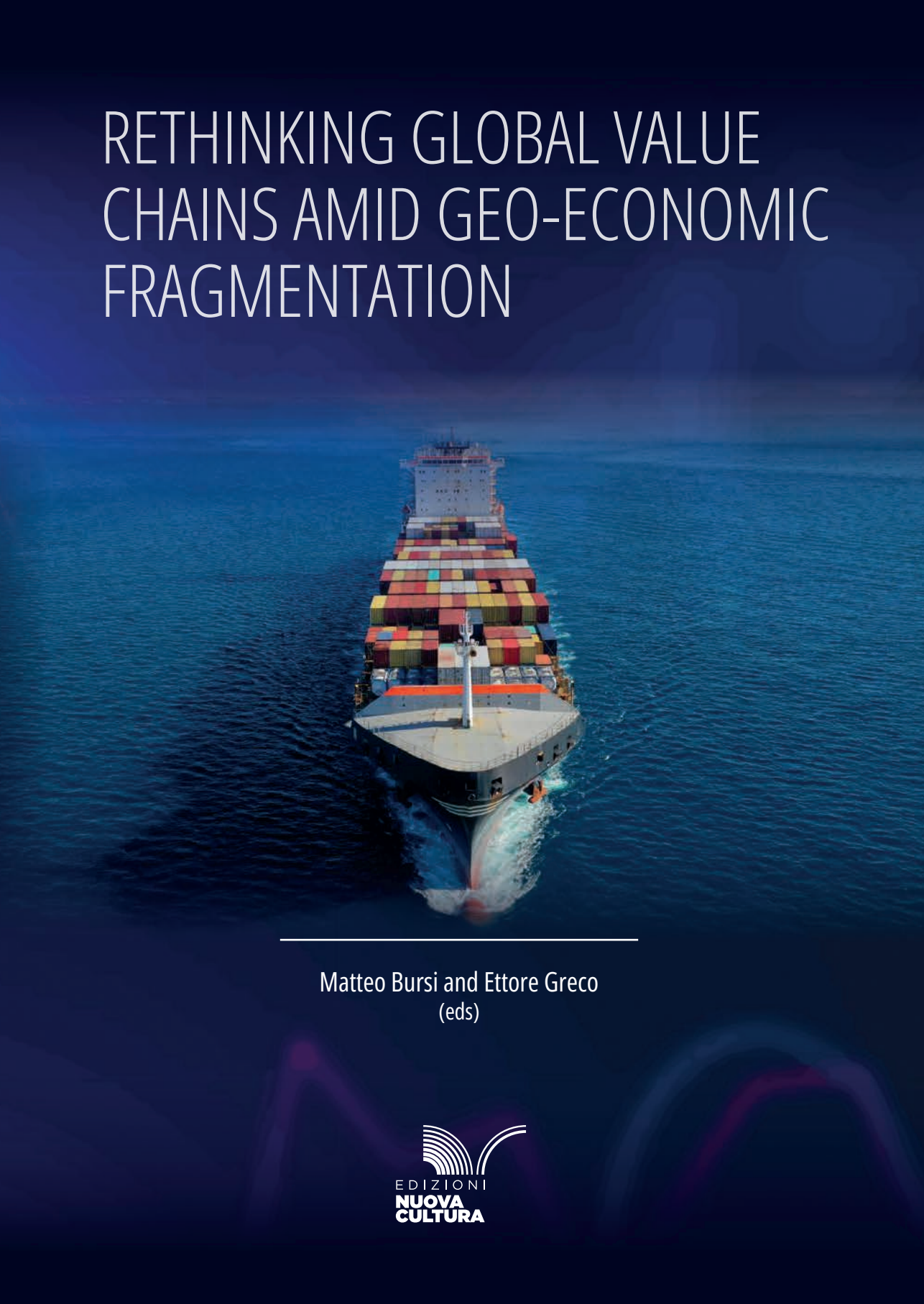
RETHINKING GLOBAL VALUE CHAINS AMID GEO-ECONOMIC FRAGMENTATION



Matteo Bursi and Ettore Greco
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edited by
Matteo Bursi and Ettore Greco

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Contributors

Axel Berger is Deputy Director (interim) of the German Institute of Development and Sustainability (IDOS).

Alessandro Borin is Head of the Emerging Markets and World Trade Division at the Bank of Italy.

André Brotto is Trade Policy Analyst at the Trade Monitoring Unit from the World Trade Organization (WTO).

Matteo Bursi is Research Fellow with the Multilateralism and Global Governance Programme at the Istituto Affari Internazionali (IAI).

Cristina Castelli is Officer at the Italian Trade Agency (ICE).

Enrica Di Stefano is Senior Economist in the Emerging Markets and World Trade Division at the Bank of Italy.

Alessandro Gangarossa is Director for Trade and Industrial Policy at Global Counsel.

Giulio Giangaspero is Senior Specialist Partnership and Promotion in the International Cooperation Department of Cassa Depositi e Prestiti (CDP).

Ettore Greco is Executive Vice President of the Istituto Affari Internazionali (IAI) and Head of the Multilateralism and Global Governance programme of the Institute.

Michele Mancini is Deputy Head of the Emerging Markets and World Trade Division at the Bank of Italy.

List of abbreviations

ADB	Asian Development Bank
ASEAN	Association of Southeast Asian Nations
BEC	Broad Economic Categories
BRICS	Brazil, Russia, India, China and South Africa
BRIS	Brazil, Russia, India and South Africa
CAGR	Compound annual growth rate
CN	Combined Nomenclature
CPC	Central Product Classification
EU	European Union
FDI	Foreign direct investment
FSR	Foreign Subsidies Regulation
GAFS	Global Alliance for Food Security
GATT	General Agreement on Tariffs Trade
GDP	Gross domestic product
GFC	Global Financial Crisis
GTA	Global Trade Alert
GVC	Global value chain
HHI	Herfindahl-Hirschman Index
ICT	Information and communication technology
IFD	Investment facilitation for development
ILO	International Labour Organization
IMF	International Monetary Fund
IPI	International Procurement Instrument
JETP	Just Energy Transition Partnership
LMIC	Low- and middle-income country
MFN	Most-favoured nation
MNE	Multinational enterprise
MRIO	Multiregional Input-Output
NAFTA	North American Free Trade Agreement

OECD	Organisation for Economic Co-operation and Development
OPEC	Organization of the Petroleum Exporting Countries
OSA	Open Strategic Autonomy
PGII	Partnership for Global Infrastructure and Investment
RoO	Rules of origin
SDG	Sustainable development goal
SME	Small and medium-sized enterprise
TFEU	Treaty on the Functioning of the European Union
TUFF	Tracking Underreported Financial Flows
UK	United Kingdom
UN	United Nations
UNCTAD	UN Conference on Trade and Development
US	United States
USGS	United States Geological Survey
WEO	World Economic Outlook
WTO	World Trade Organization

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Introduction

Matteo Bursi and Ettore Greco

The re-emergence of geopolitical tensions among major economic powers, the outbreak of the Covid-19 pandemic, and the eruption of the war in Ukraine have had such a profound impact on international trade that they have called into question the development of what, at the beginning of the 21st century, appeared to be the unstoppable process of globalisation. Over the past decade, long-established trade relations have experienced sudden disruptions, leading to a redefinition of economic relations among states and putting into question the economic theories on trade that had prevailed since the end of the Cold War. Cross-border restrictions on the exchange of goods and services have become a widespread practice, as have efforts to reshape supply lines in the pursuit of geopolitical goals.

In this context, the Istituto Affari Internazionali (IAI), within its strategic partnership with Intesa Sanpaolo, launched in 2023 a taskforce to study the recent evolution of global value chains (GVCs), a central topic in contemporary economics.

The expansion and consolidation of GVCs have been the foundation of the globalisation process as it has developed in recent decades. Understanding how GVCs have evolved is therefore essential to assess the nature of the ongoing reconfiguration of international trade relations. The taskforce, which included scholars from both public institutions and research centres, structured its analysis around the assessment of economic data, as well as the study of economic policy initiatives undertaken by multilateral fora that bring together the world's major economies.

This volume gathers the results of this multi-year research effort. Its five chapters cover the various lines of research of the taskforce: The first, authored by Alessandro Borin, Enrica Di Stefano and Michele Mancini – senior economists at the Bank of Italy –, examines the overall evolution of

globalisation throughout the past decades and discusses the possibility that, given the current trend towards growing geopolitical fragmentation, the world could have entered a phase of slowdown or even reversal of trade interconnectedness.

The second chapter, written by Axel Berger – deputy director at the German Institute of Development and Sustainability –, focuses on the actions implemented in recent years by the G7 to strengthen the sustainability of GVCs. The chapter pays particular attention to the initiatives undertaken under the British, the German, the Japanese and the Italian presidencies of the G7.

The third chapter, by André Brotto – trade policy analyst at the trade monitoring unit from the World Trade Organization –, examines the role of the BRICS group and the trade patterns consolidated among its members, focusing, especially, on China's dominant position within it.

The fourth chapter, by Alessandro Gangarossa – director for trade and industrial policy at Global Counsel –, analyses how the major shocks experienced in past years have forced the European Union to rethink its economic openness and adopt various measures aimed at reinforcing its economic security.

Finally, the fifth chapter, written by Cristina Castelli and Giulio Giangaspero – respectively, officer at the analysis and research office of the Italian Trade Agency and senior specialist for partnerships and promotion in the international development cooperation department of Cassa Depositi e Prestiti –, focuses on the Italian economy performance compared with that of other European countries, assessing their respective degrees of supply chain diversification.

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1. Globalisation: Past Trends and Future Challenges

Alessandro Borin, Enrica Di Stefano and Michele Mancini

In the second half of the 20th century, the global economy became more connected and interdependent as economies around the world integrated through surging flows of goods, capital, data, and people across borders. This process, known as globalisation, accelerated until the Global Financial Crisis (GFC) of 2008 and then flattened. Although a slowdown had been anticipated as most of the long-term drivers lost momentum, several major shocks in recent years have further decelerated globalisation. The episodes marking a turning point in economic integration were the 2016 Brexit referendum and the adoption of protectionist policies by the first Trump administration (2017–21). The 2020 pandemic and the Russian invasion of Ukraine in 2022 further fuelled anti-globalisation sentiment by highlighting the risks of excessive dependency on foreign suppliers. Finally, Trump's "Liberation Day" announcement on 2 April 2025 of a huge package of import tariffs and the events that followed pushed the uncertainty over the future of globalisation to unprecedented levels.

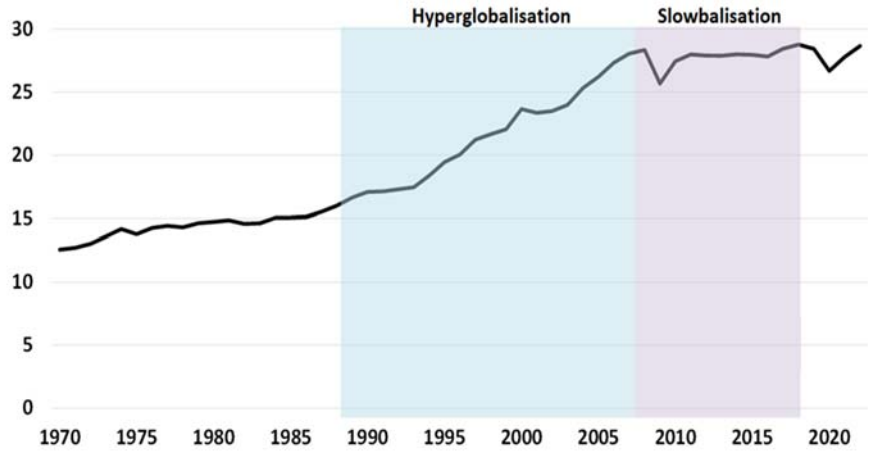
1.1 The surge of globalisation

The surge of globalisation in the second half of the 20th century was driven by three unprecedented factors (World Bank 2020). The first was the integration of major emerging economies after the fall of communist regimes in Eastern Europe in the early 1990s; added to this, at the same time China was opening up to market and India was implementing liberalisation reforms. Second, the information and communication technology

(ICT) revolution, coupled with advancements in transportation, appreciably lowered the costs of moving information and goods. Third, enhanced international cooperation, culminating in the creation of the World Trade Organization (WTO) in 1994 facilitated the liberalisation of global trade. Additionally, vital regional trade agreements (e.g. NAFTA, Mercosur and ASEAN) played pivotal roles, as did the expansion and consolidation of the European single market.

Lower trade barriers, improved transportation, and better coordination made it possible to parcel out production around the world via global value chains (GVCs), leveraging on variations among countries in their factor endowment and task specialisations. The subsequent rise in the trade of intermediate inputs pushed the acceleration of global trade. As a result, during this hyperglobalisation phase, global trade grew at a faster than global output (Figure 1). Specifically, Borin and Mancini (2015) show that most of the increase in the income elasticity of trade, compared to the historical average, is due to the rise in GVC-related trade, which is defined as the value of goods and services crossing more than one border (Figure 2A, see also Borin et al. 2021a). According to this metric, in 2007 GVC-related trade accounted for nearly half of all global shipments, up from just 30 per cent in the early 1990s (Figure 2B).

Figure 1 | Ratio between global trade and global output (%, constant 2015 US dollars)



Source: Authors' elaborations on World Development Indicators.

Note: Global trade is the average of exports and imports.

1.2 From hyperglobalisation to slowbalisation: Structural and cyclical drivers

The hyperglobalisation phase came to a sudden halt when the GFC erupted in 2008. Subsequently, the world economy shifted into a slowbalisation phase, a term coined by *The Economist* (2021). This period witnessed a stable trade-GDP ratio, a notable drop in foreign direct investment flows compared to pre-GFC levels, and a plateau in GVC integration. This deceleration can be ascribed to a blend of structural and cyclical factors (ECB 2016). Among the latter, investment sluggishness following the GFC and the European sovereign debt crisis all played a crucial role, as capital goods are very trade intensive (Constantinescu et al. 2015, Borin et al. 2018). Regarding structural factors, the decline stems from the fading impact of the one-off drivers that pushed trade expansion in the previous two decades, and from the fact that policies were becoming less supportive of economic integration.

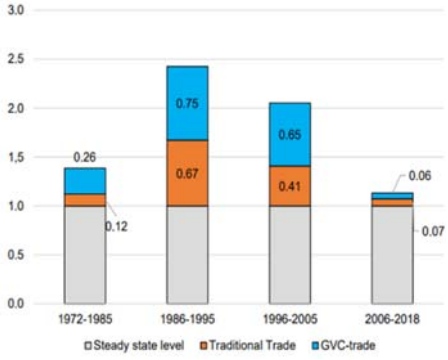
The hyperglobalisation era was sustained by unique events (Antràs 2020): as the high barriers to trade of the 1970s equilibrium gradually came down, production processes spread across multiple locations, and advanced economies became more integrated with emerging countries, especially China and other Southeast Asian nations (Giovannetti et al. 2020). As emerging economies built their wealth, wage gaps shrunk. In addition, long-term trends favoured capital investment thanks to the lower costs of automation, and global demand shifted towards less import-heavy sectors (Baldwin 2022a, 2022b). Finally, China's structural changes, including balanced consumption-driven growth and expanded value-added production, reduced the impact of trade on global GDP by lowering foreign content.

International economic integration was also held back by a shift in advanced economies which turned towards inward-looking policies, as policymakers became more receptive to the growing discontent around globalisation (Borin et al. 2021b). While its benefits were more evident in developing countries, in advanced economies in contrast several real or perceived distributional effects were being ascribed to globalisation (UNCTAD 2012). Specific examples include the decline in labour's share of income, especially for low-to-medium skilled workers, the surging incomes of the top one per cent, and the increasing income inequality.[1]

[1] In the period 1979-2007, the Gini coefficient associated with the distribution of income grew from 0.48 to 0.59 in the United States, and from 0.30 to 0.49 in China.

