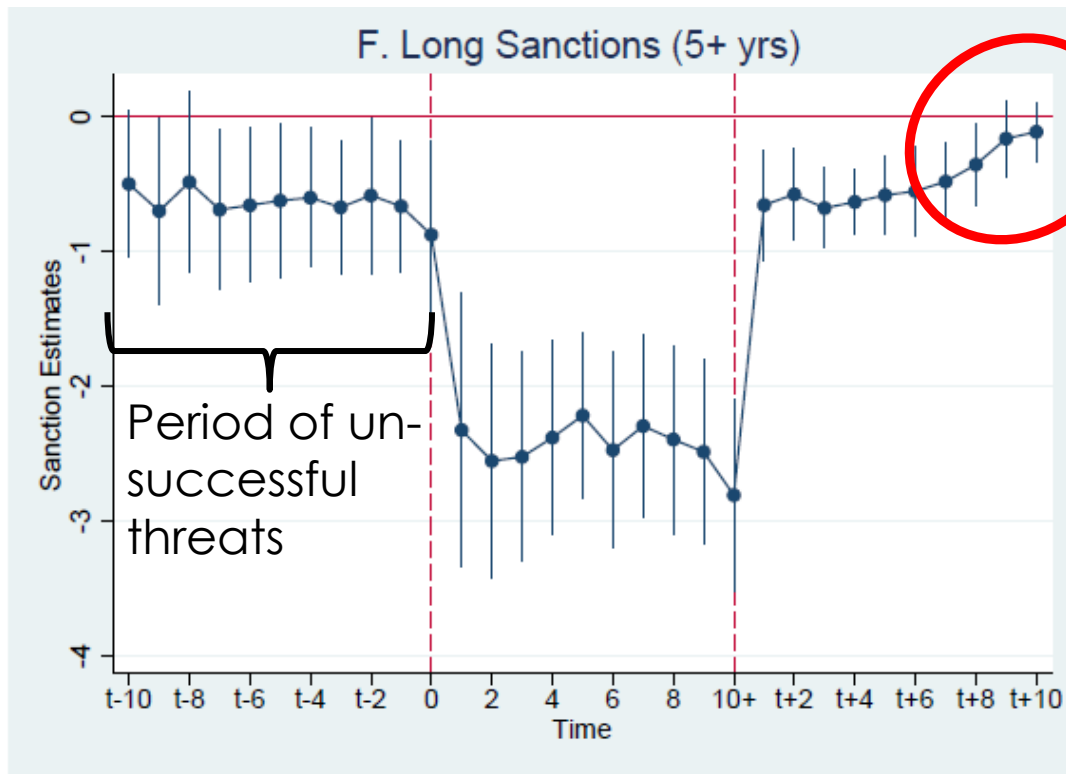
Regressions at the broad sector-level, specs as in model (9): 2014 Sanctions against Russia

	(1)	(2)	(3)	(4)	(5)
	BULK	ANIMAL	LABOR	PRCSSD	SUGARS
A. Overall impact of the sanctions on Russia					
RUS_ALL	-0.160	0.317	-1.260	-0.410	-1.928
	(0.159)	(0.234)	(0.101)**	(0.154)**	(1.344)
<i>N</i>	632333	212243	416719	688044	66626

