

Trade in Flux, Development in Doubt?

Adapting to Trade
Wars, Policy Shifts, and
Changes in Global
Trade

April 18, 2023

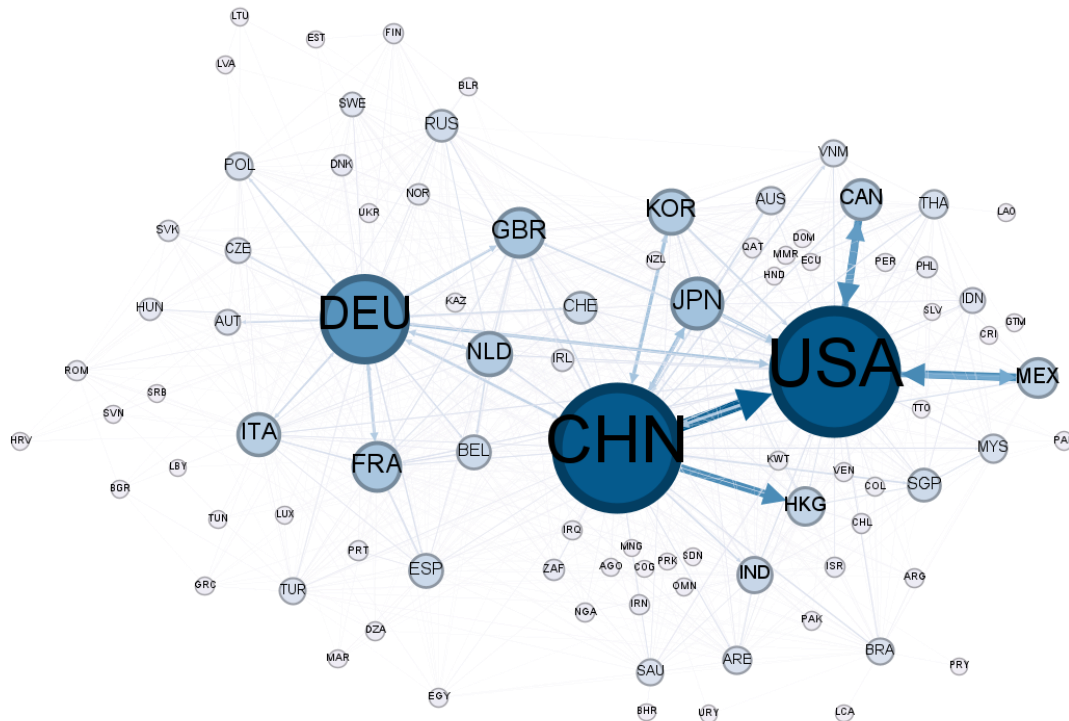
Daria Taglioni



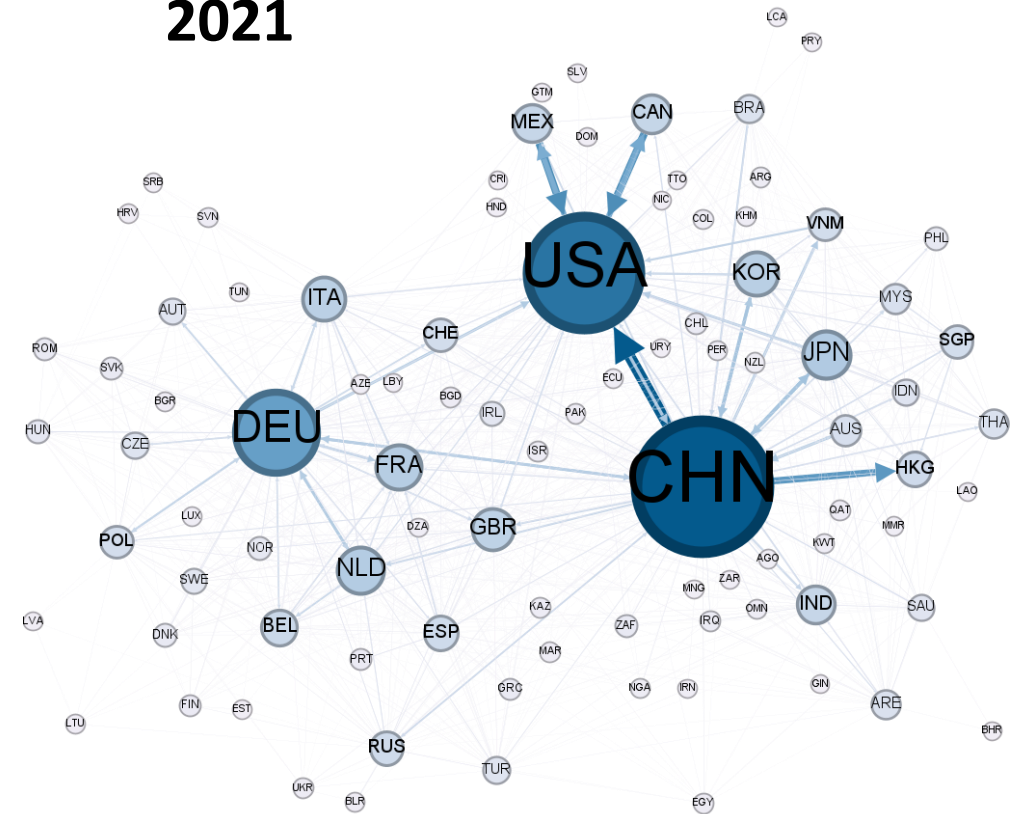
Three recent shifts in global trade

Despite the Trump's trade wars, China's importance in the global trade network has increased