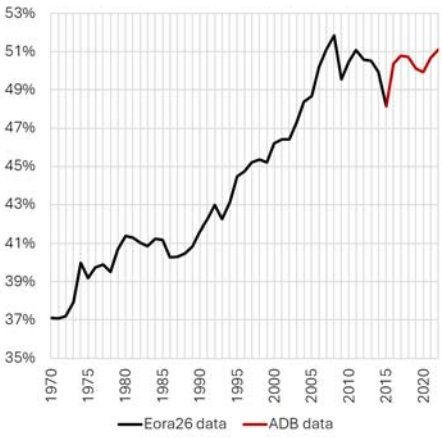
Globalisation was also singled out as the cause for lower demand for unskilled labour, a trend which actually originated mainly from the diffusion of information and communication technologies and automation (Helpman 2018, Acemoglu and Restrepo 2020), and from the economic insecurity caused by the GFC. As a result, protectionist measures were imposed with the declared goal of protecting workers, firms, and national technologies, as well as guaranteeing a level playing field with respect to increasingly aggressive foreign competitors, first and foremost China.

Figure 2A | Determinants of the ratio between trade and output growth



Source: Authors' elaborations on World Bank, OECD, IMF WEO, ADB MRIO data. For the calculation methodology, see Borin and Mancini (2015).

Figure 2B | GVC-related trade (share of total trade)



Source: Authors' elaboration based on Borin and Mancini (2015, 2019) using data from the Eora26 database and from the ADB database.

The UK's decision to leave the EU in 2016 and the protectionist policies enacted by the first Trump administration (2017-21) are examples of this broader trend. Both moves led to a notable upsurge in the number of trade restrictions and tariff levels, most of which were maintained by the Biden administration. Between 2009 and 2018, over 70 per cent of global exports of goods were subject to one or more new trade distortions and over 700 limitations to foreign direct investment were implemented.

1.3 Reshaping globalisation: The fine line between strategic autonomy and looming fragmentation

Against the background of rising anti-globalisation sentiment, the Covid-19 pandemic and the Russian invasion further accelerated the reshaping of globalisation. Geopolitical considerations increasingly influenced policymakers, who began stepping up calls for greater security in strategic sectors, and less dependence on foreign suppliers located in rival countries. The world's largest trading powers adopted specific initiatives, such as the EU's Open Strategic Autonomy (OSA), the US's initiative for building resilient supply chains and China's "dual circulation" strategy (ECB 2023). All these moves were meant to safeguard domestic economic and financial stability; at the same time, however, they've heightened the risk of global geoeconomic fragmentation, with contours and consequences which are very hard to predict.

When Covid-19 hit, the globalisation process had already plateaued, but the degree of integration in GVCs did not fall far from its peak (Figure 2B). As a result, pandemic-induced supply and demand shocks propagated throughout the complex global production network (Sforza and Steininger 2020, Brancati and Brancati 2020). Subsequently, during the post-pandemic economic rebound, supply chains were severely stressed by logistics and transportation snags, semiconductor scarcity and labour shortages, and other Covid-related disruptions (Attinasi et al. 2021).[2]

Despite these shocks, GVC participation turned out to be a source of resilience for many firms that initially were severely impacted (Giglioli et al. 2021, Borino et al. 2024). In Italy, for example, multinational enterprises were more resilient to the Covid-19 shock compared to non-international firms, thanks to their diversified presence in foreign countries (Di Stefano et al. 2022). What's more, on a global level, during the post-pandemic recovery, listed firms performed better if they operated in sectors that were more engaged in GVCs (ECB 2023).

The pervasiveness of the Covid-19 shock ignited an academic and policy debate over the optimal degree of international integration (Di Stefano 2021, Cerdeiro and Hansen 2022). Governments introduced measures to encourage firms to source more inputs domestically or to reshore (or at least "nearshore") production. In 2020, the Japanese government was

[2] These disruptions may have curbed the expansion of world trade by around 4.6 percentage points in 2021.

among the first to announce subsidies to incentivise diversifying or reshoring supply chains. In 2021, the US president, as a core part of the Buy American program to revitalise national manufacturing, issued an executive order mandating increased federal procurement of domestically produced goods. At the same time, a European Parliament study discussed the pros and cons of reshoring for the EU in the context of Covid-induced supply shortages (Raza et al. 2021).

The Russian invasion of Ukraine further heightened the risk of a geopolitical divide and a policy-induced reversal of international economic integration (Aiyar et al. 2023). In fact, the war and the sanctions on Russia affected international trade patterns, leading to sizable alterations in the geographical composition of global trade, curtailing exports and imports between Western countries and Russia (Sonnenfeld et al. 2022, Chupilkin et al. 2023). Tracking these changes in real time, after Russia stopped disclosing its customs data, meant looking at detailed mirror trade statistics of Russian partners, and building plausible counterfactual scenarios (Mancini et al. 2024). The economic consequences of the war on Russia prompted a generalised policy debate among top economists, both with regard to the immediate repercussions and the longer-term effects. As to the long-term consequences on Russian real income, the shortage of technology imports could be particularly damaging for its potential growth (Borin et al. 2023b).

In 2022, the US Inflation Reduction Act and the CHIPS and Science Act, the European Chips Act, and the Chinese state-backed subsidy program gave rise to even more geopolitical tensions and protectionist tendencies.[3] Some countries started to exploit interdependencies for strategic purposes, for example by limiting access to raw materials and critical technological components, as in the case of Russian gas supplies to European countries or US technology exports to China. This weaponisation of

[3] In Europe, the Commission has also promoted the OSA, i.e. the need to strike an appropriate balance between striving to achieve EU economic and financial autonomy, while maintaining its openness, global cooperation with like-minded partners and competitiveness (Council of the EU 2022). To achieve this objective, European countries must develop robust supply chains that can withstand external shocks (guaranteeing access to energy resources, semiconductors and rare earths) and boost the international competitiveness of European companies through technological innovation in strategic sectors. See ECB (2023) for more details on OSA.

value chains could raise inflation and trigger interruptions in production, with damaging repercussions on global output.

1.3.1 The potential consequences of geoeconomic fragmentation

The risk of geoeconomic fragmentation is higher than ever. While the economic consequences are hard to fathom, they could be wide ranging (Aiyar et al. 2023, IMF 2023, Bilotta 2022). New barriers to trade across politically defined blocks would lower competition and production efficiency and hinder the diffusion of technologies, diminishing trade-led income convergence across countries with negative repercussions on real income.

Financial markets would allocate global savings less efficiently and individual countries would have a harder time financing their debt, jeopardising their financial stability. Restrictions on cross-border migration would deprive host economies of valuable skills while curtailing remittances in migrant-sending economies. A decline in international coordination and multilateralism could also hinder the pursuit of the global public good, such as the fight against climate change and the energy transition (Rajan 2022).

Most analyses quantify the effects of fragmentation solely by examining the trade dimension, and in doing so they underestimate the full economic toll. But even focusing solely on trade, the potential costs are substantial. In fact, our simulations show that a 50 per cent drop in imports of goods that are more exposed to supply shortages could lead to a potential decrease in Italian manufacturing value added of as much as 6 per cent. (Borin et al. 2023a).[4]

Given the considerable potential influence of fragmentation on economic activity, comprehending its current extent and future trajectory is a particularly urgent challenge for policymakers. The evidence from a Bank of Italy survey conducted in spring 2023 indicates that approximately one-third of Italian companies perceive that their operations would be adversely affected by rising geopolitical tensions between China and Western economies (Bank of Italy 2024). What's more, half of these firms believe that the fallout would stem from heightened uncertainty rather than a direct deterioration in trade relations (Bottone et al. 2023).

[4] These simulations are conducted with a parsimonious framework that takes into account the limited substitutability of inputs in the production process but not the indirect effects due to supply chains (Bachmann et al. 2022).

In contrast to the aftermath of the GFC and the pandemic, the impact of persistent geopolitical tensions on firms' internationalisation strategies might lead to a more extensive retrenchment of globalisation. Notably, minimal reshoring occurred *immediately* after the pandemic. A Bank of Italy survey in fall 2020 reveals that Italian multinational enterprises (MNEs) experienced few foreign plant closures and many did not contemplate shutting down overseas facilities (Bank of Italy 2020). Similarly, only a minority of MNEs opted for reshoring, which was not broadly seen as a feasible solution (Mancini 2021).

The theoretical literature provides insights into why internationalised firms hesitated to shift production immediately following the Covid-19 outbreak (Antràs 2020). In a dynamic context, reshoring viability hinges on significant and/or lasting shocks to demand, trade, and foreign production costs (Di Stefano et al. 2022). Consequently, when firms perceive the shock as short-lived, they find relocating less attractive, opting instead to adapt their production chain along the intensive margin (reducing volumes) rather than the extensive margin (relocating specific segments of the chain). Hence offshoring and reshoring decisions are asymmetric, and sunk costs determine stickiness in the offshoring choice, triggering hysteresis in firms' internationalisation. In contrast, shocks deemed more permanent, such as protectionist policies (the tariff hike during the Trump administration) and trade uncertainty (after Brexit) can factor into a firm's decision to close foreign production facilities.

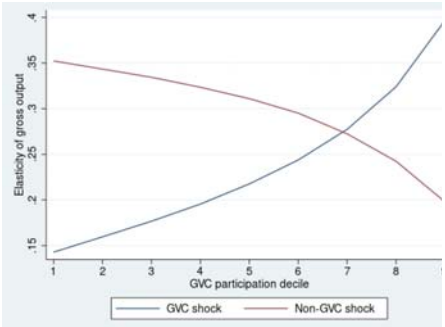
The pandemic was perceived to be a powerful but temporary shock; this could explain why most firms appeared to embrace a wait-and-see strategy. However, the current exacerbation of geopolitical risks may trigger more dramatic transformations. Recent survey data suggest that companies are indeed taking action to develop more regionalised supply networks. McKinsey (2022) conducted a three-step survey each year since May 2020 among senior supply-chain executives from several industries. Findings showed that regionalisation gained momentum in the third wave of the survey in April 2022. Similarly, more recent survey data collected by the Bank of Italy suggest that over the 2023-2024 period around 25 per cent of Italian firms substituted foreign suppliers with others located closer to Italy (or planned to do so), while around 60 per cent were diversifying their supplier base.

Promoting shorter, more regional supply chains has often been proposed to bolster a country's resilience to shocks. However, it's important

to note that while international integration can increase vulnerability to global shocks, it can also simultaneously decrease firms' susceptibility to domestic shocks by enabling more extensive diversification of input suppliers and market destinations (Eppinger et al. 2021).

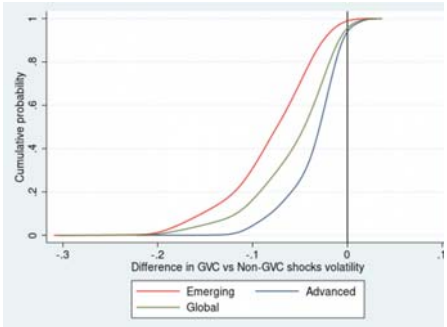
Borin et al. (2021a) show that greater participation in GVCs is linked to weaker responsiveness of output to demand shocks originating either from the domestic market or from direct trade partners. (Figure 3A, red line). By the same token, greater GVC participation is also associated with a higher elasticity of output to demand shocks originating further downstream in the supply chain (Figure 3A, blue line). Thanks to their indirect connections with foreign countries, economies deeply linked via GVCs can smooth out the impact of idiosyncratic shocks, reducing overall output volatility. Furthermore, for more than 90 per cent of country-sector pairs worldwide, the volatility of GVC-related demand shocks is found to be lower than that of non-GVC demand shocks (Figure 3B).

Figure 3A | Output elasticity to GVC and non-GVC demand shocks



Source: Authors' elaborations on World Input-Output Database. The blue (red) line reports the overall elasticity of gross output to GVC (non-GVC) shocks for different deciles of the GVC-participation distribution. GVC shocks are those affecting the demand of countries reached through indirect trade linkages, while non-GVC shocks impact domestic and direct partners' demand.

Figure 3B | Difference between GVC and non-GVC demand shocks variance



Source: Authors' elaborations on World Input-Output Database. We compute the difference between the standard deviation of the GVC and non-GVC shocks at the country-sector level and plot its distribution for emerging and advanced countries.

Therefore, reshoring may not be an effective strategy to enhance resilience as it would leave firms more vulnerable to domestic disruptions, as was the case with the local lockdowns during the Covid-19 pandemic (Bonadio et al. 2021). Instead, the regionalisation of value chains, through near-shoring

or friend-shoring, presents an intermediate profile of exposure to risk, as geographically (and geopolitically) closer countries are usually exposed to more similar (or highly correlated) supply and demand shocks. A better strategy to lower the overall risk exposure might be to diversify both the supplier and the customer base. This suggests that, aside from the trade-off between efficiency and resilience, firms and policy makers should also consider the trade-off between exposure to global and local shocks to evaluate the optimal degree of globalising and diversifying GVCs.

As noted by the International Relations Committee of the European Central Bank (ECB 2023), any policy intervention on supply chains needs to carefully balance its potential costs, in terms of reduced specialisation and diversification, and benefits, in the form of greater resilience (Baldwin and Freeman 2022). One major reason for a policy intervention could be the need to scale down vulnerability to supply disruptions in strategic industries where diversification options are intrinsically limited as suppliers or customers are either few or geographically concentrated. A second reason could be moral hazard type behaviour by private firms that do not fully internalise the impact of their own production-chain decisions on economy-wide risks. Notable industries which may require some form of policy action (such as stockpiling management or sourcing diversification) are medical supplies, food products, semiconductors and critical raw materials. A third reason relates to informational issues. Some GVCs are so complex that large firms may find it hard to fully control and monitor their own supply structure. Small firms, in contrast, may not have enough resources to investigate their supply chains in depth. For this reason, a lack of information on input sourcing could lead to misjudgements over the risks implied by a particular supply structure for firms of all sizes. Policies promoting information sharing at the international level and stress testing could enhance firms' risk evaluation and contribute to informed decision-making. Lastly, public policies should also consider the capacity of the private sector to self-adjust. Indeed, companies are already taking actions to make supply lines more resilient by revising their sourcing strategies.

1.3.2 The potential effect of recent US protectionist policies

International trade tensions have further intensified following the tariffs introduced by the US administration in early 2025 under the second Trump term. A worrying novelty of this time around is that barriers af-

fected not only China, but also like-minded trading partners such as Canada, Mexico, Japan and the European Union. The average effective duty levied on goods from the EU short up from less than 2 per cent to about 17 per cent in April 2025; Southeast Asian countries such as Vietnam, Indonesia and Malaysia are particularly hard hit. These measures have pushed average US tariffs well above the levels seen during the era of the Smoot-Hawley Tariff Act of 1930. Despite the temporary corrections agreed between the US and some countries, most notably China, the increase of the average US tariff remains considerable, as is the uncertainty over future developments.

The 2025 tariff hikes by the US on allied countries may have particularly profound consequences on the structure of globalisation by putting decades of multilateral trade cooperation at risk. Furthermore, the economic cost of higher tariffs is likely to be significantly larger today that in the past, as trade accounts for a much larger share of global GDP – by about 10 percentage points – and production is deeply interconnected across countries through global value chains. Even if agreements are reached to maintain tariffs at their June 2025 levels (i.e., well below those announced in early April 2025), global trade could still contract by approximately 5 per cent over the medium term (Conteduca et al. 2025). Tariffs would also introduce distortions in factor allocation and production location causing a profound reconfiguration of global value chains, ultimately resulting in a less efficient and more opaque trade system.

Moreover, while the tariffs imposed by the US administration have been broad-based, the intensity of the confrontation with China stands out. The current tariff rate on Chinese imports is the highest among all US trading partners. In parallel, the US is increasingly using its geopolitical influence to discourage third countries from engaging with Chinese firms, particularly in strategic sectors such as semiconductors and clean technologies. As a result, the economic fragmentation driven by geopolitical tensions may deepen, intensifying the risk of a more polarised and politically aligned global trading system.