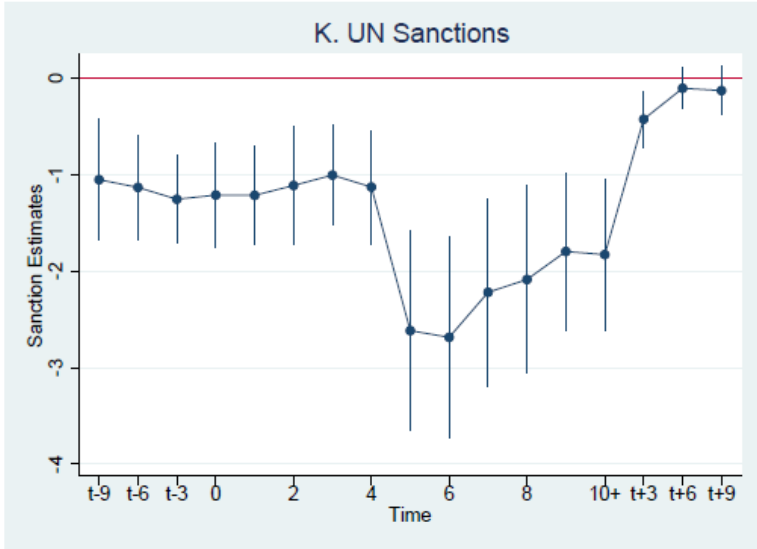
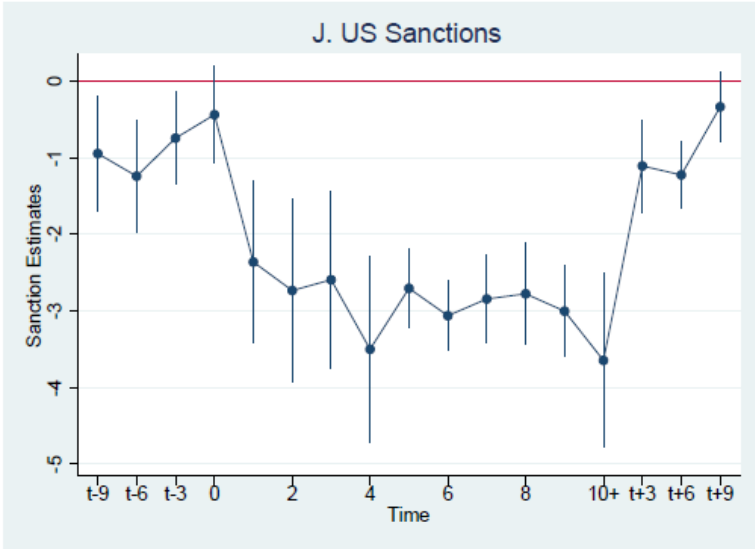
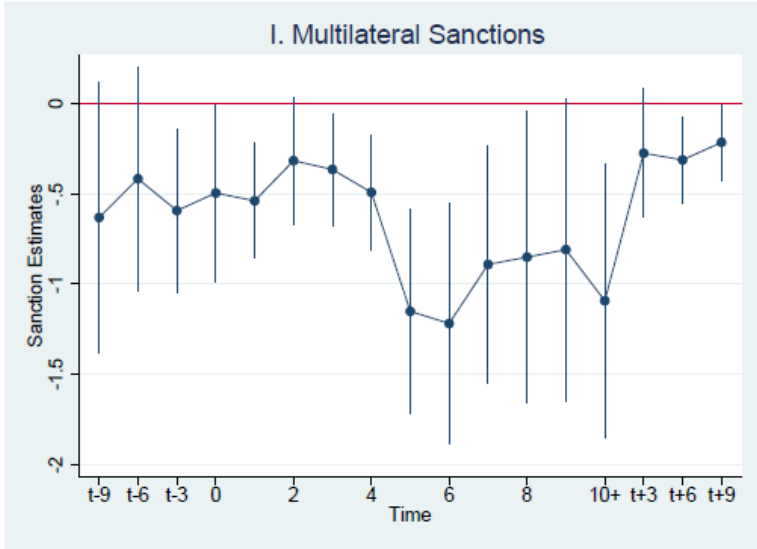
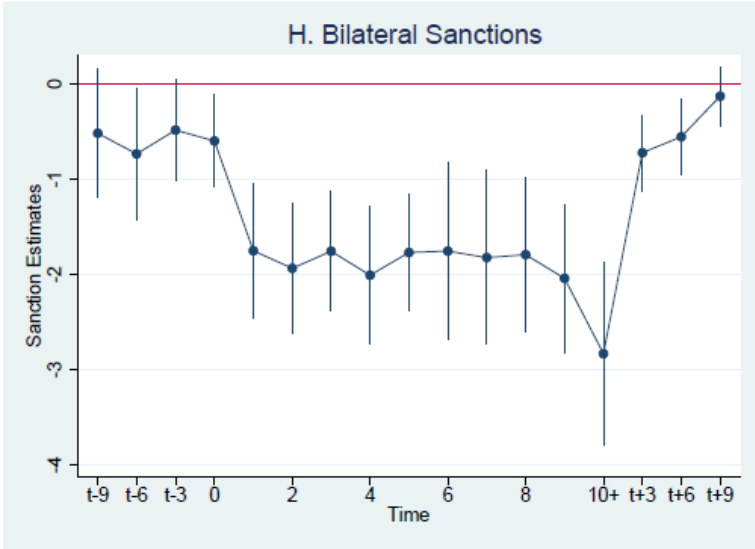
# LONG SANCTIONS CUT MUCH DEEPER THAN SHORT ONES