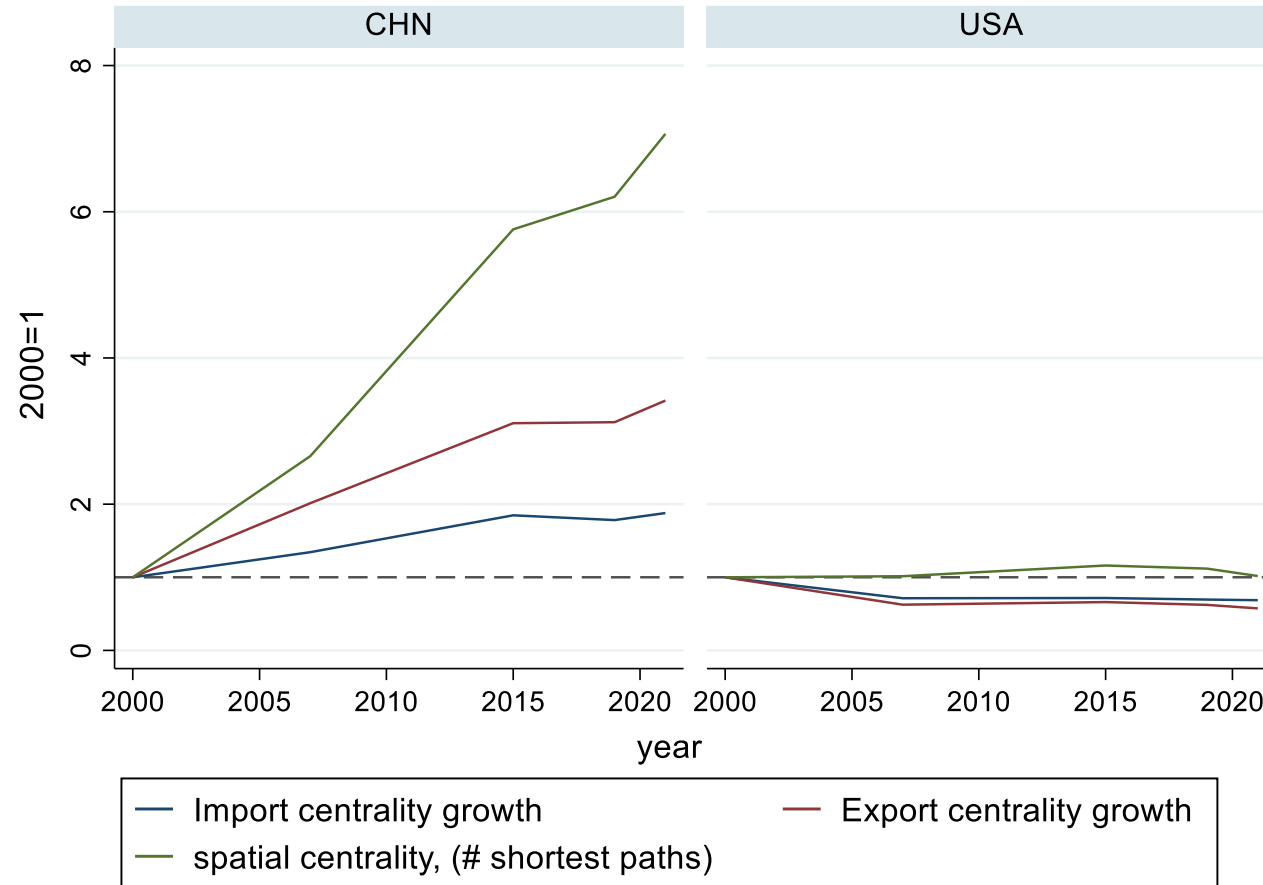
2015



2021



China is more central than ever particularly in intermediate trade

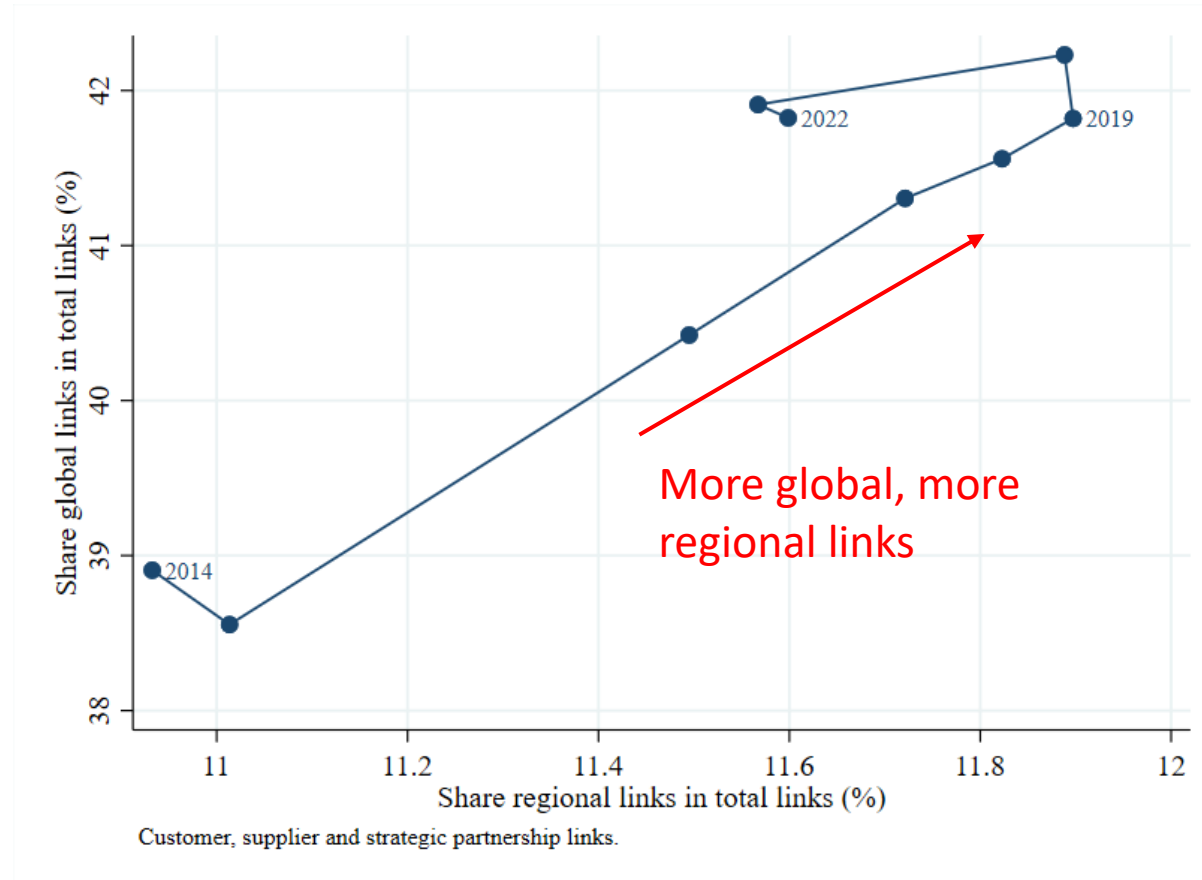


Despite shocks and uncertainty, trade has become more GVC-related



Source: [GVC Module on World Integrated Trade Solutions \(WITS\) Database](#) using Eora data and methodology from Borin, Mancini, and Taglioni (2021) and World Bank World Development Report 2020

Firms continue to seek customers, suppliers and partners all around the world



Source: Beck and Taglioni, work in progress

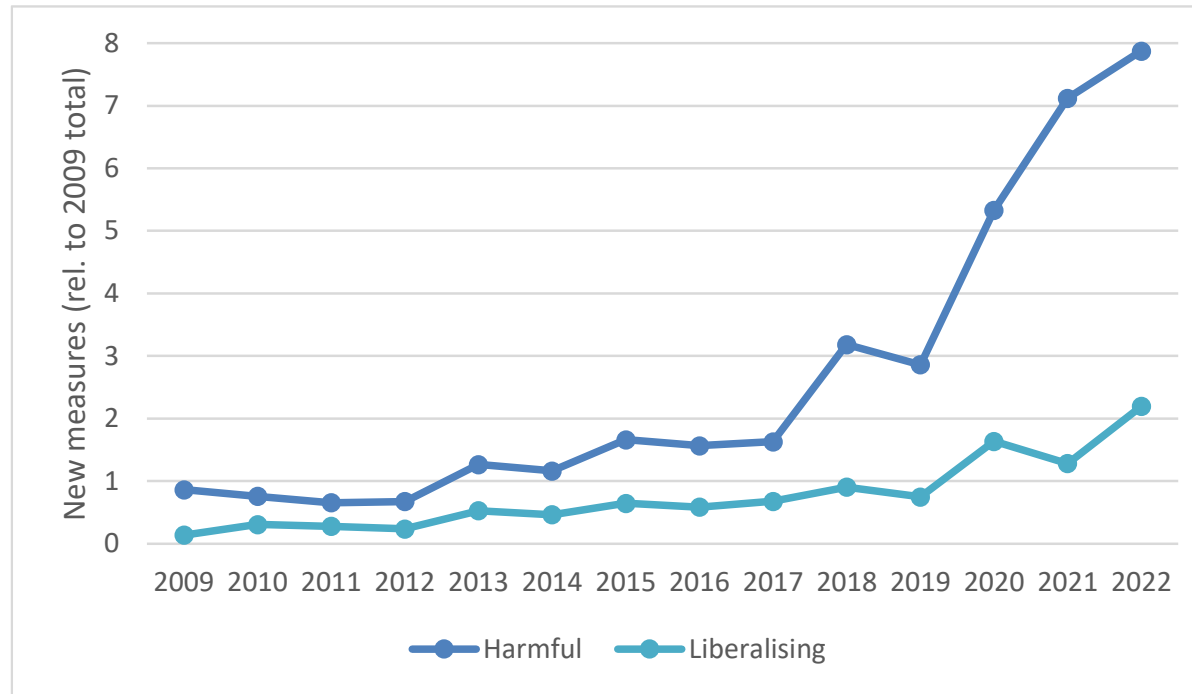
Four possible explanations

1. There are contrasting trends in trade policy and international cooperation.
2. New protection is having effects on third countries, but in unexpected ways.
3. Some studies on deglobalization risk both overestimating the feasibility of deglobalization and underestimating its costs.
4. Even in a world in which there is risk, it is not obvious that deglobalization, regionalization, reshoring and friend-shoring are optimal policy responses.

1. Contradictory Policies



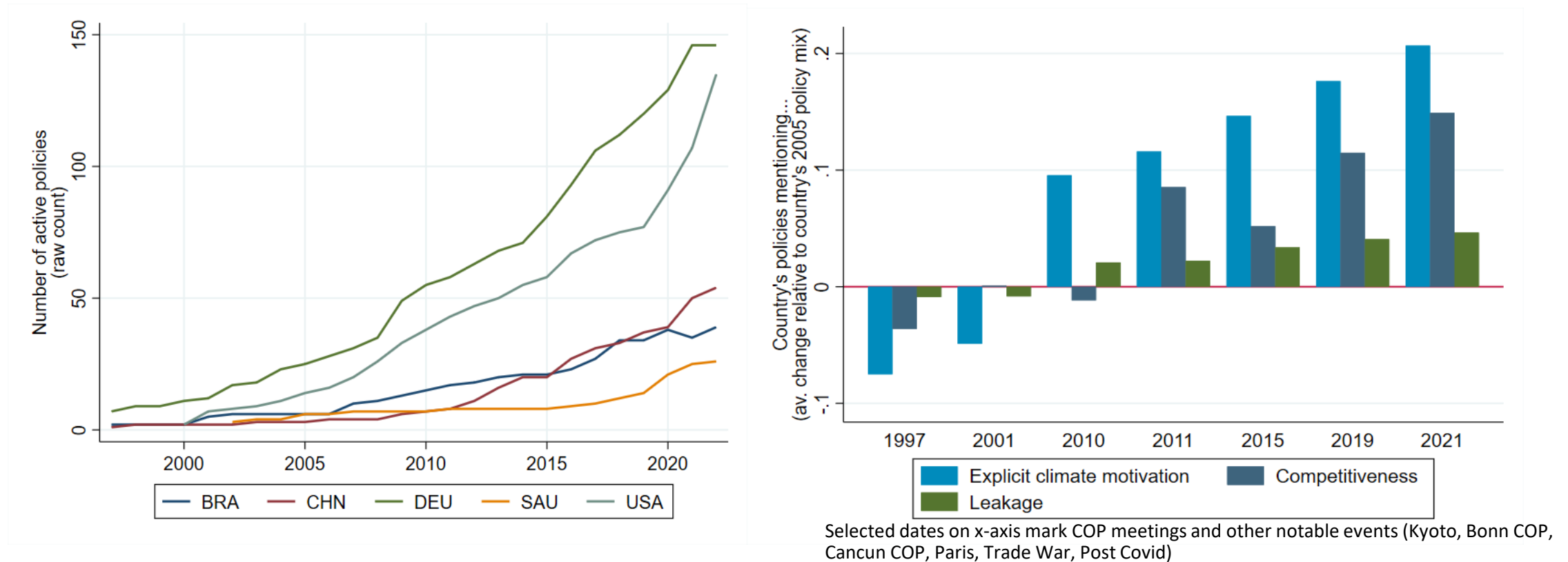
Contrasting trends in trade policy: both harmful and trade-liberalizing policies are on the rise



Source: Global Trade Alert.

Are green goals contributing to the surge in protectionism?

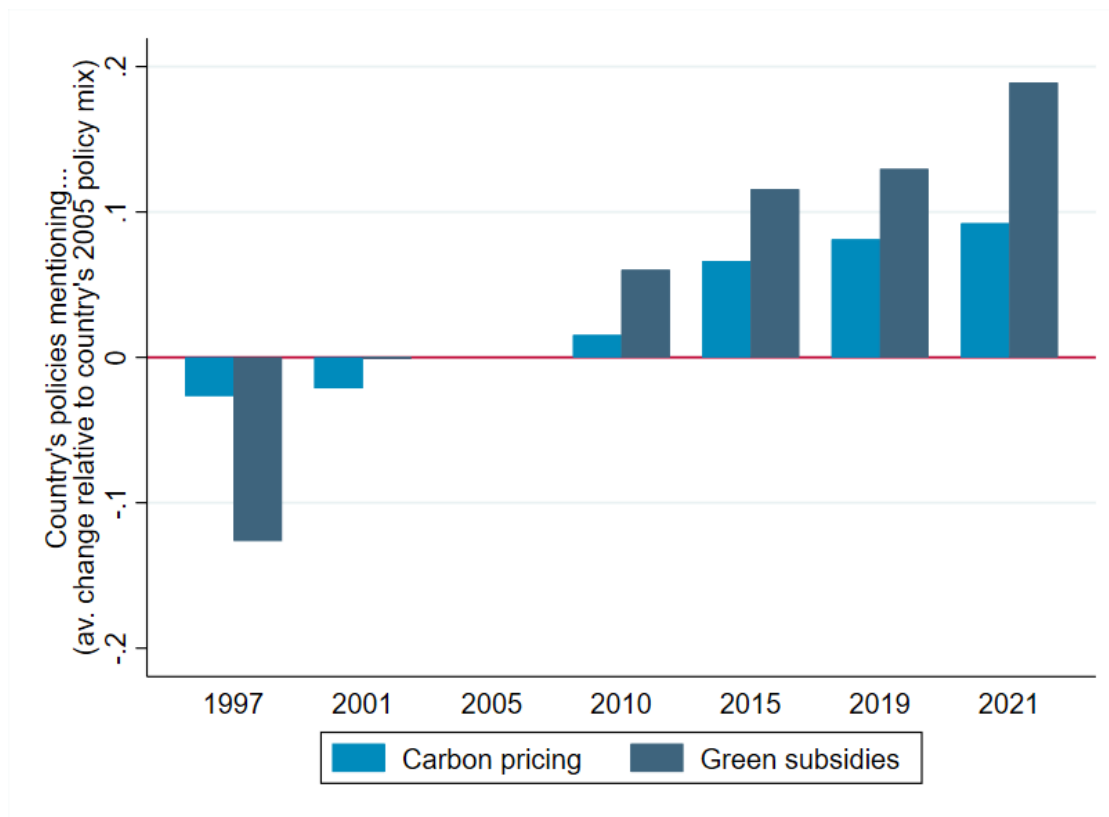
Number of trade-related climate policies increased exponentially in G20 countries