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2.
Sourcing Commodities for China: What is the Real Purpose of the BRICS?

André Brotto

There are few, if any, discussions on the reconfiguration of global value chains that do not mention the main objectors of the current hegemonic order: the BRICS club. When he wrote his research note in 2001, Jim O'Neill could hardly have imagined that his predictions about a set of emerging markets would have so many repercussions more than twenty years later. At the time, his prospects were validated by social and economic aspects that, with hindsight, seem more like a fortuitous confluence of events, as discussed by Ciuriak (2023). In the final declaration of its 15th summit in Johannesburg, the heads of Brazil, Russia, India, China and South Africa announced the invitation of six new member states. Another 23 nations had formally expressed their interest in joining. Despite the countless critics and sceptics, the excitement about this expansion gives the bloc a second momentum to challenge the Global North. The agitation surrounding the expansion of the BRICS coincides with a period when globalisation has stalled and may be on the brink of a reversal. This has raised concerns within the international community about the possibility of further geopolitical fragmentation and deglobalisation of the world's economy.

Unsatisfied with the dominance of G7 countries on global forums, the original idea behind the BRICS was based on the hypothesis that the global investment constellation would change, thus increasing the importance of developing countries. Common sense suggests that achieving this goal is only feasible through a radical overhaul of the global system, with a new approach that reflects the wishes of the "global majority". Trade integration has been stable since the Global Financial Crisis (Cabrillac et al. 2016), heating up the debate on decoupling between blocs,

especially after the escalation of US-China trade tensions since 2018. The BRICS agenda has also evolved to include questions concerning strategic cooperation and dialogue in the area of economic security. The concurrence of these events created the false impression that blocs would be formed to enable developing countries to disentangle from old norms and achieve economic growth. The mere existence of the BRICS highlights this link. In addition, more policy space has recently been given to "geo-economic fragmentation", a term coined by Aiyar et al. (2023) to describe a policy-driven reversal of global economic integration that is often guided by strategic considerations. As the authors have pointed out, the problem with such fragmentation is that it would be suboptimal: hindering production processes from moving to the location where they would be most optimal, that is, based on comparative advantage and the free movement of goods and services. China, motivated by its WTO accession in 2001 and its astonishing growth rates, China has succeeded in its campaign to present itself as a natural leader for the Global South. Given the current situation, it can now choose between further engagement in multilateralism and seeking optimisation under free trade, or considering "friend-shoring" and commercialising mainly with countries that share similar values, minimising its exposure to the weaponisation of trade and securing access to critical inputs (Arjona et al. 2023, Attinasi et al. 2023). Ultimately, will the expanded BRICS serve as a catalyst for whatever direction Beijing decides upon?

This essay examines how current geo-economic fragmentation trends align with the deepening of BRICS trading relations, especially when it comes to two aspects: the role played by China as the club's assumed leader, and its latest expansion. Given the bloc's growing significance in the world economy, it is important for policymakers to grasp how its policies intersect with geopolitical issues and how this can shape future scenarios. It is concluded that China has a different trading pattern compared to the other BRICS members. While China expanded its sources and brought a wider variety of its goods abroad, it also created incentives through project financing and introduced discriminatory trade policies to encourage other BRICS members to focus principally on trading commodity goods. Section 1 analyses trade flows to show how intra-trade within the BRICS countries has impacted their trade profile over the last decade, whereas Section 2 focuses on the types of goods being traded and how

the new enlargement fits into China's strategy. Section 3 lists a few reasons that may explain these patterns. The final section offers a conclusion.

2.1 BRICS trade patterns

The Global South has undoubtedly become more relevant over the last decades, as BRICS leaders hoped back in 2009. According to UNCTAD (2023: 10), the share of South–South trade in global trade has continuously increased from around 17 per cent in 2005 to 28 per cent in 2021, and at least a fifth of these flows involve trade with China. As shown in Table 1, BRICS intra-trade flows also grew: 113.54 per cent in nominal terms in the 2010–2021 period.[1] However, when looking at the bloc's representation in each of its members' import baskets, China stands out. On average, the share of BRICS intra-trade flows for Brazil, Russia, India and South Africa (BRIS) has grown by 7.85 percentage points. China, on the other hand, has only managed to increase BRICS importance by 2.17 percentage points and, at the same time, raise its exports to the club to 94.87 per cent. Imports from China amounted to 81.20 per cent of BRIS imports in 2021, an increase of 2.37 percentage points compared to 2010.

Table 1 | BRICS intra-trade: 2010 vs 2021

	BRICS imports ($ billion)		China imports ($ billion)		World imports ($ billion)		China's share of BRICS imports (%)		BRICS' share of world imports (%)	
	2010	2021	2010	2021	2010	2021	2010	2021	2010	2021
Brazil	35.18	67.95	27.82	53.46	193.18	234.69	79.08	78.68	18.21	28.95
China	99.76	249.96	-	-	1,396	2,684.36	-	-	7.15	9.31
India	54.97	112.23	41.24	87.53	350.02	570.4	75.02	77.99	15.7	19.68
Russia	45.64	80.14	38.96	72.69	228.91	293.5	85.36	90.7	19.94	27.3
South Africa	15.82	26.5	11.5	19.23	83.1	93.44	72.69	72.57	19.04	28.36
BRICS	251.37	536.78	119.52	232.91	2,251.2	3,876.4	78.83	81.2	11.17	13.85

Source: UN Comtrade (2023).

[1] Trade data for 2022 is not available for Russia. Therefore, 2021 was chosen as the end point for data at the country level.

Following the latest supply disruptions due to the Covid-19 pandemic and Russia's invasion of Ukraine, BRICS economies have highlighted – in point 33 of their latest joint declaration – that enhancing the interconnectivity of supply chains to promote trade is one of their objectives. Countries around the world have been trying to coordinate their actions so as to anticipate these crises and diversify their sources of input. From a different perspective, increased intra-BRICS trade could corroborate the goal of diversifying and "de-risking" supply chains by establishing a network of "trusted partners". Nonetheless, as will be demonstrated below, the development of the group itself could lead to fragmentation. It might prove difficult to get the club to diversify its global supply chains, especially if the BRIS group becomes too reliant on a belligerent and unpredictable China.

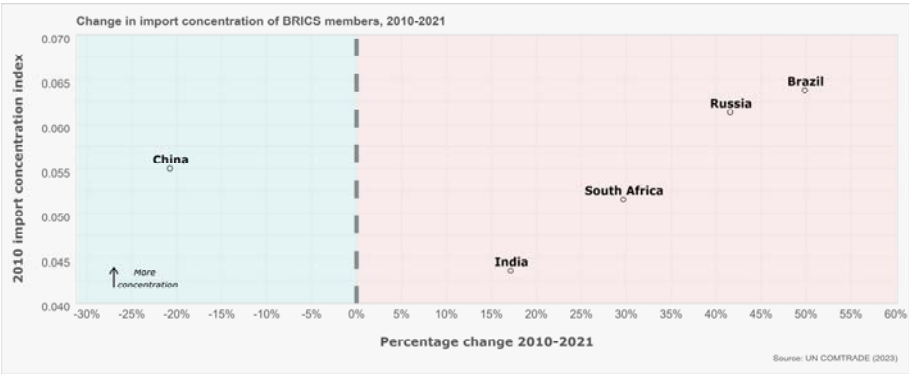
Analysis of bilateral trade flows in 2010 and 2021 provides further evidence that the BRICS' diversification goals go against diversification trends. To indicate diversification, a Herfindahl-Hirschman Index (HHI) for exports and imports was calculated for both these years and for each BRICS member,[2] a measure that has often been used in policy circles and in previous empirical research (Cadot et al. 2011, Imbs and Wacziarg 2003, Amin Gutiérrez de Piñeres and Ferrantino 1997). Comparing the HHI values between the two years demonstrates whether their pool of trade partners has become more or less diverse.

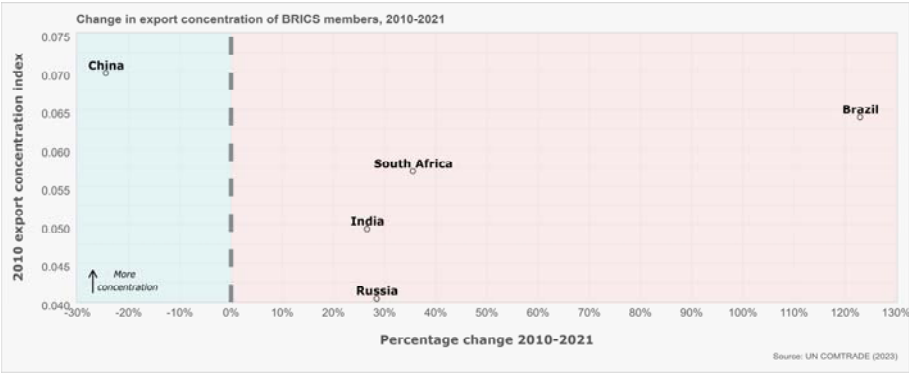
The extent to which trade diversification has changed over the last decade varies significantly between China and the BRIS. Figure 1 charts the change in import and export concentration on the vertical axis and the difference between 2010 and 2021 on the horizontal axis. The upper panel shows import patterns. For all BRIS economies, import sourcing has become much less diverse since 2010, with growth rates ranging from 17.13 per cent (India) to 49.95 per cent (Brazil). On the other hand, China's HHI index has fallen to 20.71 per cent, currently ranking it as the most import diverse member. China's diversification reflects a lower share as opposed to Japan (-5.5 percentage points, the highest reduction among all flows) and South Korea (-2.4 percentage points), two important regional partners. In fact, when looking at all bilateral import flows from

[2] The index is calculated as $HH_{i,t} = \sum\left(\frac{m_{ij,t}}{\sum m_{ij,t}}\right)^2$, where $m_{ij,t}$ refers to a trade flow – exports or imports – from country *i* to country *j* at period *t*. Put differently, this indicator is the sum of the squared market shares within an economy.

BRICS members that have lost at least 1.0 percentage point of representativeness with any BRICS member, 26 different flows are found, eight of which belong to G7 exporters. At the other end of the spectrum, the four highest share increases amount exactly to Chinese exports to the BRIS (an average increase of 6.61 percentage points), indicating a higher dependence of BRIS countries.

Figure 1 | China is diversifying as the concentration of BRIS members changes





The lower panel shows export patterns. There has again been a marked increase in the concentration of trade for the BRIS, in contrast to a decrease for China. Brazil experienced a significant increase of 122.9 per cent, mostly due to the 17.4 percentage point jump in the share represented by Chinese imports, which now account for over a third of total exports. Long-standing Brazilian partners experienced sizeable falls in supply: Argentina (-4.4 percentage point), Germany (-3.0 percentage point), the United Kingdom (-1.9 percentage point), Japan (-1.4 percentage point)

and the US (-1.1 percentage point). South Africa and Russia also see China as a more frequent export destination, with Sino-imports accounting for about a sixth of their export basket. India was the only nation to reduce China's share, cutting it from 9.2 per cent to 7.6 per cent (its third greatest fall), exhibiting yet another facet of this often fractious relationship. Interestingly, Indian firms send a lot more goods to the US (a 7.2 percentage point increase), which represented 20.7 per cent of their total exports in 2021. This suggests that efforts to strengthen the US-India partnership amid shared major concerns have been effective. When it comes to export patterns, India is somewhat of an outlier, though less than is usually assumed. It is often argued that the BRICS are so heterogeneous that lumping them together is pointless. Overall, in the present context, the increase in trade with China at the expense of Western partners – by hook or by crook – ties them together.

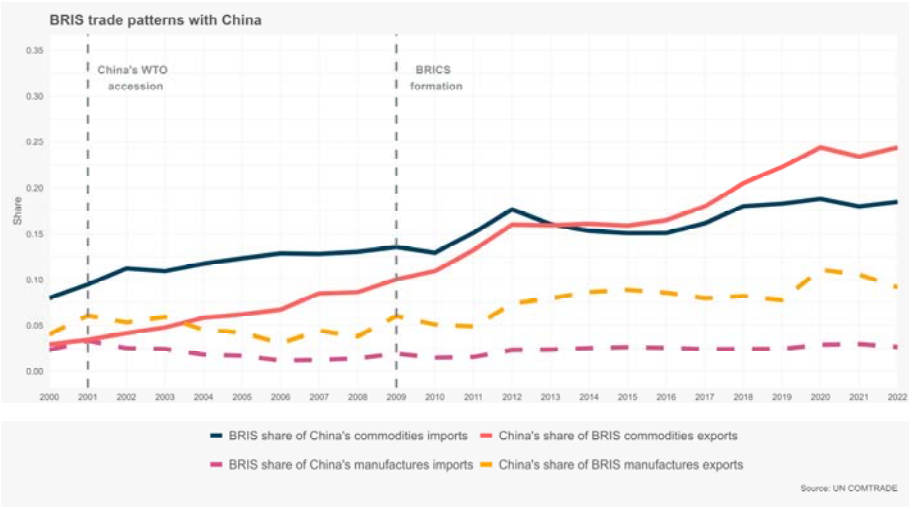
The takeaway from this is that BRIS countries have intensified their trading relationships with China. Some will argue that being aligned with an ascendant global power could be strategic. Yet, while increased specialisation can improve efficiency, relying heavily on a few trading partners may lead to concentrated supply chains. Disruption (due to natural disasters, political conflicts or pandemics) can severely affect production processes and revenue flows in the dependent countries, ultimately affecting economic growth. For several decades, the importance of diversification in development has been underlined (Imbs and Wacziarg 2003, Acemoglu and Zilibotti 1997). For example, the current tensions between China and Taiwan highlight the risk of geopolitically induced issues, even more so if one considers that a few Taiwanese firms account for over 60 per cent of the global semiconductor markets.

2.2 Chinese demand for commodities and enlargement

In order to fully assess dependencies, it is necessary to analyse the nature of the goods being traded, focusing on the value added to them. As shown by Hausmann and Klinger (2007), the type of goods that countries export is relevant. Trading goods with added value enhances economic development, job creation, technological progress and global competitiveness, making trade a crucial component of a nation's economic strategy. Failing to recognise this distinction can result in overlooking a key factor in BRIS trading patterns: as the workshop of the world, China uses vast quantities

of raw materials and other commodities, and the BRIS are major suppliers of these. BRIS countries have rich endowments of mineral resources, such as ores and petroleum, but also a vast agricultural sector, as in the case of Brazil. In 2021, 81.5 per cent of BRIS exports to China consisted of commodities. UNCTAD considers a country to be commodity-dependent when more than 60 per cent of its total merchandise exports consist of commodities. It is important to note that, although China is also a leading producer of commodities, it tends to keep them within its borders. Chinese exports to the BRIS mainly consist of manufactured products such as low-tech durable consumer goods (e.g. household appliances, televisions and clothing). The BRICS were responsible for almost half of global commodity production in 2021, giving these countries leverage over commodity investments and trade flows, especially when it comes to critical minerals.

Figure 2 | Please send us your commodities, but maybe not your manufactured goods



Source: Brotto (2023).

Figure 2 plots the evolution in shares of manufactured goods and commodities in China's and the BRIS' trade portfolios.[3] For 20 years, less than

[3] With regard to the analysis of Figures 2 and 3, commodities are defined as goods falling within Standard International Trade Classification (SITC) chapters 0, 1, 2, 3, 4 and 9, as well as chapters 667 and 668. Manufactured goods correspond to those falling into the remaining chapters.

a fifth of China's commodities have come from BRIS countries. Meanwhile, about a quarter of BRIS commodities have been exported to China, a fraction that has increased sixfold since China joined the WTO. Although there is variation across commodities based on geography (which will be demonstrated below), China has done a much better job of maintaining a diverse set of commodity suppliers than the BRIS countries have of distributing their commodity shipments across export destinations. Figure 2 also shows how little China sources manufactured goods from the BRIS and how little this has changed since China joined the WTO. The workshop of the world needs commodities from its BRICS partners, not competition for end products. This adds a further dimension to the potential for asymmetric leverage within the BRICS.