Dai, Felbermayr et al. (2021)

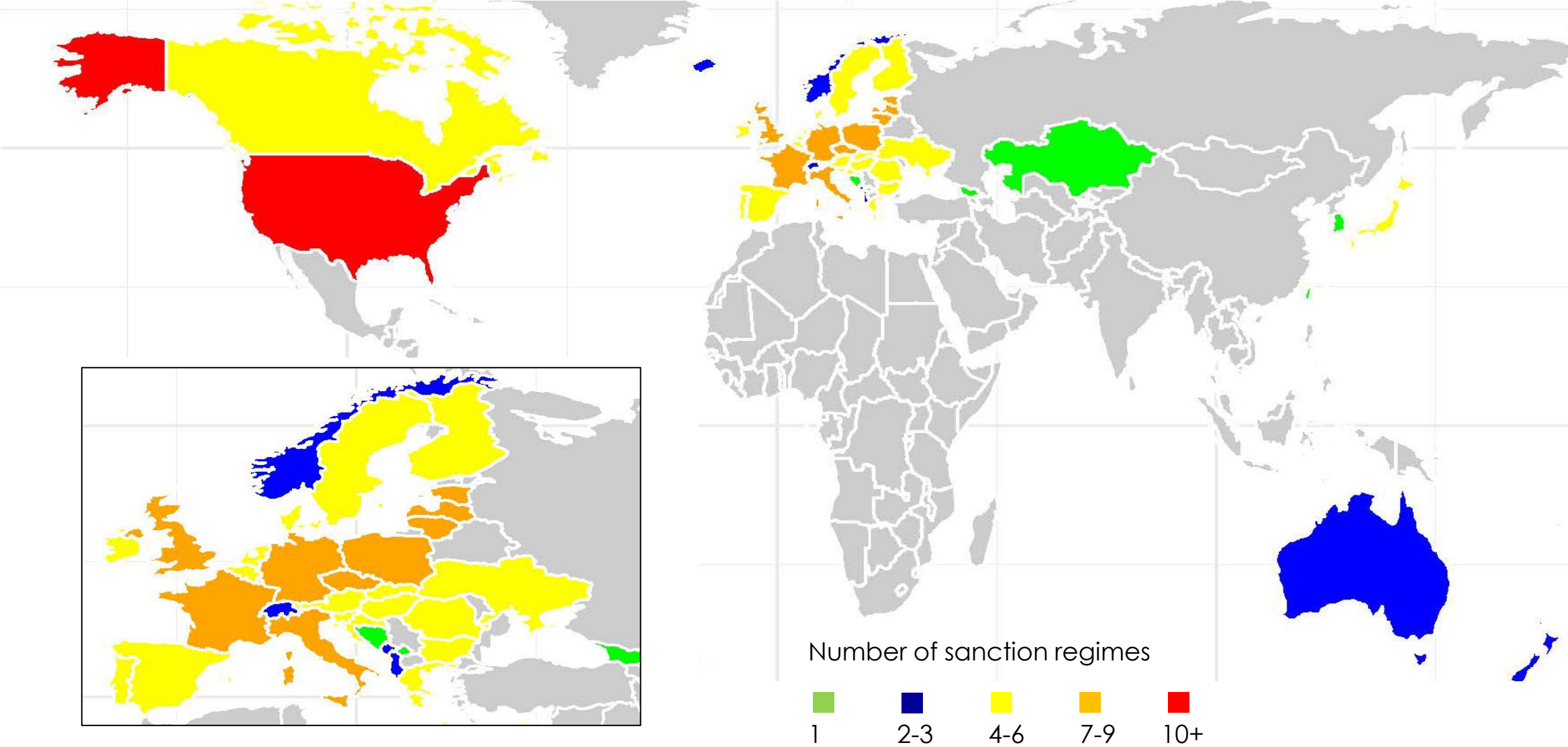
Gravity analysis of complete trade sanctions on aggregate trade flows