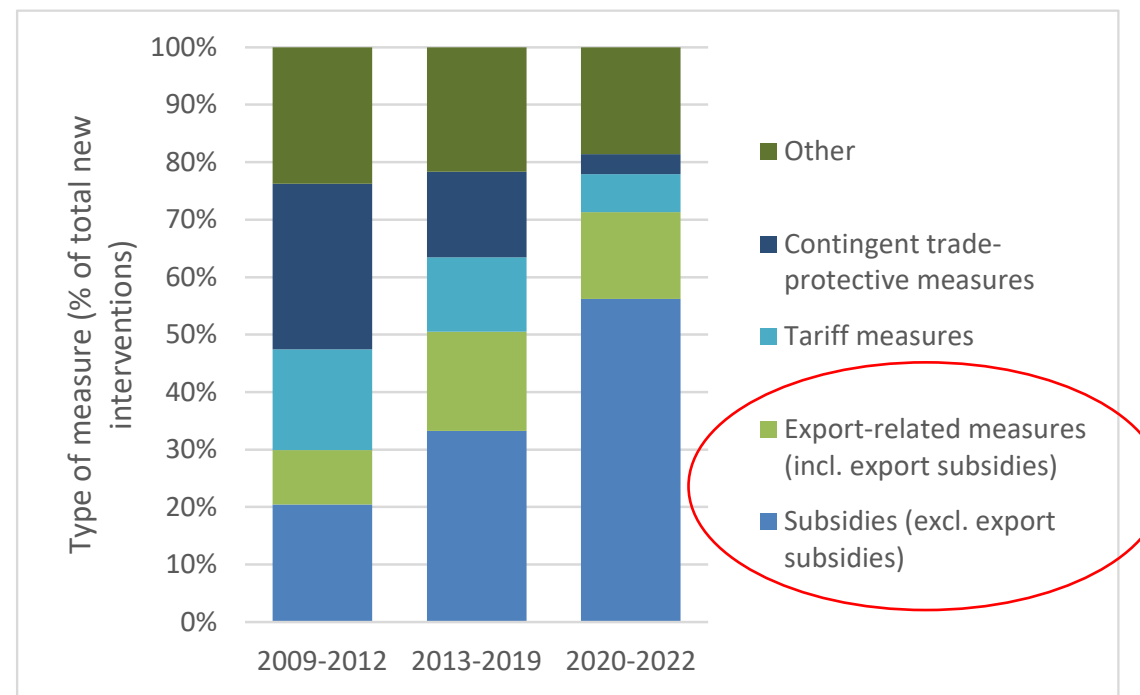
Notes: New WB-ANU Climate Policies Database containing 1800 distinct policies surveyed in G20 countries, with >1500 in force as of March 2023 (>50 variables on policy timing, evolution, administration, scope, objectives and drivers, approach, and impact).

Source: Aisbett, Beck, Fernandes, Fisher, Sam Martim and Taglioni "The Implications of Climate Policy for Trade: Evidence from the Trade-related Climate Policy Database" work in progress

Subsidies have experienced a significant increase since 2020 both as contributor to the green agenda and more broadly

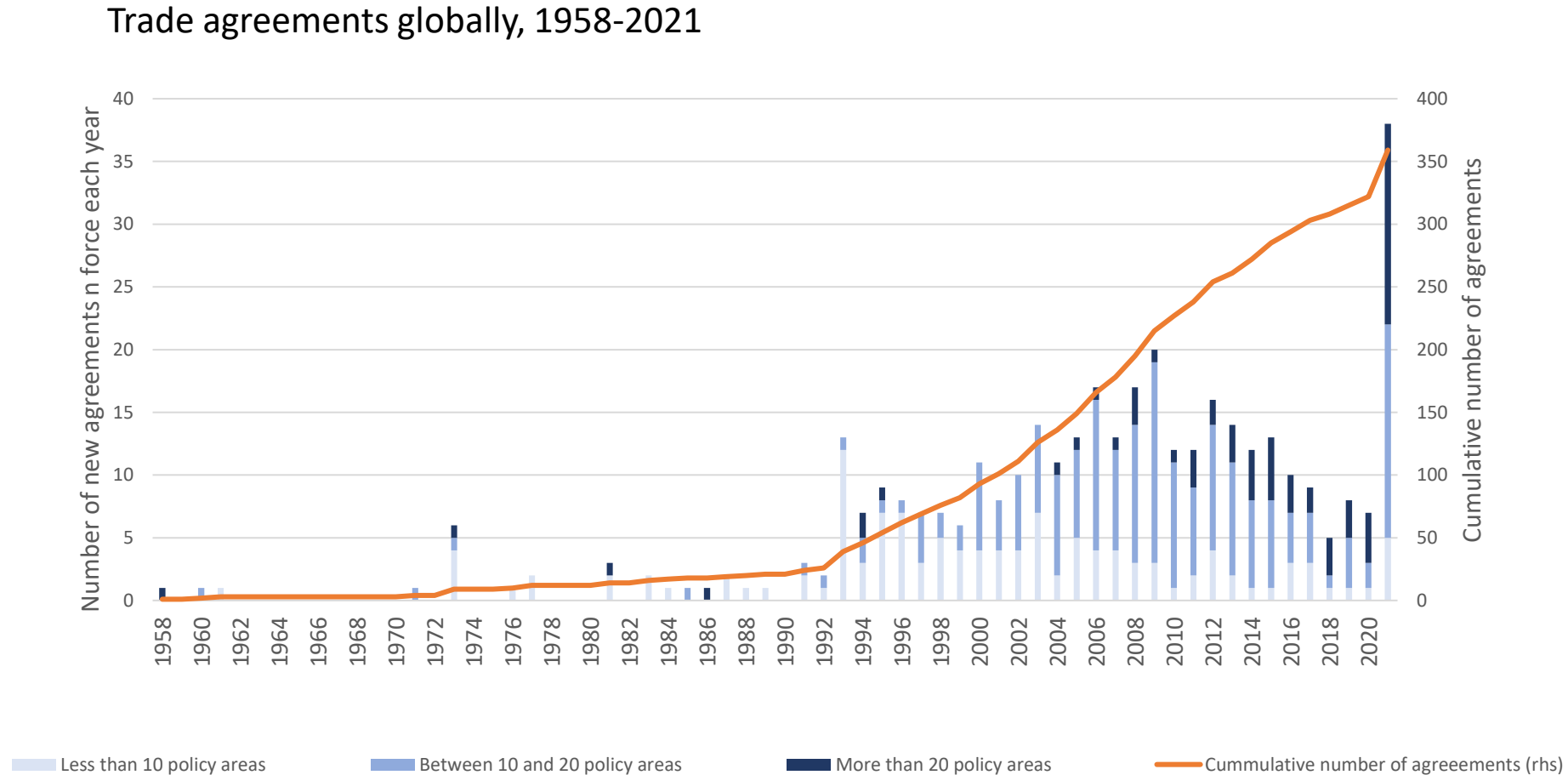


Source: Aisbett, Beck, Fernandes, Fisher, Sam Martim and Taglioni “The Implications of Climate Policy for Trade: Evidence from the Trade-related Climate Policy Database” work in progress



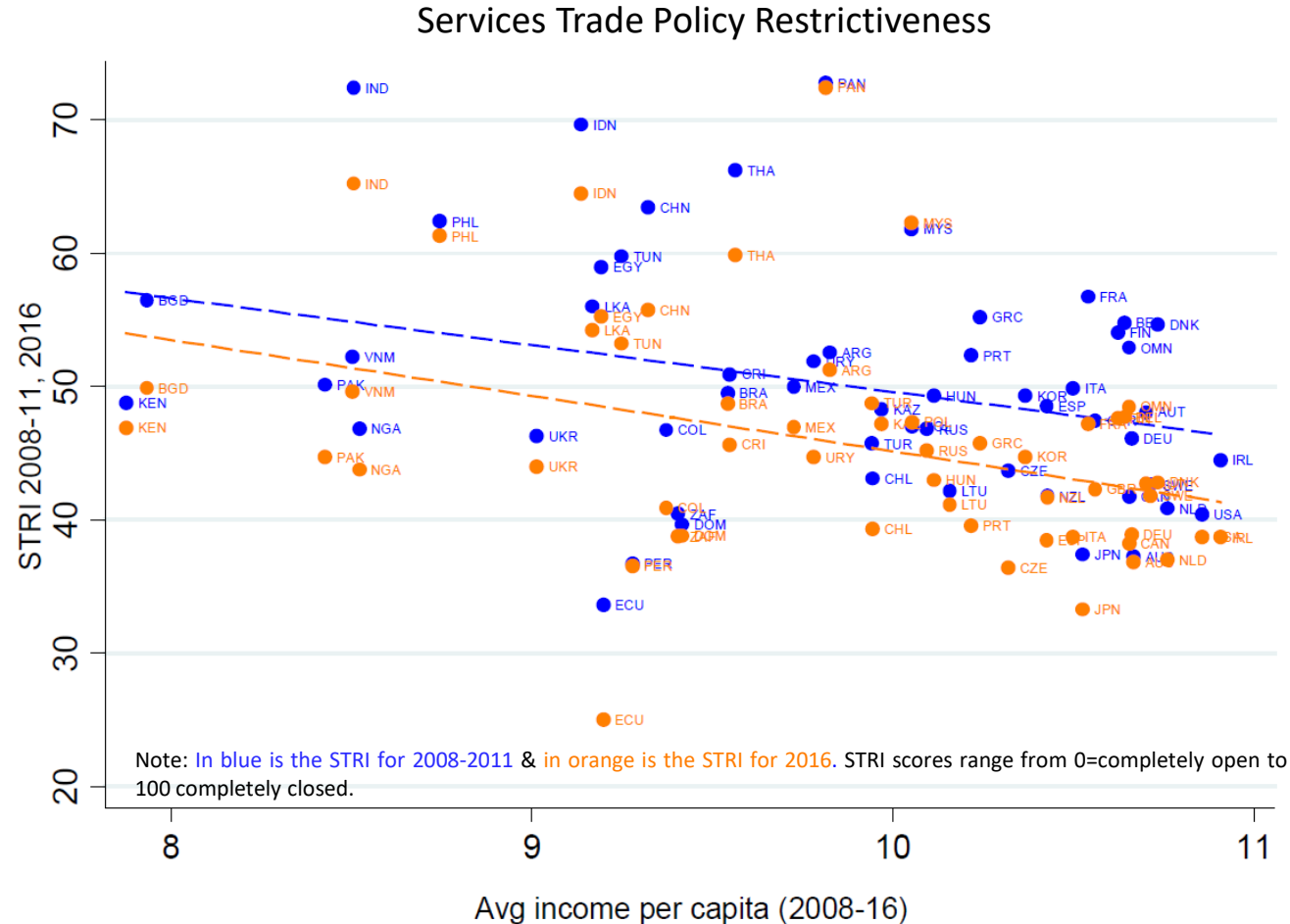
Source: Global Trade Alert.