The latest development by the BRICS was to invite Argentina, Egypt, Ethiopia, Iran, Saudi Arabia and the United Arab Emirates (BRIS+) to join the club.[4] Enlargement is seen as an effort to bolster its international standing among Western alliances, strengthening its ties in the Global South. It reflects China's growing influence, which has sought to promote a debate about BRICS expansion since 2017, when it launched the BRICS+ concept,[5] a sort of pre-accession status that would help institutionalise expansion. Apparently, there were no objective criteria for selecting the countries to be added. If anything, not being an opponent of Beijing was one.[6] Fearing dilution of influence, India and Brazil tried to postpone the enlargement for as long as possible. Some have claimed that the invitations to the United Arab Emirates and Argentina, respectively, were largely influenced by the two countries in an attempt to gain support within the BRICS. The group has undoubtedly become more heterogeneous politically, economically and militarily, but not when it comes to commodity sourcing towards China. Figure 3, a replication of Figure 2 for BRIS+, highlights this point. Like former members, China's dependence on these countries remains at around 10 per cent, whereas the new

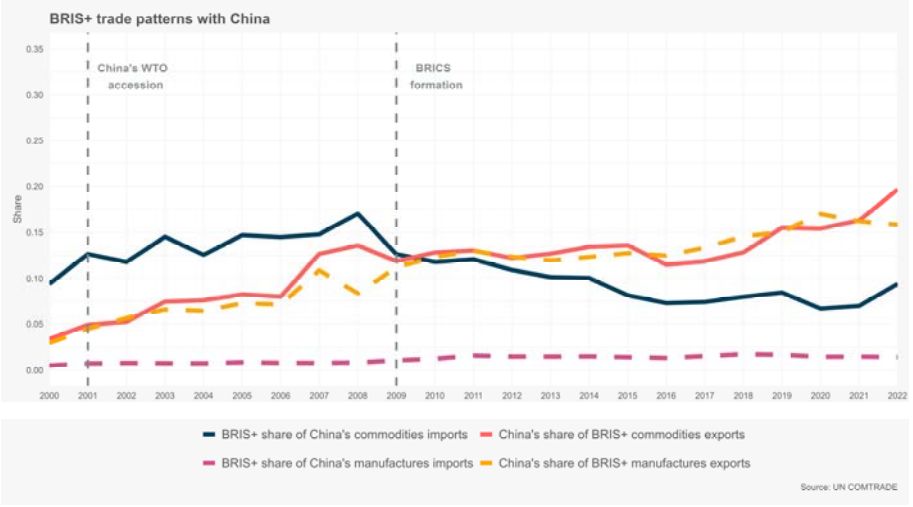
[4] Invitation is the correct term to be used here, as President Javier Milei withdrew Argentina's invitation to join the BRICS bloc in January 2024.

[5] This is probably the last enlargement that will allow countries to join on equal terms. Point 92 of the joint statement from the last summit speaks about a BRICS partner country model, which might limit the leverage of newer members.

[6] Many uninformed statements alleging the formation of an anti-US coalition ignored the fact that the United Arab Emirates and Saudi Arabia have American military bases on their territory.

entrants now supply around a fifth of their commodities to China, which is four times more than in 2000. Despite China's increased share of manufactured exports, Chinese firms have not imported more than 5 per cent of their finished goods from BRIS+.

Figure 3 | BRIS+, an opportunity for China to diversify commodity sources



Having BRICS members as a source of commodities does not necessarily mean that they only export them. Yet, regardless of the considerable differences in their portfolios, a similar pattern emerges: commodity concentration. Table 2 reports the top five exports to China in 2021, according to UN Comtrade statistics.[7] Not surprisingly, all products shown are forms of commodities. Regarding the BRIS, Brazilians and Indian exporters ship agricultural products and minerals, whereas Russia and South Africa focus more on hard commodities. On average, the first five trade flows alone account for 69.27 per cent of all exports to China. An interesting fact that highlights the inelasticity of demand for these inputs is that, for different reasons, two of the largest entries by value experienced significant price cuts in 2023: soy beans (Braun 2023) and Russian oil (Xu and Aizhu 2023). Nevertheless, the available monthly statistics do not indicate any reduction in the volumes supplied to counterbalance this decline.

[7] A list with the Harmonized System codes at six-digit level used to build these statistics is available upon request.

Table 2 | Top five BRIS and BRIS+ exports to China in 2021

Brazil			India		
Product	Exports ($ billion)	Share (%)	Product	Exports ($ billion)	Share (%)
Iron	39.12	35.60	Iron	4.74	16.84
Soybeans	33.12	30.14	Diamonds	2.55	9.07
Oil	15.36	13.98	Aluminium	2.51	8.91
Bovine meat	4.62	4.21	Copper	1.27	4.54
Wood pulp	3.88	3.53	Cotton	0.78	2.78
Total	96.10	87.46	Total	11.85	42.14
Russia			South Africa		
Product	Exports ($ billion)	Share (%)	Product	Exports ($ billion)	Share (%)
Oil	41.86	53.01	Iron	7.15	21.70
Coal	7.06	8.94	Platinum	5.13	15.56
Copper	5.13	6.49	Gold	5.05	15.30
Natural gas	3.69	4.68	Diamonds	4.46	13.52
Iron	1.48	1.88	Manganese	2.10	6.38
Total	59.22	75.00	Total	23.89	72.46
Argentina			Egypt		
Product	Exports ($ billion)	Share (%)	Product	Exports ($ billion)	Share (%)
Soybeans	2.15	30.11	Natural gas	0.66	38.69
Bovine meat	2.02	28.44	Oil	0.48	28.37
Sorghum	0.57	8.05	Beet pulp	0.10	5.68
Barley	0.50	7.03	Copper	0.07	4.29
Soybeans oil	0.39	5.52	Oranges	0.07	3.92
Total	5.63	79.15	Total	1.38	80.95
Ethiopia			Iran		
Product	Exports ($ billion)	Share (%)	Product	Exports ($ billion)	Share (%)
Oil seeds	0.19	51.43	Ethylene polymers	2.74	42.20
Coffee	0.06	16.62	Iron	1.10	16.85
Vegetables	0.04	11.48	Alcohols	0.57	8.75
Soybeans	0.02	5.44	Copper	0.47	7.23
Nuts	0.02	4.71	Nuts	0.38	5.84
Total	0.33	89.68	Total	5.26	80.87

United Arab Emirates			Saudi Arabia		
Product	Exports ($ billion)	Share (%)	Product	Exports ($ billion)	Share (%)
Oil	44.02	77.28	Oil	17.88	62.58
Ethylene polymers	3.25	5.70	Natural gas	3.30	11.54
Alcohols	3.00	5.27	Ethylene polymers	2.18	7.62
Hydrocarbons	1.20	2.11	Alcohols	1.36	4.75
Copper	0.61	1.07	Propylene polymers	0.62	2.16
Total	52.08	91.43	Total	25.34	88.65

Source: UN Comtrade (2023).

The BRIS+ export portfolio is even more concentrated: 85.12 per cent on average. Energy commodities are also well represented. Although Iran's oil is curiously not among their main exports to China, the three OPEC gulf producers invited to BRICS would add a further 23 per cent to the already existing 22.3 per cent of the global oil market, according to statistics of the International Energy Agency. The group would then have six out of the nine largest suppliers of oil. Egypt's natural gas supply can substitute Russia's, if needed. Iran's entry can lead to Chinese investments in their critical minerals sector, as the country holds the largest zinc reserves in the world and the second-largest copper deposit in its Sarcheshmeh mine.[8] Furthermore, the presence of alcohols, polymers and hydrocarbons on the BRIS+ list indicates a slightly higher value added to their exports, even though these are all still classified as commodities.

Another sign of geo-economic fragmentation in the commodities sector would be a higher concentration of Chinese import markets. Each good tells a different story, as it broadly depends on China's economic prospects. As economies develop, the required goods can change. For example, demand for housing would impact the iron market, whereas demand for electrification would boost coal imports. To address this point, Figure 4 shows how the shares of BRIS, BRIS+, G7 and Australia in the Chinese import market evolved from 2010 to 2021 for selected commodities in four different categories:[9] energy, chemicals and non-metallic minerals, food and other agricultural commodities and metallic minerals.

[8] Iran has long planned to increase production, but rigid economic sanctions on the country's main mining companies have hindered development.

[9] Australia is one of China's main commodity exporters. Grouping it together with other countries would obscure valuable differences over time.

Figure 4 | Changes in the countries in which China sourced commodities from 2010 to 2021, by commodity type

The top panel shows that, apart from natural gas, the BRIS group has increased participation in energy markets, especially thanks to Russian coal and oil. In the last decade, G7 participation in the coal market – driven by Japan's boosted production (Obayashi 2022) – has spiked. China is showing signs of attempts to diversify its oil markets, as most OPEC members have not increased their participation since 2010. Additionally, increased policy emphasis on environmental sustainability may shift the demand from energy commodities to renewables and low-carbon alternatives. The main insights from the chart on chemicals and non-metallic minerals are that BRIS+ increased their market shares of Ethylene polymers and that BRIS, reflecting Brazil's enormous reserves, accentuated its dominance in the granite sector.

The third panel shows changes in food and other agricultural commodities. Due to urbanisation and higher living standards, there has been a long-term movement of Chinese citizens to non-agricultural sectors, leading to a more limited domestic food production. BRICS members have filled the gap in some of these sectors. Russia (the group's only big producer) has not increased its participation in the production of fertilisers despite its tighter relationship with China. Instead, G7 countries have increased their exports in this sector. The group of countries invited to join the BRICS contains two important producers of sorghum (Argentina and Ethiopia), which helps to explain why they are becoming increasingly involved at the expense of Australia. Exports of Brazilian sugar and, especially, soybeans, used in the production of cooking oil and protein-rich animal feed, have gained a substantial share of their respective markets.

Lastly and perhaps most interestingly, the lower-right panel shows the evolution of shares for metallic minerals. Apart from iron, for which demand is largely met by an increase in domestic supply (Hoyle 2023), surges in BRIS shares were observed for every commodity. This does not apply to BRIS+, being practically invisible in the figure. South Africa stands out as it is mainly responsible for the increases in chromium, gold, platinum and – to a lesser extent – diamonds. Despite all the excitement surrounding rare earths, BRIS members cover less than four per cent of Chinese imports (Harmonized System codes taken from Morrison and Tang 2012). Yet, it is important to emphasise that an expanded BRICS group would control 72 per cent of the world's reserves and comprise three of the five countries with the largest reserves: China, Brazil and Russia, respectively. One factor explaining the limited share of the BRICS

is that, as shown by the United States Geological Survey (USGS) Mineral Commodity Summaries of 2021, China is the only producer that has managed to develop large-scale extraction. Total exports of rare earths to China amounted to just 1.2 billion US dollars in 2021.

2.3 What explains BRICS trade patterns?

Why can't the BRIS move up the chain and send more manufactured products to China? There are numerous reasons (e.g. productivity, industrial policies, etc.), which are beyond the scope of this piece, but it is worth looking at one of them: discriminatory trade policies. Protectionism can be costly for BRIS members. Figure 5 uses data from the Global Trade Alert to chart the total number of "hits"[10] from harmful measures implemented by China since 2010, categorised by the type of 2-digit Central Product Classification (CPC) level affected by the measures.[11] Export-related measures were excluded from the calculations, but it is notable that while China creates barriers to the entry of manufactured goods, it also imposes more export restrictions on critical minerals than any other member. The chart below shows that the number of active unilateral actions has spiked ever since the Global Financial Crisis started, threatening trading partners' commercial interests. Notably, the measures disproportionally affect manufacturing sectors, which account for more than half of the hits. In this regard, there is little evidence of Chinese solidarity with BRICS members. In October 2023, China hit the BRICS group a total of 16,020 times with inward measures: 8.75 per cent of their total hits.[12] Such data should be a cause for concern for BRIS policymakers. Still, as Evenett (2015) explains, this is an issue not only with China, but also with BRIS. The BRICS account for 30.5 per cent of beggar-thy-neighbour policies in force today worldwide, with a different commercial policy mix compared to the rest of the world, as subsidies to local firms play a bigger

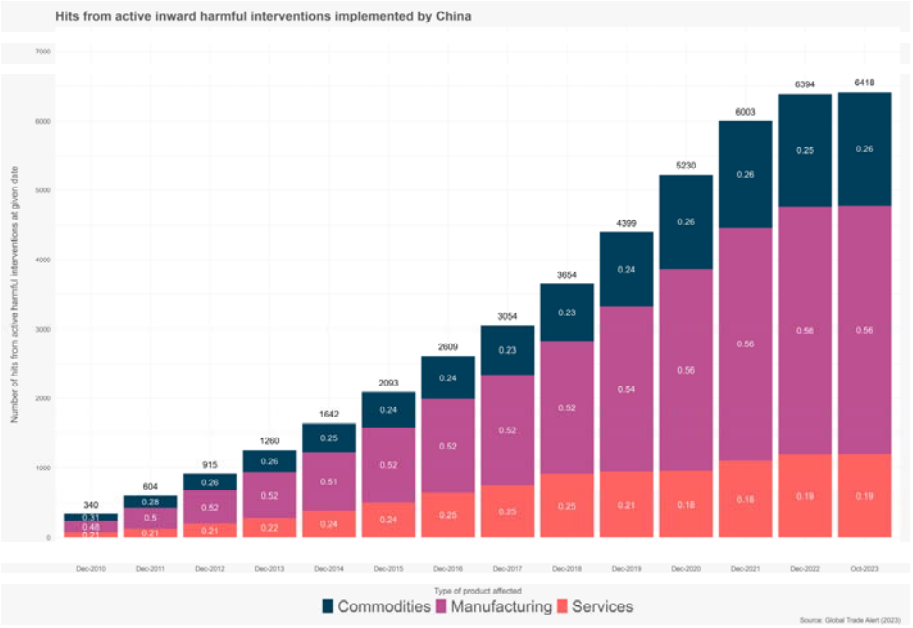
[10] Note that a single intervention can affect two types of sectors, hence the terminology "hits". If an intervention affected two sectors of the same type, it was only counted once.

[11] CPC sectors below 24 and sector 34 were considered commodities; sectors above 50 were classified as services; the rest as manufactured goods.

[12] While the number may seem small, the Global Trade Alert (GTA) methodology only considers a jurisdiction as being affected by an intervention if there are relevant trade flows for the products in question. Still, these barriers mostly apply to any firm trying to enter the Chinese market.

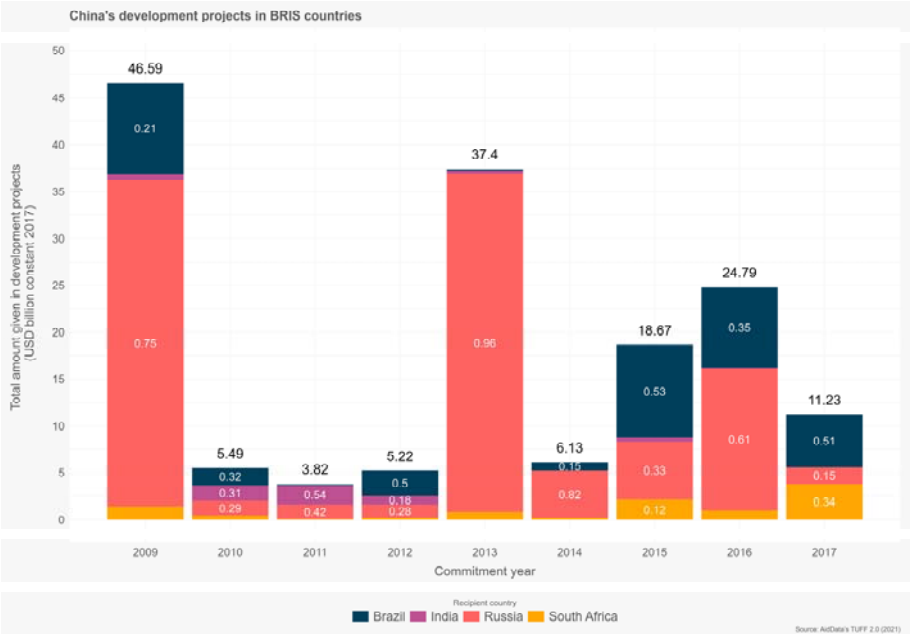
role (Brotto and Evenett 2023). Many of these affect each other. Perhaps it is time for them to sort out their own affairs as well. China has an opportunity to show leadership by exercising individual restraint.