# SENDER IDENTITY AND COALITIONS MATTER



# RUSSIA SANCTIONS TODAY: MASSIVE HETEROGENEITY

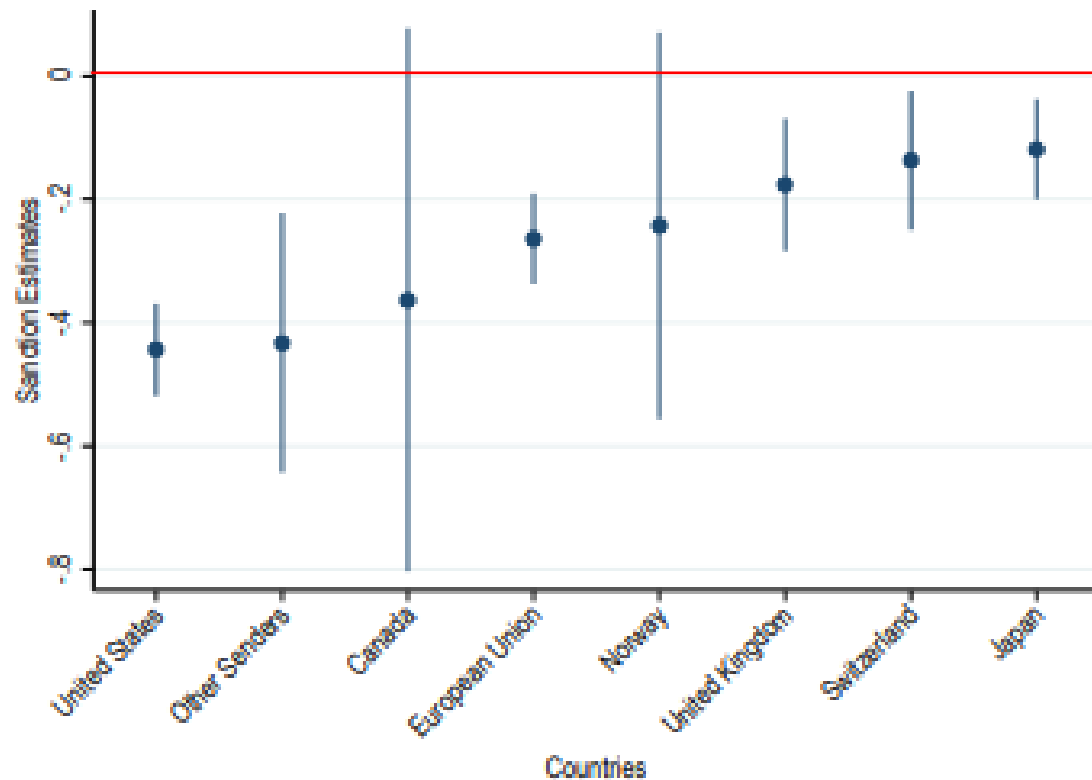


S: Global Sanctions Data Base (GSDB v4). Yalcin, Felbermayr et al., 2024. Data until 12/2023.