But countries continue to sign more and deeper trade agreements...



Source: Fernandes, Rocha, and Ruta (2021), The Economics of Deep Trade Agreements, World Bank-CEPR.

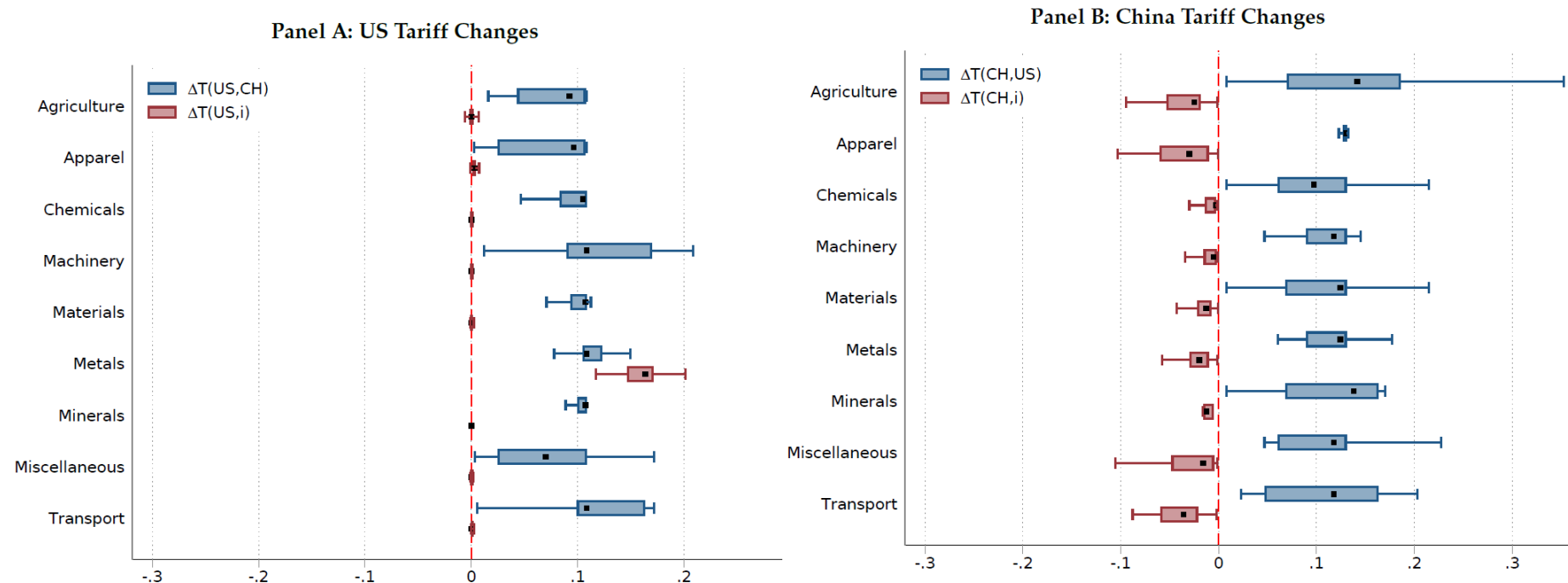
...and services trade regulations became less restrictive since the global crisis



2. When Protectionism Surprises: Unforeseen Effects on Bystander Countries



The US-China tariff war taxes USD 450 billion in annual trade, offering is a natural experiment on protectionism

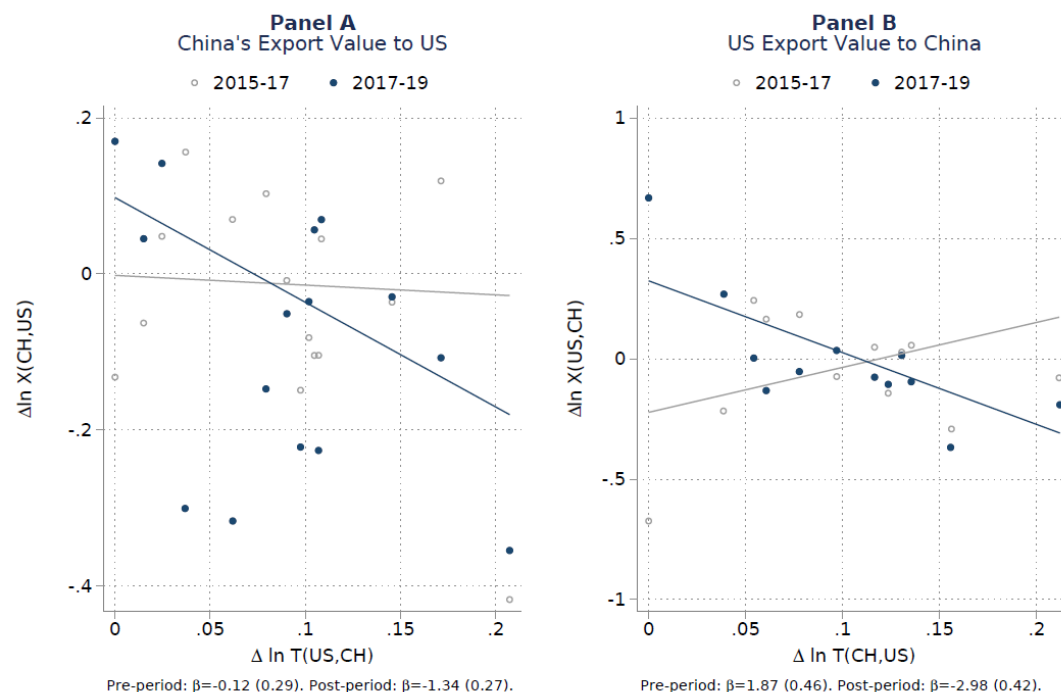


Note: Figure reports the set of tariff changes imposed by the US (Panel A) and China (Panel B), by sector in 2018-19. The tariff changes are scaled by total time in effect over the two year window. For example, if the US raised tariffs on a product from China in September 2018 by 10%, the scaled tariff change over the two-year window would be $6.66\% = (16/24) * 10\%$. If the tariff of a product went up 25% in September 2019, the scaled tariff change would be $4.16\% = (4/24) * 25\%$. The black dots indicate the median tariff increase, the boxes denote the 25th and 75th percentiles, and whiskers show the 10th and 90th percentiles.

Source: Fajgelbaum, Goldberg, Kennedy, Khandelwal, and Taglioni (2022). "[The US-China Trade War and Global Reallocations](#)" World Bank Policy Research working paper 9894.

Negative effects on US exports to China and on Chinese exports to the US, as expected

Relative export growth in targeted products across countries

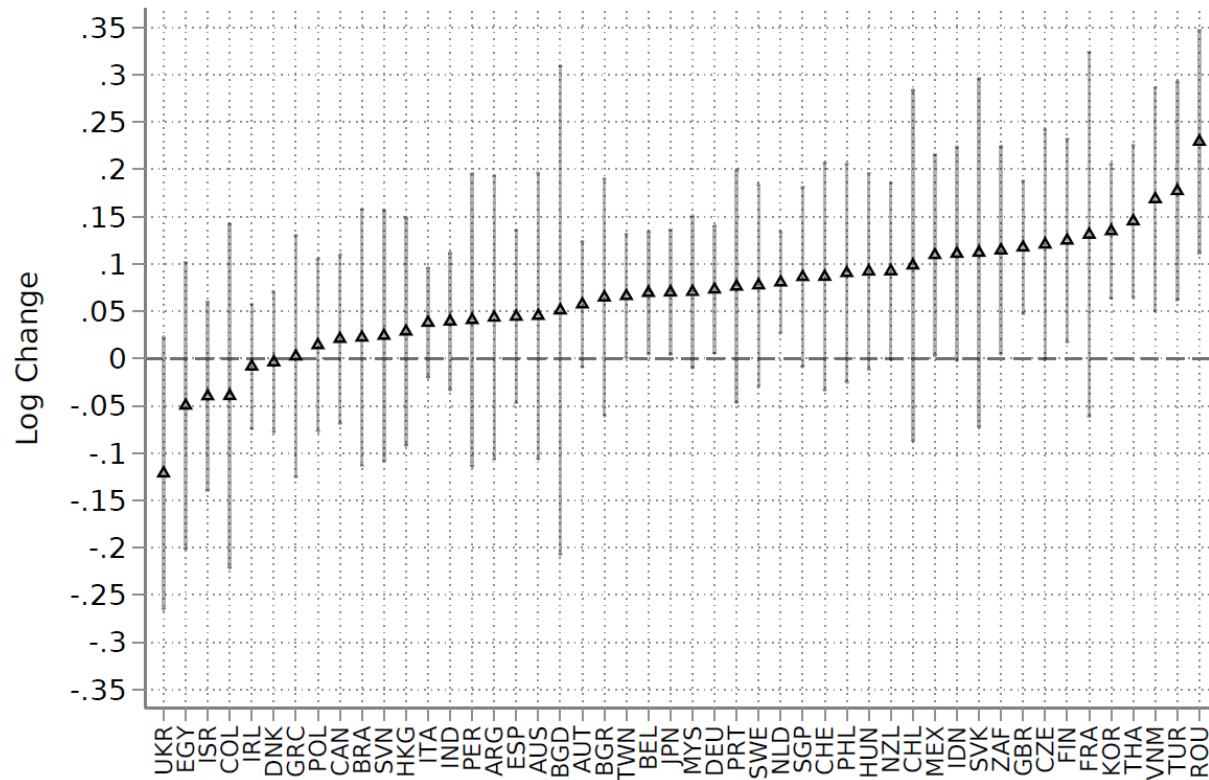


Notes: The panels show binscatter plots of USA and China's export change (on the y-axes) against changes in tariffs due to the trade war (on the x-axes). Panel A reports regression: $\Delta \ln X^{\text{CH}, \text{US}, \omega} = \alpha + \beta \Delta \ln T^{\text{CH}, \text{US}} + \epsilon^{\text{CH}, \text{US}}$. Panel B is a similar regression for US exports to China. Also reported are regressions with exports prior to the trade war from 2015-17. Below each panel are OLS coefficients.