Figure 5 | China protects its manufactured products relatively more



Why has the BRIS' relationship with China deepened so much over the last ten years, especially when it comes to commodity trading? Seen from the trade-pacts-are-all-that-counts viewpoint, the BRICS group never got its act together. Platitudes about trade cooperation were never followed through, and many would struggle to understand how trade flows have increased so much without formal agreements. This study challenges that assumption by drawing on data from China's development finance projects and the nature of deals concluded. It argues that China's growing economic prosperity has enabled it to act as a key source of finance for governments in developing countries, including fellow BRICS members – reshaping trade relations beyond conventional agreements. Based on extraordinary data collected through the AidData's Tracking Underreported Financial Flows (TUFF) methodology, Figure 6 plots the total amount of credit given to each BRIS country since the establishment of the BRICS between 2009 and 2017 (the last year for which data is

Figure 6 | Tighter BRIS-China relationships might be explained by development finance projects



available).[13] A total of 277 projects were financed by Chinese institutions. During these nine years, BRIS members received 159.3 billion US dollars. Russia accounted for almost 65 per cent of BRIS financing (over 100 billion US dollars), which made it the largest recipient among all countries; Brazil ranked fifth. Chinese banks have become major financiers of development, playing a central role in the country's attempt to secure access to critical inputs by negotiating "commodity-secured package deals", that is, the financing of infrastructure project loans in exchange for a line of credit secured by resource exports. Figure 6 does not distinguish between such contracts, but previous estimates from Bräutigam and Gallagher (2014) for loans between 2003 and 2011 suggest that the figure is around 50 per cent. The inclusion of the loans provided by the New Development Bank, commonly known as the BRICS bank, would inflate these numbers even further. This analysis offers only a partial view of the

[13] BRIS+ countries (not displayed in the figure) are also among the recipients. The most notable is Ethiopia, which secured several rounds of credit packages for infrastructure through its commodities, primarily sesame seeds.

situation, and jumping to hasty conclusions would be inadequate. Chinese lending policy towards the BRICS economies may not necessarily aim to gain leverage over the club by trapping partners in unsustainable loans. Still, it certainly offers more security in commodity markets, allowing China to gain windfall profits when commodity prices surge.

2.4 Conclusion

As strange as it sounds, China shows few signs of economic fragmentation, be it in imports or exports. China has managed to boost trade with the BRIS and other partners while keeping its dependence on them under control. Meanwhile, there has been a strong rise in BRIS exports to China, with flows being highly concentrated in only a few commodities. Whether intentional or not, these patterns underline a division between two types of BRICS members: China and the rest, thankful to be part of the club and to get valuable face time with the leader.

Two main problems are associated with such concentration. First, an increase in the extensive margin of exports is much more effective in raising per capita income, which is the ultimate goal of trade (Türkcan 2014, Giri et al. 2019). Second, focusing trade on commodities is risky. Commodities have high price volatility and low demand and supply elasticities. If fragmentation increases, these effects will be exacerbated. As noted by the Aiyar et al. (2023), smaller markets in a fragmented world would provide fewer buffers against commodity-specific supply and demand shocks, leading to larger price responses than under free trade. A decoupled scenario with higher volatility also poses risks to China, as BRIS countries – not bound by any specific contract – would be highly incentivised to switch allegiances if there were significant differences in commodity prices between blocs.

For now, BRICS is mostly symbolic, but it has invited five other countries to join China on the mission of exploring ways to limit the reach of the Global North, especially in terms of commodity trade. On the other side of this table, the new American administration has already shown – within the first 100 days of its mandate – that the US will isolate China. Trump's trade policy stance could disrupt the commodity markets by reshaping power structures, especially if one considers that China has been retaliating with export bans on key minerals and rare earths. Meanwhile, the rest of the club waits anxiously to see what alternative world order

Beijing will offer and what would be left for them other than supplying the Chinese market with low value-added goods. Depending on China means depending on its policy commitments, economic environment and political regime. In geopolitics, high dependence is tantamount to submission.

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3.
Beyond Resilience: The Role of the G7 in Increasing the Sustainability of Global Value Chains

Axel Berger

Global value chains (GVCs) are at the heart of our globalised economy. So it is not surprising that issues related to GVCs are a recurring topic on the agenda of the G7, a club governance format that has been addressing global economic challenges since the mid-1970s (Berger 2025). This chapter draws attention to the essential role the G7 can play in the policy process regarding the restructuring of GVCs. It argues that the many strengths of the G7 as an international forum enable the Group to shape the debate about GVCs in a highly contentious environment, both among G7 members and in their respective countries, as well as in an increasingly multipolar international system.

Discussions in recent years have centred around the intensifying vulnerabilities of G7 economies in the face of shocks transmitted through GVCs. These vulnerabilities have been exposed by the impact of the Covid-19 pandemic and Russia's war of aggression against Ukraine. Beyond these events, China has loomed large in the discussions among G7 leaders lately, with the debate fluctuating from appeals for economic decoupling to calls for strategies aimed at de-risking economic interdependencies. In these discussions, the focus has often been on increasing the resilience of G7 economies.

This chapter contends that in addition to finding ways to increasing economic resilience, the G7 also needs to reflect on the adverse effects of its GVC policies on third countries, in particular low- and middle-income countries (LMICs). Such a cooperation-focused policy approach (in contrast to merely a resilience-focused one) acknowledges the fact that G7

countries cause significant negative spillover effects which restrict the ability of LMICs to promote sustainable development. Such effects can be understood as undesirable external economic, social, environmental and security effects on other countries that undermine efforts to achieve sustainable development (Berger et al. 2023). A collaborative GVC policy could also serve for a broader shift in policymaking, aimed at addressing the widening trust deficit in international relations, in particular between the Global North and Global South, which became evident during the Covid-19 pandemic and in the context of Russia's war against Ukraine. Last but not least, the two approaches – increasing the resilience of G7 economies and promoting sustainable development in LMICs – can be mutually reinforcing, for example through the diversification of GVC interactions.

The following section will set the scene by drawing attention to the complex set of challenges underscoring the vulnerability of traditional GVC approaches that (over-)emphasise economic efficiency. Next, the chapter will reflect on the role of the G7 in international efforts to restructure GVCs. This section will also take stock of the positions and commitments with regard to GVCs of the last four G7 presidencies. The last section suggests a number of priorities and approaches that can be taken to shape GVCs in an inclusive way in line with the goal of achieving 2030 Agenda and the 17 sustainable development goals (SDGs) by the year 2030.

This chapter makes three key recommendations for G7 policy makers who want to shape GVCs in a sustainable and inclusive way. First, they need to realise that regulating GVCs is an increasingly complex undertaking, in particular if the goal is to enhance sustainability. That being said, a number of crucial synergies can be pursued, for example through attempts to diversify GVC interactions. Second, G7 policy makers should strengthen the multilateral institutions that govern GVCs. Using inclusive, development-oriented plurilateral approaches in the World Trade Organization (WTO) is a practical means to this end. Third, through complex interactions with other countries through GVCs, G7 members produce onerous negative spillover effects that hinder other countries, especially LMICs, from achieving sustainable development. Addressing this phenomenon must be part of a sustainable, cooperation-focused GVC approach.

3.1 Times are changing: The debate about re-structuring GVCs

The functioning of GVCs has received increasing attention recently mainly due to severe disruptions caused by two major events: the Covid-19 pandemic and the measures undertaken by governments, companies and citizens in response to this emergency, and Russia's full-scale war against Ukraine, launched in February 2022. The pandemic exposed the vulnerability of GVCs that had (over-)emphasised economic efficiency as a guiding principle for allocating production processes around the globe; the Russian war of aggression against Ukraine showed that dense economic integration is no safeguard for preventing major wars. Furthermore, Russia's aggression and the consequent sanctions imposed by many countries, including the G7, have led to major economic disruptions, particularly in the trade of energy commodities. For many observers, the global repercussions of the conflict serve as a stark warning of the possible repercussions of an escalation in the conflict between mainland China and Taiwan.

Against this backdrop, policy makers on both sides of the Atlantic are calling for de-coupling (a term that reflects the predominant sentiment in the US) or at least de-risking economic relations with China. In this new geopolitical environment, voices insisting on scaling back economic interdependencies with autocratic regimes such as China are growing louder. The GVC disruptions caused by wars involving major (autocratic) economies or geo-political rivalries are serious and underscore the fact that we need to take these risks far more seriously than previously anticipated.

In addition to these immediate security-related shocks, current models for structuring GVCs are also under threat from the long-term effects of climate change, biodiversity loss, and the pollution of the oceans. Added to all this are policy responses intended to de-carbonise economic activity and adapt to the environmental change that is taking place, and will inevitably continue over the coming years. GVCs will be affected not only directly by the effects of climate change (e.g. rising sea levels, more frequent extreme weather events, and economic activity being relocated due to changing environmental conditions) but also indirectly through the policy responses to these changes. These responses will likely have a profound impact on GVCs, for instance by promoting circular production and consumption processes, liberalising trade in environmental goods

and services, and introducing border adjustment measures to account for differences in greenhouse gas emissions along production chains.

Moreover, a changing political economy in many high-income countries is also leading to changes in the governance of GVCs. More and more often, the working conditions in global value chains or the environmental impact of globally dispersed production processes are coming under fire from civil society organisations, labour unions and consumer protection groups. In response, many multinationals are establishing voluntary sustainability benchmarks and adopting non-binding standards such as the United Nations Guiding Principles of Business and Human Rights. In addition, a number of individual countries such as the UK, France and Germany have begun introducing mandatory due diligence laws and regulations, as has the European Union. Whether these rather recent policy measures have the intended effects on human rights and labour conditions remains to be seen. However, they are already impacting the competitive position of partner countries and the ability of firms from these countries to participate in GVCs.

This cursory review of the main points of contention in recent GVC-related discussions underlines their complex nature. The current discourse on GVC governance has clearly moved beyond the notions of productivity buildups, efficiency gains and cost savings. As a result, the lines between economic, trade, security, social and environmental policy making are increasingly blurred. The same applies when we look at the levels of governance, the actors involved and the instruments used. GVC-related initiatives must operate on a different scale (from national politics to multilateral organisations) and include a multitude of actors (from governments in LMICs to global lead firms). In governing globally disbursed production processes, there is a rising reliance on a mix of formal regulatory and legal approaches, as well as voluntary standards and private governance mechanisms. Furthermore, the multilateral regulatory system underpinning economic interactions across borders (with the WTO at its centre) has come under pressure from the escalating intricacy of policymaking arising from overlapping policy goals (e.g. aligning trade and climate policy objectives), power shifts among membership and the use of more flexible negotiation approaches.

Enhanced international cooperation is essential to navigate this global economic governance system that is growing in complexity. Policy makers must deal with an evolving geopolitical environment that is characterised

by serious trade-offs, diminishing levels of trust among key actors and time pressure to enhance sustainability in GVCs. What's more, promoting sustainable GVCs requires a fundamental rethinking of narrowly defined departmental responsibilities, as only greater cooperation across policy silos can prevent superficial solutions that frame progress in one sustainability dimension as achievable only at the expense of the others. In this scenario, there is a deeper understanding of the need for stronger interministerial cooperation, both at national and international level. Moreover, promoting sustainable value chains means constantly managing trade-offs between the three sustainability dimensions, and between different country groups and generations.

3.2 The role of the G7

To facilitate the necessary international cooperation to enhance the sustainability of GVCs, informal club governance formats such as the G7 can play a crucial role. The G7 has long been the main forum for high-level policy dialogue among heads of state of wealthy countries to coordinate their financial, economic and security policies (Berger 2025). The G7 was replaced by the more inclusive and powerful G20 as the "premier forum for [...] international economic cooperation" (G20 2009) in the wake of the global financial crisis of 2007 and 2008. Yet despite this changing of the guard, the G7 continues to serve as an important forum to shape global economic governance. Like the G20, the G7 does not adopt decisions that are binding under international law. Its commitments are rather to be understood as declarations of intent to act jointly at international or domestic level.

Provided there is the political will to act together, the G7 can launch far-reaching efforts that address global challenges. For example, G7 countries rolled out the Just Energy Transition Partnership (JETP) with South Africa in 2021 as a novel instrument to support socially just energy transitions in middle-income countries. This blueprint is now being used to advance JETPs with additional countries including India, Indonesia and Vietnam. Other recent examples of major G7 initiatives include the Partnership for Global Infrastructure and Investment (PGII) which aims to fund infrastructure projects in LMICs, or the Global Alliance for Food Security (GAFS) adopted in 2022 in response to the food crisis that was triggered by Russia's war against Ukraine.

While lacking the economic heft of the G20, as a smaller group of states with a long history of cooperation and strong political, economic and cultural ties, the G7 has the potential to serve as an impactful and agile forum that can advance new initiatives and influence decision-making processes in the G20 and other multilateral organisations. Furthermore, these major economies are highly integrated into GVCs, consume large amounts of energy and resources and emit significant levels of greenhouse gas emissions and other environmental pollutants. This being the case, their actions matter a great deal for the advancement of sustainable development on a global scale. Moreover, as a leaders' forum, the G7 can help to bridge policy silos and develop more integrated policy initiatives that cut across ministerial mindsets. The G7 process also contributes to a better-coordinated and more coherent policy making through its reliance on comprehensive accountability processes, in particular with regard to an overarching set of development-related commitments (G7 2022b). Finally, the Group works closely with international organisations that often support the implementation of its policy initiatives as well as with so-called dialogue or engagement groups such as businesses, labour, think tanks and non-governmental organisations.

The agenda of the G7 has expanded substantially over time. Today, members not only discuss economic and financial aspects but also a broad range of sustainability-related questions including climate, biodiversity, health, gender equality and social issues. One of the key concerns of the G7 is the governance of GVCs (often cutting across different issue areas). To assess how the G7 frames questions related to GVCs today and what commitments and actions the Group is undertaking, it seems appropriate to briefly outline the main decisions taken during the last four G7 presidencies (from 2021 to 2024). The focus on this time period does not mean, of course, that the G7 did not adopt salient decisions on GVCs before then as well. For example, the 2015 Elmau Summit and the 2017 Taormina Summit homed in on the G7's commitment to responsible GVCs, which led to a series of initiatives by G7 members (G7 2022b: 51-55).

The G7 presidency of the UK in 2021 was dominated by the Covid-19 pandemic and its impacts on societies and economies. Beyond economic recovery, the heads of state and ministers called attention to the need to bolster the resilience of GVCs. So the G7 presidency established an Economic Resilience Panel of independent experts to develop policy recommendations to strengthen global economic resilience (G7 Panel on Economic

Resilience 2021). The communique of the Carbis Bay Summit stated that the pandemic exposed the vulnerability of today's GVCs to crises and shocks, in particular with regard to the supply of critical minerals or semiconductors. The Group also underlined the importance of open markets, transparency, competition and free and fair trade, supported by a reformed WTO.

Furthermore, the G7 has spoken out against the use of forced labour in GVCs and the need to uphold international standards, in particular in the context of relevant conventions of the International Labour Organization (ILO) (G7 2021). Without explicitly mentioning China, this issue is clearly linked to the international concerns about forced labour practices occurring in companies in that country's Xinjiang Region.