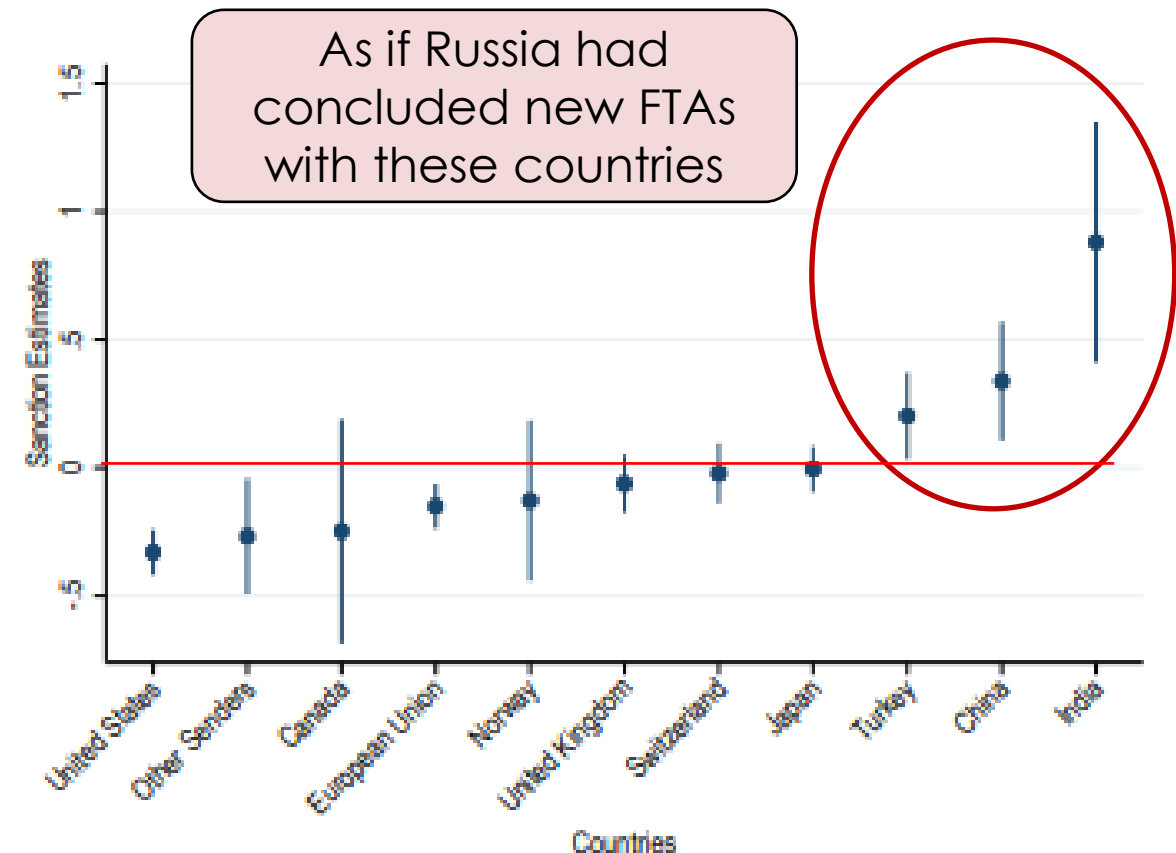
# CLEAR WINNERS BEYOND TRADE DIVERSION: TR, CN, IN

Results from an econometric trade flow analysis, semi-elasticities

**(a) Effects on Russia's trade with senders**



**(b) Effects on Russia's trade with third countries**



S: Global Sanctions Data Base (GSDB v4). Yalcin, Felbermayr et al., 2024. Data until 12/2023.

# TRUST AS AN ENABLER OF POSITIVE-SUM THINKING

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## What do governments care about?

- Economic **welfare** of own country. **Positive-sum** logic. **Absolute** gains from trade.
  - Economic **power** relative to rivals. **Zero-sum** logic. **Relative** gains from trade.
- 
- Both elements matter, their relative weight is a function of trust
  - The lower the degree of trust, the more the world moves to a zero-sum logic
  - The setup of **multilateral institutions** (WTO) cannot deal with zero-sum thinking

# POLICIES FOR ZERO-SUM ENVIRONMENTS

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**Derisking:** Everything that ...

... strengthens **legal foundations** for cooperation

... avoids the build-up of artificial monopolistic/monoposonistic situations

... facilitates **diversification** to reduce the risk of being blackmailed

... **balances bilateral relationships** to make successful deterrence more likely

... strengthens the **EU single market**

- Trade agreements
- Robust enforcement of trade rules: anti-subsidy measures, anti-dumping measures, ...
- Horizontal industrial policies (e.g., R&D subsidies)
- EU Anti-Coercion Instrument
- EU International Procurement Instrument



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