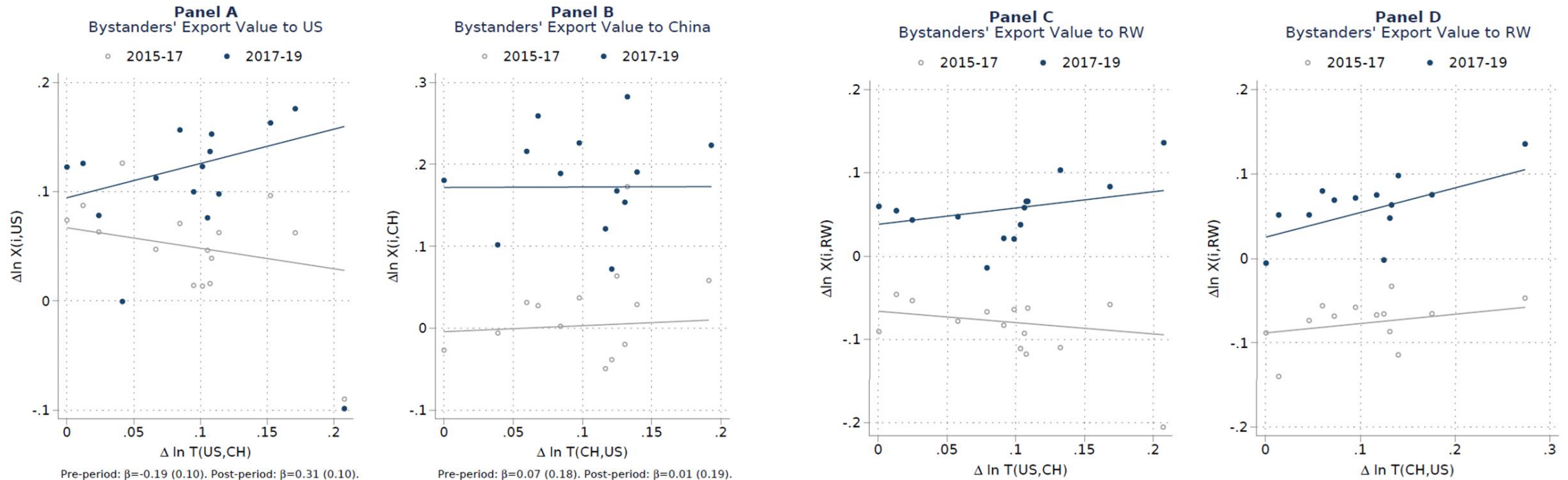
Source: Fajgelbaum, Goldberg, Kennedy, Khandelwal, and Taglioni (2022). "[The US-China Trade War and Global Reallocations](#)" World Bank Policy Research working paper 9894.

But the US-China decoupling also opened opportunities for bystander countries

Relative export growth in targeted products across countries



The “bystander effect” of the US-China trade war



Notes: The panels show binscatter plots of third countries export change (on the y-axes) against changes in tariffs due to the trade war (on the x-axes). Panel A reports regression of country i exports to the USA : $\Delta \ln X_{i,US,\omega} = \alpha + \beta \Delta \ln T_{i,US} + \epsilon_{i,US}$. Panel B reports a similar regression for country i 's exports to China. Panel C and D report instead regressions for country's i 's exports to the rest of the world on products targeted by US and Chinese tariffs, respectively. Also reported are regressions with exports prior to the trade war from 2015-17. Below each panel are OLS coefficients.

Source: Fajgelbaum, Goldberg, Kennedy, Khandelwal, and Taglioni (2022). [“The US-China Trade War and Global Reallocations”](#) World Bank Policy Research working paper 9894.

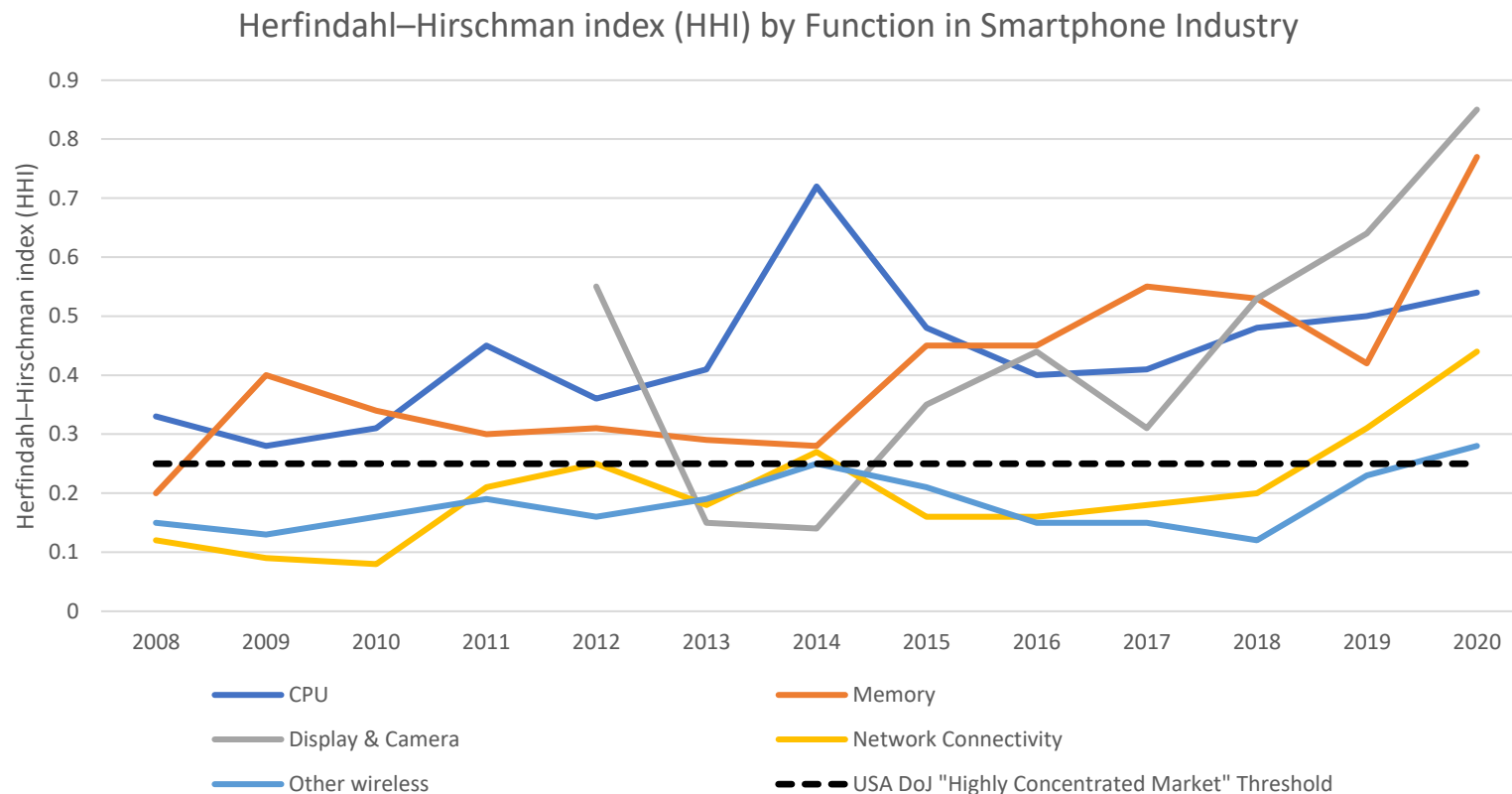
3. Miscalculations on the Feasibility and Costs of Deglobalization



On the prospects and costs of decoupling

- **5%-12%** - welfare costs if the world ends up divided into economic blocks (source: [Cerdeiro et al, 2021](#); [Goes and Bekkers, 2022](#)).
- These estimates are highly uncertain, however.
 - **The trade models employed overestimate the feasibility of decoupling:** they assume that full decoupling is possible, since **global firms will have many substitutes to choose from**, e.g. when they are cut off from key suppliers.
 - **These same studies underestimate the potential costs of decoupling:** they do not factor in the risk that **decoupling may impede the basic functioning** of critical industries.

Global firms have fewer suppliers to choose from, particularly in smartphones and other ICT products..



Source: Thun, Taglioni, Sturgeon and Dallas, 2022 "[Massive Modularity: Understanding Industry Organization in the Digital Age – The Case of Mobile Phone Handsets](#)". World Bank Policy Research paper 10164 and [VOXEU column](#).

Note: The study is based on evidence from pooled longitudinal data from 456 mobile phone handsets introduced between 2008 and 2019; 15,544 hardware components; nearly 10 million company contributions to various releases of Google's Android operating system from 2008-2020, and data on about 16,000 company contributions to each generation of mobile telecom standards from 2001-2019

...and functions in these global industries are increasingly clustered in geographically dispersed locations...