The G7 process under Germany's leadership in 2022 was dominated by Russia's full-scale attack on Ukraine and its global consequences, particularly in the areas of food and energy security. The G7 was one of the main international forums to coordinate financial and economic sanctions against Russia. Notwithstanding the need to respond to this immediate crisis, the German G7 process focused on making progress on climate and the environment, as reflected in the fact that the first two sections of the communique of the Elmau Summit were dedicated to these crucial issues. In this vein, one of the noteworthy outcomes of the German G7 presidency was the founding of a Climate Club that aims to fuel ambition in global climate change mitigation efforts.

Moreover, the G7 presidency invited five key countries of the Global South, namely Argentina, India, Indonesia, Senegal and South Africa, to the Elmau Summit. The G7 members and this group of democracies signed a Democratic Resilience Statement in support of democracy as an enabler of open public debate, civil society organisations and social inclusion (G7 2022b). Supply chains, again, were a major issue during the G7 process in 2022 following the tradition of the previous German G7 presidency in 2015.

The resilience of GVCs and the issue of forced labour were again highlighted in the leaders' communique in 2022. However, in contrast to the previous year, the contribution of sustainable GVCs and trade policies to climate change mitigation and environmental objectives was emphasised without adopting concrete commitments to advance these goals. Furthermore, G7 leaders pointed to the need to ensure that the net-zero

transition of economies would be accompanied by appropriate labour market policies to guarantee a just transition (G7 2022c).

Another key outcome of the German G7 presidency was the adoption of the PGII, which aims to close the global investment gap for quality infrastructure by mobilising 600 billion US dollars over five years. The leaders highlighted the importance of transparency, good governance and environmental, climate, and financial sustainability (to include debt sustainability). These principles make it clear that this initiative is designed as a strategic alternative for LMICs to China's Belt and Road Initiative.

Under Japan's leadership in 2023 and Italy's in 2024, the G7 placed an even stronger emphasis on economic resilience in GVCs than the previous presidencies, particularly by more clearly articulating its policy stance towards China. This is reflected in the fact that the leaders issued a statement on Economic Resilience and Economic Security in their communiqué from the Hiroshima Summit, as well as a Clean Energy Economy Action Plan which also focused heavily on resilient supply chains (G7 2023). Crucially, the G7 leaders called for de-risking, not de-coupling, as a strategy to enhance economic resilience and security. Specifically in the 2024 communique, they stated that their aim was de-risking and diversifying supply chains, "not decoupling or turning inwards" (G7 2024: 11).

While this implies a more cautious approach to address China's trade and industrial policies favoured by European countries and Japan, the G7 nevertheless very explicitly stated its concerns with regard to China's trade and industrial policy practices. Although China was described as an important partner in the fields of climate policy, biodiversity, as well as in the area of debt sustainability, the Group also made it clear that it sought to reduce vulnerabilities in critical supply chains and address China's "non-market policies and practices" that had distorting effects on the global economy. To this end, the G7 announced the establishment of a Coordination Platform on Economic Coercion.

The G7 also underscored the merit of multilateral trading rules and a reformed WTO to ensure a so-called level playing field for multinational companies. In its Clean Energy Economy Action Plan the G7 highlighted the contribution of trade policy in tackling climate change by accounting for the carbon embedded in traded goods, as an example. Furthermore, the importance of critical mineral value chains was stressed and the G7 insisted on the need to diversify supplies of such minerals and support local value addition in countries supplying critical minerals. In light of

this, the G7 announced a new partnership with LMICs as suppliers of critical minerals through the PGII to build the necessary high-quality infrastructure.

This overview of the G7's discussions and commitments related to GVCs during the past four presidencies reveals that the focus is predominantly on resilience, specifically the resilience of the G7 economies in these very countries. But this one-sided emphasis obscures the potential synergies between resilience-oriented strategies and policy initiatives aimed at improving the access of partner countries to sustainable GVCs. For example, diversification (whether to avoid dependency on a narrow group of suppliers or to reduce reliance on autocratic or non-market economies) is a key element of a strategy to enhance resilience. Supporting local infrastructures, productive capacities or research and development in LMICs can be an essential ingredient of economic diversification in G7 economies.

Moreover, the G7 produces substantial negative spillover effects, including CO_2 or nitrogen emissions embedded in imports, excessive water consumption, and fatal work-related accidents in supplier companies. These unintended effects hinder sustainable development in LMICs. Mitigating such effects often hinges on how G7 countries regulate their GVCs. Against this backdrop, this article advances the notion that the G7 should shift from a resilience-focused to a more cooperation-oriented GVC policy. The next section proposes three ingredients of a cooperative GVC policy.

3.3 Policy recommendations

Embrace complexity and avoid short-term solutions – The process of advancing sustainability in GVCs is characterised by a high degree of complexity and numerous trade-offs between different sustainability dimensions and goals. For example, supporting ecological sustainability must not come at the cost of social development by exploiting workers or marginalising certain social groups. In the same vein, concentrating on the economic resilience of G7 economies without supporting industrial development in LMICs undermines the goal of diversification, which is a key ingredient of resilient GVCs. By ignoring this complexity and the associated trade-offs, G7 policy makers fail to take the necessary policy decisions to advance sustainability in GVCs. Promoting sustainable GVCs means

working across clearly demarcated areas of ministerial responsibility which also often defines the mandates of G7 working groups.

To boost sustainability in GVCs, the G7 should go beyond prioritising resilience and adopt a cooperation-focused approach that enables LMICs to effectively participate in GVCs. An obvious example for such an approach is the production of green hydrogen using renewable energy. Many LMICs can rely on favourable natural conditions, such as high levels of solar radiation and strong winds, to produce cost-effective green hydrogen. In order to realise this potential, they need foreign investments to provide the capital and technology-intensive production infrastructure. Also necessary are policies and frameworks that ensure that such investments do not lead to enclaves that focus solely on the production of green hydrogen for exports and are otherwise disconnected from the local economy. A comprehensive policy approach is needed, and should be supported by the G7, to ensure that green hydrogen is not only produced for export but also for local energy consumption. Furthermore, to guarantee local value addition, incentives are needed for linkages to local suppliers and the relocation of energy intensive production processes such as steel, chemical or battery production. Since the G7 countries are heavily subsidising the production of green hydrogen and are setting up energy partnerships with LMICs, they are in a prime position to pursue a cooperation-focused approach in the area of green hydrogen.

Strengthen the multilateral cooperation system – The transition towards sustainable GVCs requires new multilateral rules and reformed institutions. In this respect, the WTO, despite all its challenges, remains the leading multilateral organisation to govern global commerce. While WTO members (and in fact G7 members) are divided over the reform of the multilateral dispute settlement system, meaningful improvements are quietly taking place in other corners of the multilateral trading system. For instance, various WTO members have launched so-called Joint Statement Initiatives in 2017 on issues such as e-commerce; micro, small and medium enterprises; domestic regulation of services; trade and gender as well as investment facilitation for development (IFD). In particular, the latter track is crucial with respect to GVCs, since foreign investments and trade are increasingly complementary modes pursued by multinational companies to supply foreign markets and produce exports. The IFD Agreement was concluded in November 2023 on a plurilateral basis, including only a sub-group of like-minded WTO members. Plurilateral

approaches can be a viable option to update the rules governing global commerce where multilateral consensus is difficult to reach.

But plurilaterals pose challenges in particular for LMICs, which often lack the capacity to influence agenda setting, effectively participate in negotiations, assess the impacts of decisions or implement agreements. So it's no wonder that these types of accords are often pursued by high income countries, and not their smaller counterparts (Akman et al. 2021). In contrast to this general picture, the negotiations on the IFD Agreement offer an interesting example for a plurilateral agreement that is set up and driven by a group of LMICs (Berger and Chi 2025). Focusing on a set of practical matters that have the potential to help increase the transparency, predictability and efficiency of domestic-level investment frameworks to attract and retain foreign direct investments (FDI), the IFD Agreement addresses real-world challenges faced by many LMICs. The provisions are applied on a most-favoured nation (MFN) basis, meaning that although they only bind the signatories of the agreement, their benefits are extended to non-signatories as well. Furthermore, the text of the accord features a chapter on sustainability and special and differential treatment provisions; these include an institutional structure to identify the technical assistance and capacity building needs of LMICs to support them in implementing the agreement. The IFD Agreement offers a number of deep insights on how plurilaterals can be made more inclusive and development-friendly (Akman et al. 2023). G7 members should provide their political, technical and financial support to enable LMICs to implement this agreement.

The G7 can go a long way to help strengthen plurilaterals as instruments to develop multilateral rules that benefit LMICs' integration into GVCs. Specifically, the G7 provides a platform for high-level dialogue among a prominent set of high-income countries to advance discussions on plurilaterals. In the end, however, these discussions need to be moved forward in the more inclusive G20, which counts a number of countries that are more critical of the use of plurilateral agreements in the framework of the WTO. In order to address the concerns of LMICs, the G7 should reflect on a principle-based approach to plurilaterals that supports multilateralism by pushing for inclusivity and a development-oriented strategy; this would enable even the weakest members of the WTO to participate in such negotiations. Plurilaterals should be pursued using a multi-tiered approach, which, similar to the architecture of the Trade

Facilitation Agreement, takes into account the different development levels and capacities of countries. This implies that LMICs can self-designate which provisions they want to implement immediately, which ones after a certain transition period, or which ones only after the provision of technical assistance and capacity development support. This inclusive and development-friendly approach also implies a more flexible enforcement strategy that offers LMICs grace periods during which they are exempted from applying the WTO's dispute settlement and the establishment of early warning mechanisms. Last but not least, high income countries need to ensure that the capacities of LMICs to negotiate and implement plurilateral agreements are strengthened through technical assistance and capacity development (Akman et al. 2023).

Addressing spillover effects – The G7 needs to take into account negative spillover effects that hinder LMICs from achieving the SDGs. These effects are understood as undesirable external economic, social, environmental and security repercussions on other countries that can undermine efforts to achieve sustainable development (Berger et al. 2023). The G7 should be concerned about negative spillover associated with current production and consumption patterns. While high income countries tend to come out on top of the rankings measuring the domestic implementation of the SDGs, they fare poorly when it comes to their spillover effects on SDG implementation in other countries. Moreover, many G7 countries have already adopted due diligence laws to regulate human rights and environmental conditions in GVCs. Such laws have been adopted in the UK, France and Germany, for example. In addition, at EU level, the Corporate Sustainability Due Diligence Directive was adopted in 2024. There are also a number of sector specific policies intended to reduce negative spillover effects such as the EU Timber Regulation, EU Conflict Minerals Regulation and the EU Regulation on Deforestation Free Supply Chains.

While these laws and regulations are welcome efforts to address the problem of negative spillover effects, they often do not consider the perspective of partner countries. Without proper dialogue, or processes in place that ensure procedural fairness, any regulations or laws with transboundary impacts may be rejected by LMICs which experience the adverse effects of multinational enterprise activities. Furthermore, in addition to national or regional level policies and regulations, high income countries should support initiatives launched by LMICs. One such tool is a legally binding instrument on business and human rights currently

negotiated at the level of the UN. G7 countries should therefore not only reach out to LMICs when regulating negative spillover effects but also support multilateral rule-making more strongly.

3.4 Conclusion

This chapter deals with the question: What is the role of the G7 in the evolving discussion about restructuring GVCs?

After a brief recap of the general debate around this topic, drawing attention to geopolitical factors, recent crises, domestic level trends and the risks posed by climate and eco-systems changes, the chapter reflects on the vital role the G7 can play in shaping international discussions about restructuring GVCs. The G7 is a format of informal yet high-level policy discussion and coordination that brings together high-income countries. A review of the past four G7 presidencies shows that GVCs top the agenda of G7 leaders. However, their discussions often centre on boosting the resilience of G7 economies. The last section argues that a one-sided focus on resilience may not be sufficient, and a cooperation-centric approach may be more promising. The latter takes the complexities of advancing sustainability in GVCs into account by supporting partner countries' development, promoting multilateral rulemaking and addressing negative spillover effects that undermine other countries' attempts to implement the SDGs. The main message that this chapter conveys is that the G7 can't go it alone. The Group of 7 needs to govern inclusively and multilaterally, focusing on relations with Global South, and pursue an inclusive policy approach aimed at building bridges to the G20 process.

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4.
From Strategic Autonomy to Economic Security: Challenges and Impacts on Global Value Chains

Alessandro Gangarossa

The last three decades of global economic development have been marked by the proliferation and deepening of global value chains (GVCs), which have enabled unprecedented levels of specialisation, efficiency and wealth creation. The European Union has been a central actor and beneficiary in this process, championing the principles of open markets, regulatory convergence, and the free movement of goods, services, capital and people. Moreover, the EU's single market and its network of preferential trade agreements have facilitated the integration of European firms into complex international production networks, allowing them to source inputs and sell outputs across the globe with minimal friction (Baldwin 2016).

However, the foundations of this globalised order have come under increasing strain in recent years. The Covid-19 pandemic, which broke out in early 2020, was a watershed moment that exposed the vulnerabilities of highly optimised, just-in-time supply chains. Shortages of personal protective equipment, pharmaceuticals and semiconductors laid bare the risks of over-reliance on distant suppliers and the lack of domestic or regional capacity in critical sectors (Baldwin and Freeman 2020).

These shocks have catalysed a profound rethinking of the EU's approach to economic openness and integration. As a result, the concepts of strategic autonomy and economic security moved from the fringes to the centre of policy debates. This chapter will look at how the EU's economic security strategy has evolved to go beyond addressing economic coercion,

non-market policies and harmful trade practices. It will also explore the underlying aim of such evolution: to embed national security considerations in industrial policy, supply chain architectures and outbound investment decisions to prevent technology leakage.

First, the chapter will provide an overview and assessment of the political drivers behind the trade policy toolkit developed by the EU in recent years. The central argument of this section is that these instruments link existing commercial policy measures and powers with new triggers – defined as actions and practices by third countries deemed unfair or harmful. Therefore, deployment of the toolkit is conditional on circumstances in which third countries' actions undermine (or threaten to undermine) the EU's strategic autonomy, negatively impacting its economy and industry.

In particular under the von der Leyen European Commission, this policy toolkit has been expanded to encompass a wide array of circumstances that can be grouped into two types of situations: when the existing framework presents gaps that could be exploited by third countries, and when the EU does not have existing tools to deal with the emergence of unfair practices. This expanded scope also grants consequential powers to the European Commission, with noteworthy implications for firms' global supply chains and investment decisions. These impacts are exacerbated by the absence of precise definitions and transparent methodologies in the deployment of trade policy instruments, explored in this chapter in our discussion of the importance of the concept of "Union interest" and the risks of politicisation.

The second half of the chapter offers reflections on the prospects and challenges of economic security from the EU perspective, and how the economic security concept departs from the previous policy mindset. This shift is not unique to Europe; it mirrors broader trends in the United States, China and other major economies, where concerns about economic security, technological sovereignty and resilience have prompted a revival of industrial policy, export controls and investment screening (Pisani-Ferry 2023). This section of the chapter begins with a brief overview of recent attempts by Japan, the US and G7 to define economic security and identify the root causes and potential solutions and how they compare to the EU approach. The section outlines the three major hurdles facing the EU as it seeks to balance security and openness, economic security at EU level vs national interests and a limited political mandate.

The transition from support for economic globalisation to a doctrine of strategic autonomy and economic security has far-reaching implications for GVCs. Internationalised companies and investors now face a more complex and fragmented regulatory environment, fraught with new costs, frictions and restrictions in certain sectors and with some third countries. The traditional principles that governed GVCs – maximum flexibility, efficiency and the pursuit of comparative advantage – are being supplanted by a new logic that prioritises resilience, risk diversification and alignment with trusted partners. In practice, this means that firms must blaze a trail through a landscape of *selective openness* – where governments seek to restrict or scrutinise targeted sensitive sectors while keeping the rest of the economy open – and *strategic interdependence* – where countries accept a degree of dependency from partners they consider trustworthy and aligned, rather than seeking complete self-sufficiency or indiscriminate openness.

The main conclusion is that the ongoing transition is fundamentally reshaping the operating environment for internationalised firms, giving rise to new frictions, costs and regulatory complexities. All this is leading to a new equilibrium characterised by greater public intervention, selective openness and managed interdependence.

4.1 The EU's ambition to be strategically autonomous

4.1.1 The strategic autonomy trade policy toolkit

In the past few years, the EU has been working at length to develop or revise many of the tools of its commercial policy toolkit. Most of the ensuing measures were proposed (and adopted) during the von der Leyen Commission, under its very broad open strategic autonomy agenda. However, there are some notable exceptions that pre-date this period One example is the revision of the anti-dumping methodology in 2016, which marked a very practical, early shift in EU strategic anxieties around its external and commercial relations, as well as related policy approaches.

The evolving concept of strategic autonomy has been expressed in a range of policy innovations, also in the arena of trade. The most momentous of these changes lie at the nexus of trade policy, industrial policy and competition policy. The underlying motivations for this new approach to trade are largely geopolitical. In fact, due to the blurred lines between

economic and geopolitical interests, and between commercial and foreign policy objectives, the disciplinary effects of international trading rules have eroded (Hufbauer and Jung 2021) and acts of economic coercion have proliferated (European Commission 2021a).

Instrument	Description	Trigger	Adoption
Anti-dumping Regulation (EU) 2016/1036	Anti-dumping duties are levied on products imported into the EU market at a price lower than their normal value – i.e. the product's price sold on its domestic market or the price based on the cost of production and profit. The 2017 revision of the EU's anti-dumping methodology was largely driven by the need to address the lack of reliable data from the Chinese market during anti-dumping investigations. The new methodology permits the European Commission to construct a normal cost for a targeted export using undistorted costs from comparable markets or international benchmark prices, where these exist.	Dumped imports causing injury to domestic industry and lack of reliable data in non-market economies (China)	2016
Countervailing duties Regulation (EU) 2016/1037	Anti-subsidies duties are introduced on subsidised imports that distort competition in the EU market. Similarly to anti-dumping duties, countervailing duties are levied, if upon investigation, imports are proven to benefit from illegal subsidies, that the EU industry suffers from material injury linked to subsidised imports, and that the duties would be in the EU's own interest.	Subsidised imports that cause injury to domestic industry	2016
FDI screening regulation Regulation (EU) 2019/452	The EU foreign direct investment (FDI) screening regulation sets up a coordination framework and minimum requirements for member state authorities to establish screening mechanisms to vet foreign investment, in particular in critical/sensitive/strategic sectors.	Risks of predatory investments in critical or sensitive sectors	2019 (revision ongoing)
Revised EU trade enforcement regulation Regulation (EU) 2021/167	The revised EU trade enforcement regulation came into force in February 2021, prompted by the lack of a functioning WTO dispute settlement mechanism. The regulation centres around enabling the EU to suspend or withdraw concessions or other obligations under international trade agreements when third countries break international trade rules. The legislation allows the EU to enact these measures in case of a favourable WTO ruling without having to wait for a favourable WTO Appellate Body adjudication.	Countries seeking to exploit the WTO Appellate Body crisis to avoid EU countermeasures	2021

International Procurement Instrument Regulation (EU) 2022/1031	The International Procurement Instrument (IPI) gives the EU Commission a new tool to open up protected public procurement markets for EU companies in third countries. The IPI allows the Commission to restrict a non-EU company from the EU public procurement market, if that company's home country discriminates against EU companies in public procurement tenders. The IPI applies for countries that are not signatories of the WTO Agreement on Government Procurement, or countries with a bilateral agreement with the EU in place covering procurement.	Lack of reciprocity in terms of access for EU firms in third countries' public procurement markets	2022
Foreign subsidies regulation Regulation (EU) 2022/2560	The Foreign Subsidies Regulation (FSR) allows the Commission to pursue and penalise foreign firms operating in the EU that receive subsidies which are considered illegal or actionable under EU law (which broadly follows WTO law). The FSR creates a counterpart to the measures available to the EU under the WTO agreement pertaining to subsidies and countervailing measures and the EU State aid regime.	Distortive subsidies received by firms operating in EU internal market	2022
Anti-coercion instrument Regulation (EU) 2023/2675	The anti-coercion instrument aims to enable the EU to take a wide range of redressive measures in case of coercive economic or commercial actions by third parties against the EU or member states. 'Coercion' is defined as third country interfere in the sovereign decisions of the EU (or member states) and acts by adopting (or threatening) measures restricting trade and investment. The list of countermeasures includes new or increased customs duties, quotas, removal of intellectual property protections, sanitary and phytosanitary restrictions, removal of concessions in public procurement and FDI restrictions.	Economic coercion	2023

This toolkit has been developed and implemented with two main objectives in mind. The first is to address gaps in the existing policy framework. For instance, the Foreign Subsidies Regulation was enacted in the face of distortive effects of third countries' subsidies that benefitted operators in the single market, and the realisation that such effects were not being captured by the EU State Aid regime or the anti-subsidy regulation (which only covers imported subsidised goods). In a similar vein, the revision of the EU trade enforcement regulation emerged as a necessity to allow the Commission to deploy commercial policy measures in the context of a dysfunctional WTO Appellate Body.

Secondly, the toolkit (and most of the rhetoric behind it) was built to address imbalances in bilateral trade and economic relations or unfair trade practices (European Commission 2021b). The anti-coercion instrument is doubtless the most prominent example of the perception in Brussels of the need to equip the EU with unilateral trade measures to respond to third countries' actions deemed as limiting the EU's ability to take – or not to take – certain policy decisions. This legislation is characterised by the unprecedented way in which it links commercial policy measures with political decisions about what constitutes coercion and whether reacting is in the EU's best interests.

These tools certainly bestow an array of powers on the European Commission, but in many ways, they are not new. Most of the countermeasures envisaged by the latest instruments (tariffs or restrictions on goods, investments or services) were already among the options available to the Commission under EU trade law. The main novelty in the emerging toolkit is that existing powers are linked to new triggers: a third country appealing a WTO dispute into the void or coercive actions against the EU or EU member states resulting in the deployment of already available commercial policy measures.

More importantly, beyond their objective and legal basis, all these tools have a common denominator: They are meant to deter and disincentivise certain practices or actions. To explain, when faced with a more fragmented geopolitical landscape, the EU found itself forced to rely more on unilateral measures to deal with policies and practices perceived as unfair (Hoffmeister 2020). The revised EU trade enforcement regulation, for instance, opens the door for the EU to ratify a wide range of commercial policy measures against third countries (including moves that would affect services and investments). But the aim is to disincentivise countries considering appealing bilateral disputes at the WTO into the void, and to push instead for alternative multilateral dispute resolution mechanisms. Similarly, the anti-coercion instrument provides for the use of trade measures as a last resort, the idea being to build leverage in bilateral negotiations to put to an end to third countries' actions when they are deemed unfair.

4.1.2 From theory to practice: The risks of politicisation

Autonomous trade policy instruments, which confer substantial power to the European Commission, may lead to trade restrictions with third countries (Weiß 2023). This results in barriers and additional costs for busines-

ses, inevitably affecting GVC architectures and firms' investment considerations. Therefore, given their relevance, these toolkits must be used correctly to ensure that their deployment is based on strict parameters and clear definitions, as well as transparent methodologies and processes.

The EU trade defence policy finds its legal basis in international trade law – in particular the WTO agreements on anti-dumping and on subsidies and countervailing measures. The basic principles and provisions contained in those agreements are embedded in the EU framework not only through regulations but also by case law (Andersen 2009). In practice this means that the procedures, definitions and methodologies to initiate and conduct trade defence investigations or to impose anti-dumping or countervailing duties are confined to specific circumstances. For instance, EU Regulation 2016/1036 sets out clear criteria that must be met before the EU imposes anti-dumping measures on third-country imports of a product or set of products: corroboration that products are being dumped (i.e. the export price is less than the normal value); this action causes material injury to the domestic industry; there is a casual link between the two; and, in addition to WTO rules, the execution of anti-dumping measures needs to be in the wider EU interest. With the exception of the latter, the other criteria are not only clearly explicated but are also grounded in tight methodologies, reducing any leeway for more politically driven moves.

The "Union interest" test is an integral part of the anti-dumping and anti-subsidy proceedings. The basic regulations in this arena describe said interest as "an appreciation of all the various interests taken as a whole, including the interests of the domestic industry and users and consumers", noting that tariffs should not be levied if the Commission "can clearly conclude that it is not in the Union's interest to apply such measures" (European Commission 2016a, 2016b). The definition is intentionally broad. In particular, it entails a case-by-case assessment of different (and often conflicting) political and economic interests in the EU, as well as a judgment by the European Commission on the balance between positive and negative effects of the instruments in question on the Union interest.

A prominent example of the relevance of the Union interest test, and a timely one given the current economic policy focus on the clean tech industry, are trade defence measures applied on solar panels originating from China between 2013 and 2018. In its interim review specifically focussed

on Union interest, conducted in tandem with the expiry review, the Commission confirmed that removing the measures "would result in a significant increase of dumped imports" (European Commission 2023b) and therefore fail to protect the domestic industry from injury. Nonetheless, in an exceptional move, the Commission opted to extend the anti-dumping measures for 18 months only, instead of the traditional five years. While the Commission argued that the measures would not affect the demand, it also stressed that it would be "in the best interests of the EU as a whole to let the [anti-dumping and anti-subsidies] measures lapse. This decision also takes into account the EU's new renewable energy targets." (European Commission 2018) Importantly, in deliberations, the Commission also included wider policy objectives (such as renewable energy targets) as part of the criteria to determine Union interest.

The concept of Union interest has been extended to the traditional trade defence instruments and applied to other unilateral commercial policy tools adopted in recent years. For instance, both the anti-coercion and the foreign subsidies regulations embed the same concept in their frameworks, albeit in slightly different forms. The first envisages that in deciding on economic measures to respond to coercive actions from third countries, the Commission should take into account not just collateral effects, administrative burdens and costs to the EU economic operators but also wider Union interests. In practice, this means that even when there is demonstrable economic coercion, the Commission might opt to not propose redressive measures, or even withdraw measures that are in place, if they are detrimental to the EU's economy and its operators or if such measures conflict with wider policy objectives. Similarly, the foreign subsidies regulation introduces comparable provisions insomuch as it requires the Commission to assess whether the positive effects of a foreign subsidy, even if they are distortive, outweigh the negative ones. As for the anti-coercion instrument, this should not only factor in the positive effects related to economic activity in the EU market, but also "broader positive effects in relation to the relevant policy objectives" (European Commission 2022b) including environmental protection and social standards.

These provisions, precisely because they are broad in nature, are noteworthy because they give the European Commission considerable discretion in deciding to deploy (or not to deploy) certain commercial policy measures. Trade policy instruments are generally adopted by the European Commission through implementing acts, which means that the

process is subject to limited scrutiny from member states, and with no enforceable opposition from the European Parliament (Jinaru et al. 2019). Given the use of vague definitions in the primary legislation that formulates the Commission's comprehensive implementing powers, the EU executive enjoys substantial leeway in determining whether or not to roll out trade policy measures (Weiß 2023).

4.2 The emergence of economic security as the organising principle for GVCs

4.2.1 Embedding national security in supply chain policies

The rise of China as a technological competitor and the increasing use of economic statecraft by the United States underscore the need for the EU to develop its own capacity to act in the face of great power rivalry (Leonard et al. 2019). However, the importance of tightly demarcating the remit of economic security is evident in light of its policy implications at national as well as multilateral level. This is not only because it sets the stage for far-reaching policy instruments affecting GVCs, but it also fundamentally shapes the way in which countries operate in the global arena.

National security, which is a core prerogative of all countries, justifies a departure from obligations stemming from international treaties and laws if they undermine the ability of a given state to protect itself (Eisenhut 2010). This has very practical implications in the way countries operate in multilateral organisations, in bilateral agreements and in the EU, particularly in cases in which security clauses are "self-judging". This means that the contracting State reserves the right to non-compliance if compliance undermines its security, sovereignty or public interest (Schill and Briese 2009). Examples of security exemptions are recurring and can be found in WTO law (GATT Art. XXI), EU law (TFEU Articles 246 and 247) and in bilateral trade and investment agreements. While these provisions are often subject to an assessment of the good faith of the State that invokes said exceptions, they still offer an appreciable degree of discretion in determining whether to respect certain international obligations. As the boundaries between economic security and national security become blurrier, the way in which countries will seek to draft and execute their economic security agendas will potentially have serious implications for GVCs and the multilateral trading system as a whole.

A second material way in which an economic security agenda might affect GVCs is through the development (or revision) of policy instruments to address economic security risks and concerns. Export controls and investment screening rules are primary tools through which countries address their traditional security risks – usually related to dual-use concerns and critical sectors. With economic security moving up on the political agenda in different jurisdictions, the definition of risks and critical sectors will continue to expand and vary.

4.2.2 Emerging approaches to economic security

This shift is not unique to Europe; indeed, it mirrors broader trends in the US, the UK, Japan and China. Different interpretations of and approaches to economic security have been emerging in the past few years, but we can discern some commonalities as far as how different jurisdictions are trying to define this concept. Japan, also in consideration of proximity and economic integration with China, has been a forerunner in elaborating on what economic security means and what it entails. In its 2022 National Security Strategy, economic security is framed as a way to protect "Japan's national interests, such as peace, security, and economic prosperity, by carrying out economic measures" (Japan MoFA 2022). This in view of attempts by major economic powers, which are not market economies and do not share universal values, to use coercion, to undermine the international order and to exploit resource dependencies and vulnerabilities. Embracing national interests and economic prosperity alongside peace and stability, Japan's concept of economic security is broad, but it rests on two main pillars: first, the challenge to multilateralism represented by alternative political and economic governance models promoted through the use of economic coercion; second, the need to expand security considerations to areas "not necessarily deemed as security targets in the past", in particular supply chain vulnerabilities, critical infrastructures and advanced technologies.

A similar diagnostic comes from US National Security Advisor Jake Sullivan. He identifies as a core security concern, on one hand, the rise of non-market economic and political models, which present serious challenges to the core values of the multilateral trading system, and on the other, the loss of domestic manufacturing capacity in critical sectors (White House 2023). But the concept of economic security was already central to the US administration in 2017, exemplified by the US Department of Commerce 2018-

2022 Strategic Plan, which unequivocally links national security to economic security and industrial policy (US Department of Commerce 2017). Moreover, both the US and Japan are quite explicit in pointing to China as a core source of risk to their economic security.

The G7 Leaders' Summit in 2023 proved to be a critical inflection point in economic security debates, as it was the first attempt to come up with a joint plurilateral-level conception of the notion. The G7 Leaders' Statement on Economic Resilience and Economic Security (G7 2023) fell short of defining this concept, leaving G7 countries ample room to delineate its scope in keeping with their priorities and concerns, but also paving the way for different interpretations and potential fragmentation. In any case, the statement did provide a list of seven core dimensions of economic security: resilient supply chains, resilient critical infrastructure, responding to nonmarket policies and practices, addressing economic coercion, countering harmful practices in the digital sphere, international standard-setting and critical technologies leakage. By outlining areas that are seen to impact economic security, G7 countries have at least sought to establish the remit of economic security, albeit a very broad one.