2019

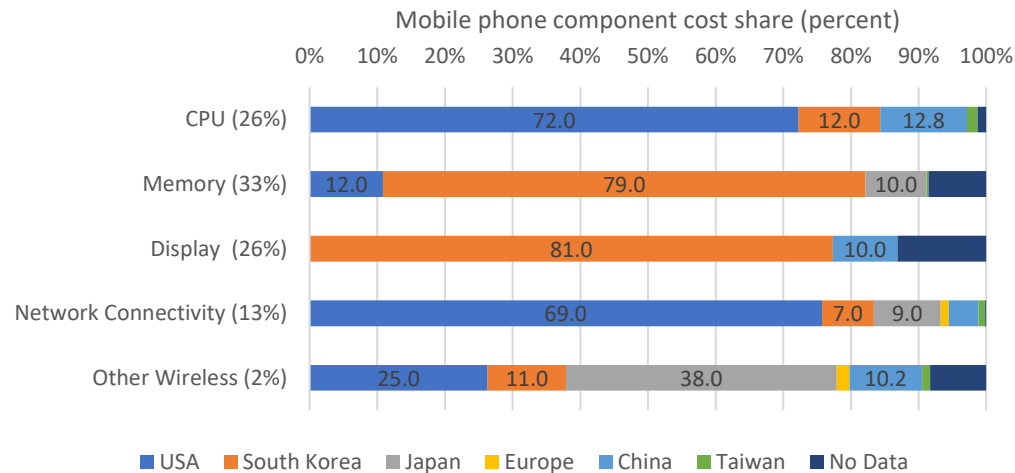


Figure 1: Supply chain of mobile phone handsets before 2012 (top panel) and after 2017 (bottom panel)

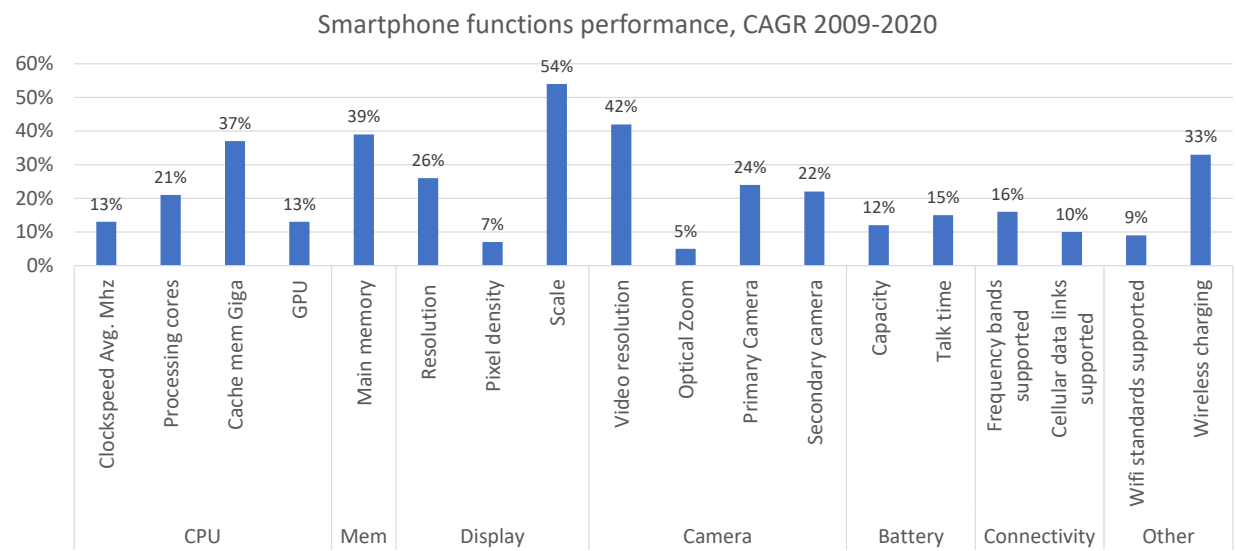


Table 2: Geographic clustering in mobile phone production, by function classes

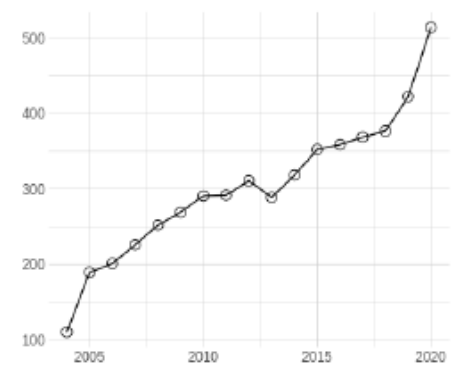
Mfun	<2009	2009:2012	2013:2017	2018:2020
1 Apps and Baseband	0.72	0.82	0.79	0.83
2 Camera	0.46	0.32	0.53	0.98
3 Display/Touchscreen	0.28	0.47	0.40	0.77
4 Memory	0.43	0.53	0.52	0.65
5 Radio Frequency / Power Amplifier	0.41	0.44	0.49	0.67
6 Wireless Module	0.41	0.38	0.40	0.49

Notes: The table reports the HHI calculated for each function class f as $HHI_f = \sum_{i=1} s_{if}^2$ where i denotes supplier countries, and s_i is the market share of that country in the total value (cost share) of components belonging to that function.

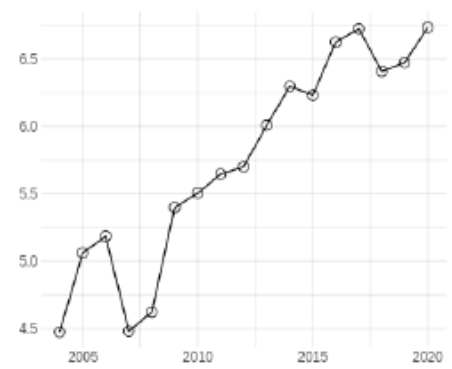
Meanwhile, performance improved greatly and both the average number of components and the average number of suppliers per device grew significantly



(a) Average number of components

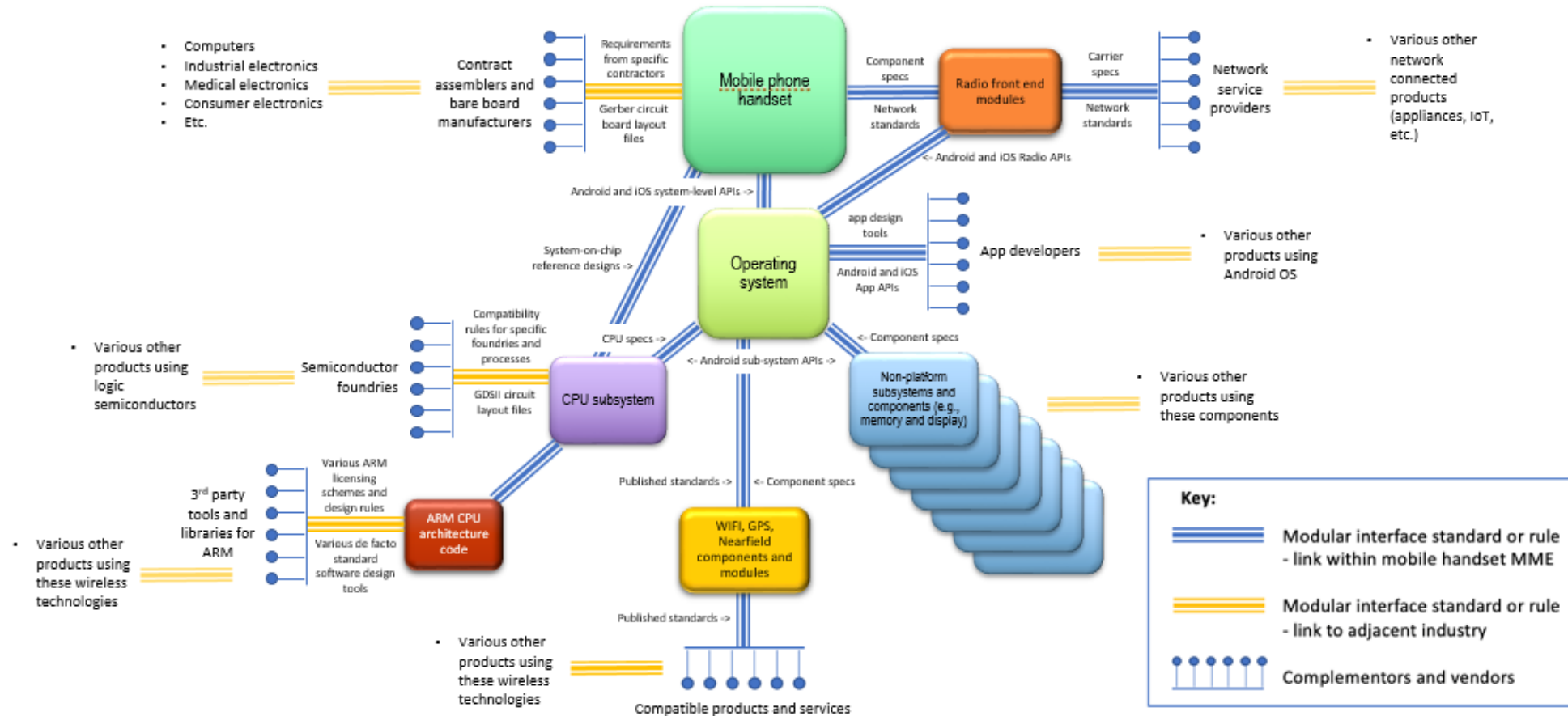


(b) Average number of suppliers country



Source: Thun, Taglioni, Sturgeon and Dallas, 2022 “[Massive Modularity: Understanding Industry Organization in the Digital Age – The Case of Mobile Phone Handsets](#)”. World Bank Policy Research paper 10164 and [VOXEU column](#).

These seemingly contradictory developments are possible if industries are organized in massively modular, decentralized systems



Source: Thun, Taglioni, Sturgeon and Dallas, 2022 “[Massive Modularity: Understanding Industry Organization in the Digital Age – The Case of Mobile Phone Handsets](#)”. World Bank Policy Research paper 10164 and [VOXEU column](#).

Partial decoupling might be costly and unattainable while full decoupling may be fatal, in massively modular industries

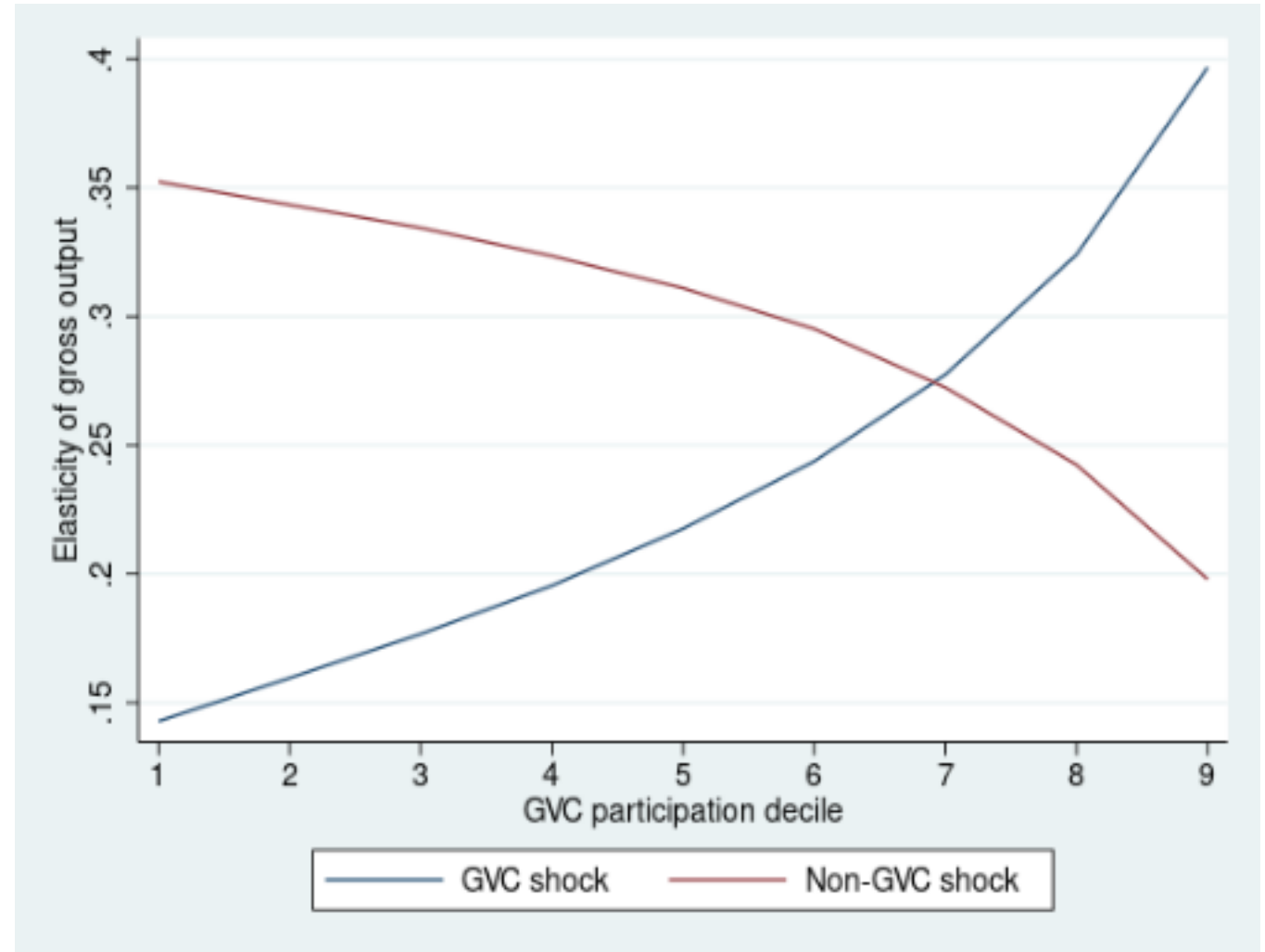
Partial import substitution - risks:	Full decoupling - risks:
<ul style="list-style-type: none">• High capital costs• Reshoring in one segment may create a spate of new import dependencies• Industrial segment selected by the policy maker may not be the correct one	<ul style="list-style-type: none">• Very high capital costs• Possible systemic failure• Loss of export scale/revenue (walled garden), including in complements
	<ul style="list-style-type: none">• Early obsolescence of lumpy, non-market-driven investments• Accelerated brain drain• Loss of product and system functionality
In both cases: <ul style="list-style-type: none">• Interruptions in ongoing collaborative technological learning across the MME, possibly including learning from global standard-setting activities and participation in open-source projects.• Interruptions in human resource development.	

4. Rethinking National Policy Responses to Riskyness



Output elasticity to GVC and non-GVC demand shocks

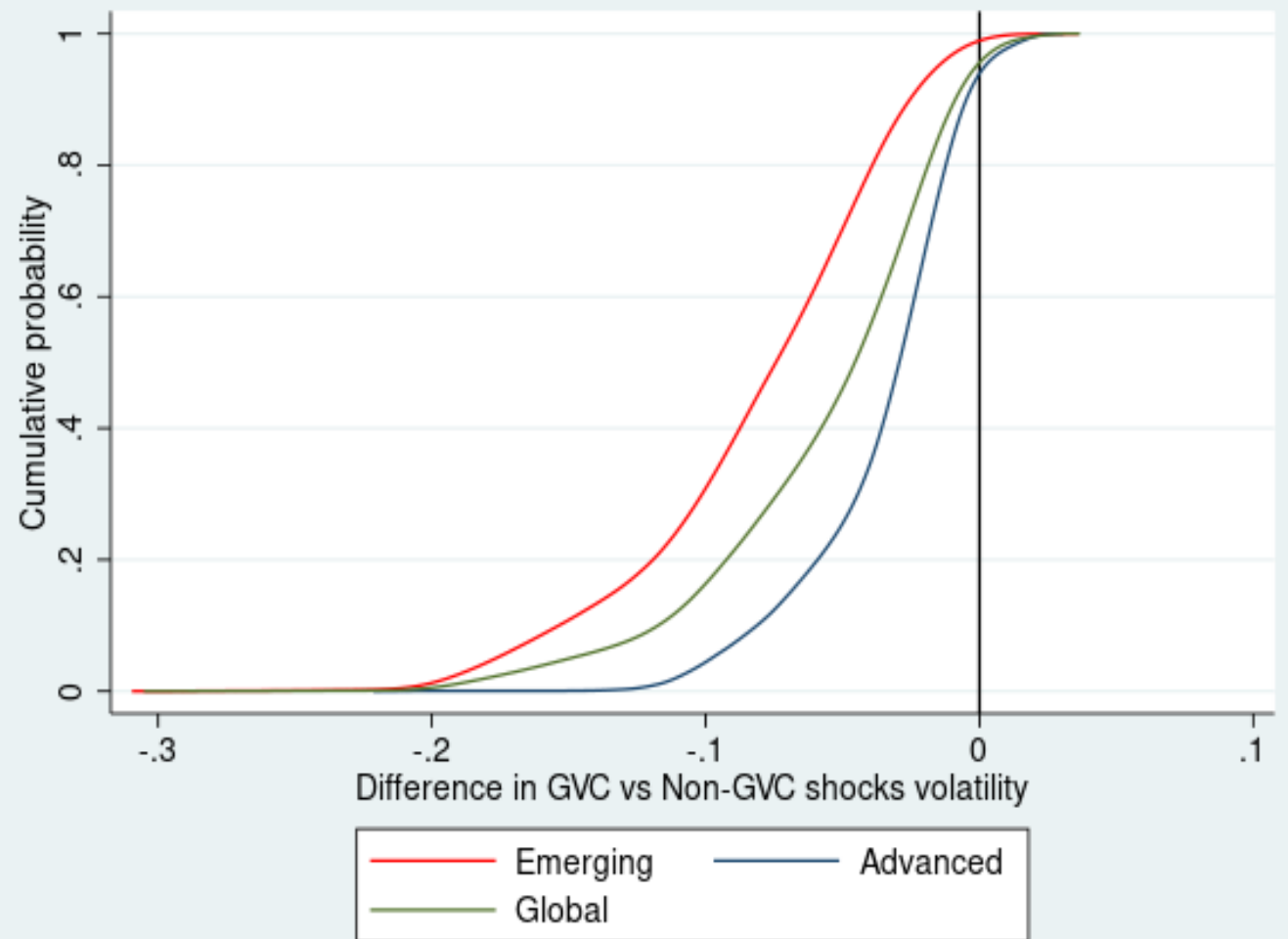
Even in a world where there is risk, it is not obvious that deglobalization is the optimal policy response



Source: Borin, Mancini, Taglioni ([World Bank 2021](#) and [VOXEU 2022](#))

Output elasticity to GVC and non-GVC demand shocks

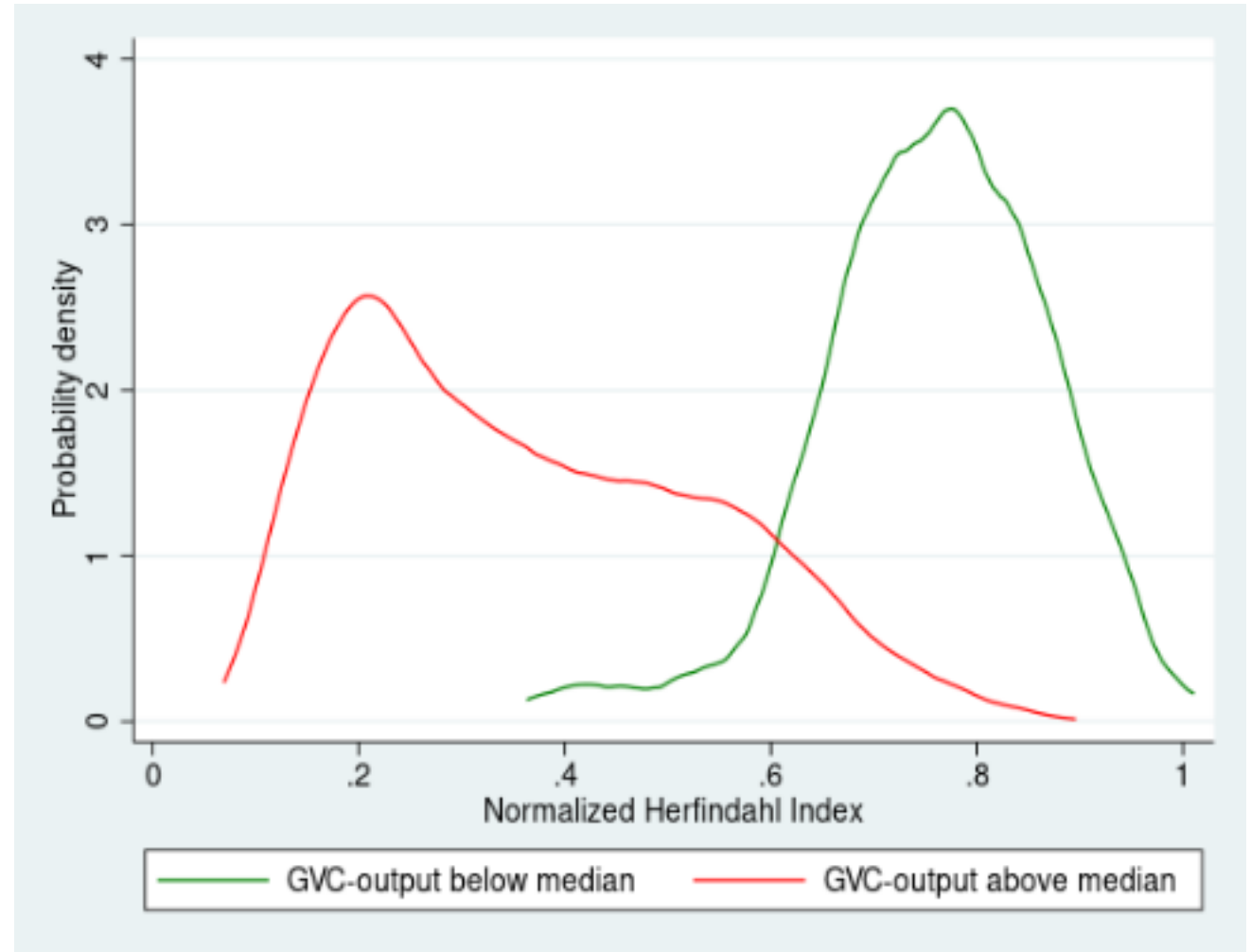
For more than 90% of country-sector pairs worldwide, output volatility generated by GVC-related demand shocks is lower than under alternative scenarios that post lower market differentiation.



Source: Borin, Mancini, Taglioni ([World Bank 2021](#) and [VOXEU 2022](#))

GVC participation is associated with greater market diversification

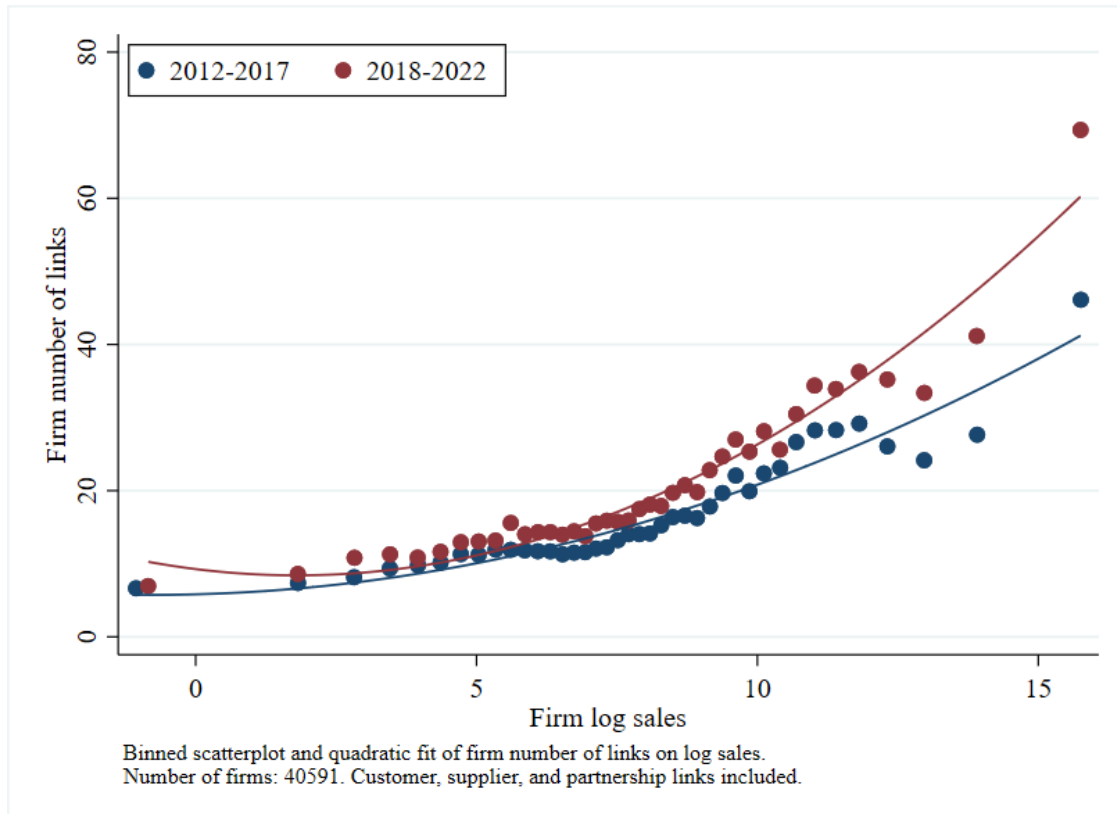
Normalised Herfindal-Hirschman Index (HHI) of final market concentration, by GVC participation intensity



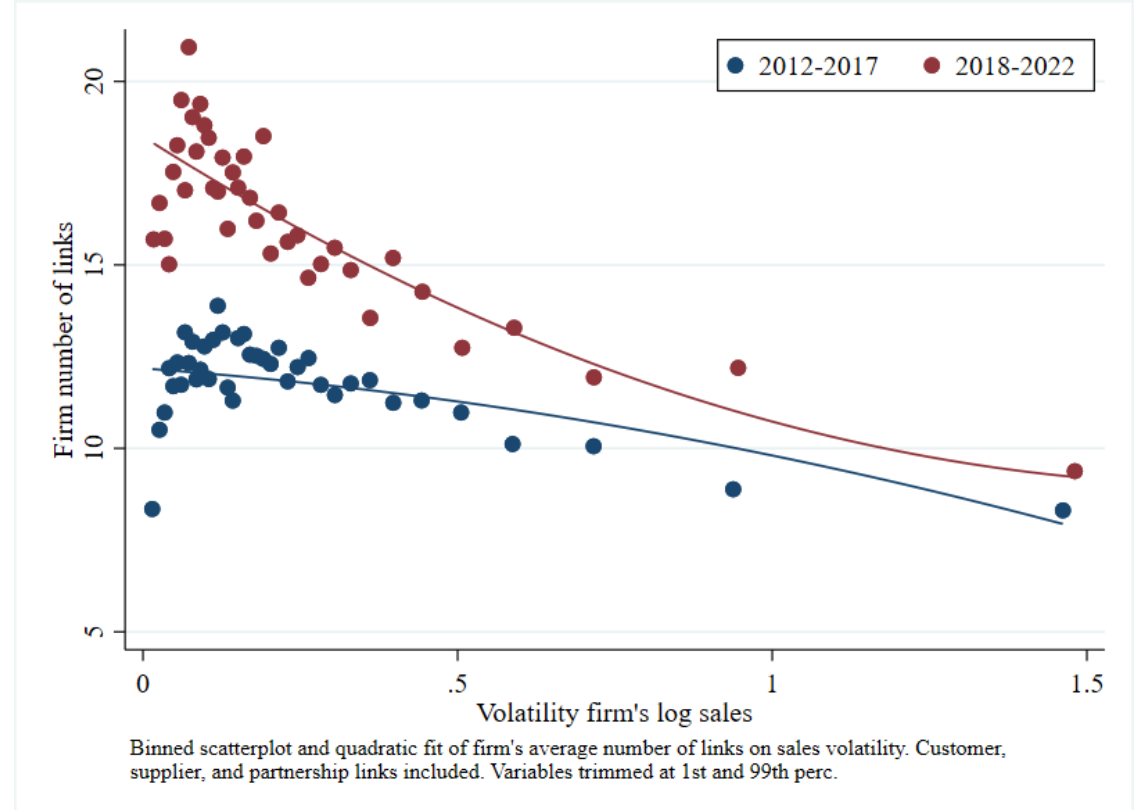
Source: Borin, Mancini, Taglioni ([World Bank 2021](#) and [VOXEU 2022](#))

More interconnected firms have posted better economic performance even in turbulent times

Firm log sales



Volatility of firm's log sales



5. Conclusions and Policy Implications

A large cargo ship is docked at a port. A yellow crane is visible on the ship's deck. In the foreground, there are stacks of colorful shipping containers (blue, yellow, and white) and a white truck. The scene is set against a clear blue sky.

INTERNATIONAL TRADE

Conclusions and Policy Implications



Contradictions in trade policy and international cooperation

- **Subsidies and industrial policy** on the rise...
- ...including to support the green shift.
- But countries are still **actively negotiating trade agreements...**
- ...and **liberalizing services.**



The “bystander” effect of the US-China Trade War

- **Trade reallocations** from the protectionist countries.
- **Trade to the rest of the world** also increased.
- **Country-specific demand and supply** factors matter.



Low feasibility and high costs of deglobalization

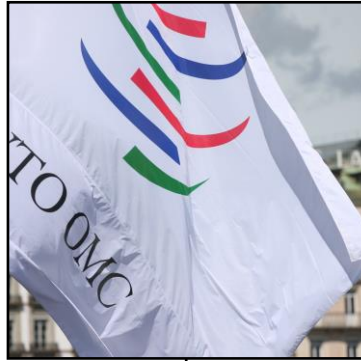
- **Modular, complex and decentralized** industries are hard to deglobalize.
- In specialized niches **there aren't suppliers to choose from.**
- **Full decoupling** may lead to systemic operational failure.
- **Partial import** substitution is both ineffective and too costly.



Optimal policies against risk in a global economy

- Even in a world of risk, **deglobalization, regionalization, reshoring and friend-shoring are not necessarily optimal policy responses.**
- GVC participation is associated with greater market diversification, and resilience.
- **Costs from lower market differentiation** need to be factored in.

Conclusions and Policy Implications



Policy implications

- Specialization and scale characterize the modern economy.
- These increase switching costs for firms, industries and countries alike...
- In a world of higher switching costs, the returns from coordination are amplified.
- Countries at all levels of development gain from trade strategies that increase scope for market diversification.
- Global adherence to a shared set of rules and a functioning global governance system help on both fronts.

A word cloud featuring the phrase "Thank You" in various languages, including English, Spanish, French, German, Italian, Dutch, and others. The words are arranged in a circular pattern, with "THANK YOU" being the largest and most prominent in the center. Other visible words include "gracias", "mercí", "danke", "dank u", "lakk", "dziękuję", and "terima kasih". The colors of the words vary, including shades of red, orange, yellow, and grey.

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