Despite variations and differences in these approaches, some of the central underlying solutions appear to be recurring. Firstly, working with partners and like-minded allies is a common thread across G7 economies, especially as it entails greater cooperation among market-economy democracies, in light of the challenge presented by the global influence that alternative governance models are taking on. Secondly, upholding the international order and the multilateral trading system is considered critical to minimise risks of unilateral, coercive behaviours. Finally, reinforcing domestic capacity and supporting supply chain resilience are seen as the most direct ways to address economic and technological vulnerabilities. Notably, the first two areas involve contending with daunting obstacles: the WTO is facing a fundamental crisis and prospects for meaningful reform remain distant; cooperation with like-minded partners, while desirable, will be limited to areas and situations where the two sides perceive alignment as feasible (TTC 2023). Therefore, reinforcing domestic capacities and supply chain resilience becomes the area in which countries will find more opportunities to act and, in turn, to adopt policy initiatives with the most concrete impact on GVCs and business operations.

4.2.3 The evolution of the EU economic security agenda

The EU's approach to economic security is still evolving, driven by a confluence of external shocks and structural shifts. The Covid-19 pandemic exposed the vulnerabilities of just-in-time supply chains and the risks of over-reliance on distant or politically unstable suppliers (Baldwin and Freeman 2020). The EU's traditional reliance on multilateral institutions and rules-based order is being challenged by the growing assertiveness of major powers, who are willing to use trade, investment and technology as levers of influence and coercion. The rise of China as a technological and economic superpower, the resurgence of great power rivalry and the increasing use of economic tools as instruments of statecraft have forced the EU to rethink its assumptions about the stability and openness of the global order (Leonard et al. 2019). The US-China rivalry in particular has created a world in which the EU must navigate between competing blocs while defending its own interests and values.

The European Commission's communication on the EU Economic Security Strategy is far from being the agreed approach at EU-level. The strategy's stated objective of offering a base for discussions with the European Parliament and member states on economic security underlines the fact that the Commission is seeking political guidance from EU capitals before going further (European Commission 2023a). Economic security is left as a broad concept which fails to come to terms with diverging economic and security interests among member states. In line with the approaches outlined in the previous section, the Commission' underlying diagnosis is that deep economic links concentrated in individual third countries give rise to risks for the EU's sovereignty, security and competitiveness. While the strategy does not provide a straightforward definition of what economic security is, it aims to make the link between tech-industrial policy and national security more apparent, and to frame greater EU coordination as an imperative in the geopolitical context.

The "promoting, protecting, partnering" approach largely re-affirms overarching principles underpinning the EU's autonomy and sovereignty, combined with concrete new ideas on risk assessment and threat preparedness. This framework closely aligns with what is envisaged by Japan and the US. Firstly, it promotes the development of domestic industrial capacity for critical technologies while protecting national industry from unfair, coercive practices. Secondly, it advances more effective and assertive use of existing trade policy instruments while paving the way for new

ones where necessary. Lastly, it lays the groundwork for greater cooperation with like-minded partners and for a stronger multilateral trading system.

The Commission is seeking greater oversight of the GVCs of European companies by coordinating existing export tools more systematically and managing both inbound and outbound investments. Officials in Brussels are prompted by concern that certain incoming investments from, and outsourcing of supply chains to, countries such as China expose European intellectual property and undermine the EU's technological advantages. All this creates security risks, which the security strategy addresses with three concrete proposals: a review of the existing foreign direct investment (FDI) screening regulation, a new (targeted) outbound investment screening mechanism, and a revision of export control rules. Specifically, the Commission will seek greater centralisation and coordination in both investment screening and export controls. But resistance in member states over the balance of policy competence between EU capitals and Brussels will potentially undermine this ambition, with the end result possibly being modest tools combined with greater emphasis on existing instruments.

In contrast with Japan and the US, taken at face value the European Commission's Economic Security Strategy aims to be country-agnostic. Nowhere in the communication are economic security risks linked to any specific country and China is not mentioned once. One reason for this is that the Commission is seeking to develop a future-proof approach to economic security, but the generic language is also due to structural limitations the EU faces in this area given conflicting views among the 27 EU member states.

Compared to its allies, the EU faces some additional – and very sizeable – hurdles in elaborating its economic security agenda. These are due to the EU's unique institutional architecture, combining supranational and intergovernmental elements, which requires consensus among diverse member states with varying economic structures and strategic interests (Meunier and Nicolaïdis 2017). Any meaningful European approach will need to reconcile three fundamental tensions. Firstly, while the European Parliament and Council have generally endorsed the shift, there are divergent opinions among member states regarding the scope and pace of intervention. This means the EU will need to find feasible compromises to address internal divisions among member states, striking the right balance between maintaining a degree of trade openness while reducing

vulnerabilities, without opening the door to inward-looking, protectionist measures.

Secondly, the EU will need to find ways to foster a Union-level approach to economic security despite potentially conflicting national interests and priorities. In acknowledging the overlaps between economic security and national security, the Commission also recognises that it is acting at the edge of its legal competence; indeed, member states are very cautious about allowing the Commission to expand its remit here, even for the sake of EU unity. The last point, linked to the above, is that the Commission finds itself working on an area where its mandate is very limited and it has far fewer powers than the US administration or Japan's government, both in terms of the overarching economic security agenda and the underlying policy instruments. This will inevitably limit its ability not only to shape the economic security agenda but also to implement related policy tools, which will largely be contingent on member states' calculations around the three tensions outlined in this section.

4.2.4 The path towards selective openness and strategic interdependence

Beyond the limitations and challenges, the current economic security debate in the EU marks a remarkable change in mindset of European policymakers and officials and has profound implications for internationalised firms and investors. Firstly, the Economic Security Strategy, by establishing a clear link between national security and economic competitiveness, builds a platform for revamping an interventionist industrial policy agenda. What's more, the importance of technological sovereignty is now recognised as the foundation for national and economic security (Pisani-Ferry 2023). This is confirmed by the criteria outlined by the Commission in the recent Critical Technologies Recommendation to assess relative economic security risks. Alongside the traditional security concerns around the risk of civil and military fusion (dual use) and the potential misuse of technologies for human rights violations, the Commission also includes "the enabling and transformative nature of the technology criterion [which] looks at the technology's potential and relevance for driving significant increases of performance and efficiency and/or radical changes for sectors, capabilities, etc." (European Commission 2023c).

Secondly, this shift has translated into a revival of public intervention in the European economy, with various initiatives from the EU Chips Act

to the Green Deal Industrial Plan and the Clean Industrial Deal, all of which are reshaping the approach to industrial policy and state aid. These frameworks relax state aid rules and mobilise hundreds of billions of euro to support sectors deemed strategic for the EU's future – such as clean energy, semiconductors and critical raw materials. Such actions are justified by the need to reduce strategic dependencies and to ensure the resilience of supply chains. One of the most noteworthy novelties is a return to the political mainstream of "Buy European" and local content requirements. In addition, several recent initiatives (from the Net-Zero Industry Act to the Critical Medicines Act) envisaged changes to public procurement rules to favour domestic EU-based suppliers in strategic sectors.

The third material way in which emerging economic security agenda is affecting internationalised firms is the proliferation of new regulations and controls, which have generated serious frictions in GVCs. The EU has implemented a series of measures (ranging from sanctions and export controls to investment screening and customs risk management) that have fundamentally altered the environment in which internationalised firms operate. Tighter export controls, especially on dual-use goods and emerging technologies, is forcing companies to rethink their production lines and distribution networks. This has driven up operational complexity and compliance costs, particularly for firms in high-tech sectors such as semiconductors, artificial intelligence and quantum computing. In addition, investment screening regimes are expanding (and may differ from country to country), creating similar compliance challenges for investors.

As a result, with governments taking more action on supply chains in terms of industrial policy, subsidies and regulatory intervention, there is a risk of distorting markets, reducing efficiency and creating winners and losers based on political rather than purely measurable economic methodologies and criteria. Moreover, the costs of the economic security agenda are not evenly distributed. Some member states, particularly those with large export-oriented economies (e.g., Germany, the Netherlands), have expressed concerns about the risk of protectionism and the potential for retaliation by trading partners. Others, such as France, have advocated for a more assertive approach to defending European interests and building strategic capacity (Leonard et al. 2019). This diversity of views reflects the varied economic structures, strategic interests and historical experiences of EU member states. The end result is a more targeted approach which prioritises a narrow set of critical sectors, where

scrutiny and restrictions are intensified, while leaving most of the economy open to global competition.

Finally, recognising that complete self-sufficiency is neither feasible nor desirable, the EU security strategy acknowledges the importance of building strategic interdependence with trusted partners. This means accepting a degree of dependency on countries that share the EU's values and interests, while minimising exposure to rivals or unstable suppliers. For example, the EU has deepened cooperation on energy and raw materials with Norway, Canada and Kazakhstan, and is actively pursuing new partnerships in Africa and Central Asia.

4.3 Conclusion

The journey from ever-expanding globalisation to a doctrine of strategic autonomy and economic security marks a major transformation in the governance of GVCs. This shift was catalysed by a series of disruptive events: the Covid-19 pandemic, Russia's invasion of Ukraine, the weaponisation of interdependence and the intensifying rivalry between major powers. All this has exposed the vulnerabilities of hyper-globalised, efficiency-driven supply networks. In response, the EU has taken steps to recalibrate its economic model, embedding resilience, risk management and security considerations at the heart of its trade, industrial and investment policies.

As the EU and other major economies embrace the economic security doctrine, regulatory frictions and costs for GVCs are on the rise. Companies now operate in a more fragmented and complex environment, characterised by export controls, investment screening, compliance burdens and a policy-driven push for supply chain reconfiguration. This new environment has also brought about a resurgence of public intervention in the economy. The EU's industrial policy, state aid and public procurement preferences have been mobilised to support strategic sectors, foster technological leadership and reduce critical dependencies.

For GVCs, the emergence of economic security as a priority item on the political agenda means that firms will need to gear up to operate in an environment of selective openness and strategic interdependence. The EU, and to differing degrees also the US, the UK and Japan, will seek to maintain a degree of openness in trade and economic relations in most sectors. However, scrutiny and restrictions will be applied to a specific

set of sectors deemed critical or potentially presenting an economic security risk; this will create fragmentation and generate new costs. While the list of sectors currently seems relatively narrow, and the definitions of economic security quite broad, we cannot rule out the possibility that the sectoral scope will change and expand depending on countries' calculations based on their national political and economic priorities.

In parallel, we can expect a new wave of formal and informal bilateral and plurilateral arrangements among like-minded partners. Should policymakers recognise the limitations of an economic security agenda overly focussed on self-sufficiency, countries will increasingly consider the value of strategic interdependence, the aim of which is to complement greater supply chain security with comparative advantages and efficiency.

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5.
Trade Dependencies after Global Shocks: Are Italy and Other European Economies Diversifying their Supply Chains?

Cristina Castelli and Giulio Giangaspero

The public and policy-makers alike have become more acutely aware of the complexity of firms' production processes – and their high degree of international interdependence – in the face of recent events: the Covid-19 pandemic, the Russian aggression against Ukraine in 2022 and more recently the Trump administration's protectionist stance on trade. Companies operating in international production networks (commonly referred to as global value chains or GVCs) often rely on components and materials sourced from abroad. This being the case, major disruptions (including health crises, wars, natural disasters and trade tensions) pose tangible risks to production continuity and business growth.

Since it is not feasible to reconstruct entire value chains within national borders, or to vertically integrate all industrial activities, scholars, industry experts and international institutions have increasingly emphasised the need for *de-risking strategies* to enhance supply chain resilience (Lund et al. 2020, Schwellnus et al. 2023, WTO 2023). Lean production and just-in-time strategies should be adapted to prevent bottlenecks; and to detect major vulnerabilities affecting crucial components or materials, companies should enhance transparency across the different tiers of the supply chain.

Evidence suggests that disruption risks are particularly high when suppliers concentrate production in a single plant or country (Schwellnus et al. 2023). To contend with this reality, beyond building up inventories, a key strategy involves broadening the supplier base across geographic areas that are not simultaneously exposed to the same risks (Shih 2020).

The core challenge here lies in making supply chains more resilient without undermining competitiveness, particularly when dealing with highly specialised components or materials, whose production tends to be geographically concentrated due to technological capabilities or economies of scale (Lund et al. 2020).

Establishing alternative supplier networks in different countries is time-consuming and capital-intensive. Substitution costs are especially high when strong forms of explicit coordination exist between lead firms and independent suppliers (as is typical in GVCs) (Sturgeon 2013).

Geopolitical tensions are adding further pressure to this scenario, with growing concerns that governments might impose trade restrictions on national security grounds; a prime example are exports of critical raw materials. In response, researchers have focused their attention on the degree of foreign dependency in European economies and the policy options available to prevent future supply disruptions (European Commission 2021, Guinea and Sharma 2022, Centro Studi Confindustria 2023).

In Italy, according to firm-level surveys (Bank of Italy 2020, Giglioli et al. 2021) reshoring remains limited, but organisations involved in international production networks tend to adopt supplier diversification strategies to mitigate risks. Against this backdrop, focusing on the Italian context, we aim to analyse trade patterns in goods characterised by very high extra-EU dependency to assess whether recent global shocks have triggered diversification strategies aimed at strengthening the resilience of GVCs.

Given that parts and components are typically exchanged in GVCs, our analysis centres on processed intermediates, investigating whether firms are pursuing nearshoring strategies (e.g., increasing import shares from EU or geographically proximate countries), or undertaking farshoring (expanding their supplier base in more distant regions) to build redundancy.

The article is structured as follows: the first section outlines the methodology and examines the geographic distribution of imported processed intermediates with high extra-EU dependency, comparing Italy, Germany, France and Spain in 2019 and 2024. In the second section, focusing on Italy, we assess whether there are signs of supplier diversification for goods classified as “generic” and “specific” processed intermediates. The third and final section presents conclusions and policy implications.

5.1 The geography of trade in processed intermediates with high extra-EU dependency

Our analysis is built on a database of 233 product codes (out of 9,000) at the maximum disaggregation level (CN8) for which the European Union has a very high trade dependence from third countries. The list was compiled by Guinea and Sharma (2022)[1] applying two main criteria: a) EU imports from outside the EU must be equal to or higher than 75 per cent of intra-EU imports and extra-EU exports (a proxy of production); and b) the goods that the EU buys mostly from outside the EU must be supplied by only a few countries, a condition measured through the Herfindahl-Hirschman Index (HHI), which is equal to or larger than 0.25. The authors develop and refine a similar study by the European Commission (2021) based on 5,000 product codes.

In 2024, Italy's total imports amounted to 568.7 billion euro and imports of the 233 above-mentioned products amounted to 4.8 billion euro (about 0.9 per cent of the total, slightly higher than the EU average). Compared to 2019, the shares of the two product groups remained stable until 2022 and then declined substantially during the two subsequent years (Table 1). Spain experienced a similar trend while Germany and France show only a slight reduction.

Italy sources the 233 products mainly from non-EU countries (over 93.8 per cent in 2019), a figure that is in line with Spain (91 per cent) but significantly higher than France (73.7 per cent) and Germany (74.8 per cent). Given this relatively strong dependency, we aim to verify if in the years following the pandemic and the energy crisis we observe changes in GVC trade flows, and if Italian firms have been encouraged (or obliged) to diversify their supply chains.

[1] To assess extra-EU trade dependency, Guinea and Sharma (2022: 6) adopt the following methodology: "EU imports are defined as dependent when the imported product fulfils two conditions simultaneously. The first condition is that EU imports from outside the EU represent a considerable share of EU's production, which is proxied as the sum of intra-EU imports – which are the goods that EU member states buy and sell among themselves and by definition is also equal to intra-EU exports – and EU exports to outside the EU (extra-EU exports). The second condition is that the goods that the EU buys mostly from outside the EU must be supplied by only a few countries."

Table 1 | List of 233 products: imports and percentage shares on total imports by country (values in millions of euro)

	2019	%	2020	%	2021	%	2022	%	2023	%	2024	%
France	4,072	0.7	9,457	1.9	4,110	0.7	4,891	0.6	4,153	0.6	3,431	0.5
Germany	5,679	0.5	11,219	1.1	6,716	0.6	11,985	0.8	6,760	0.5	5,201	0.4
Italy	6,704	1,6	8,157	2.2	7,044	1.5	9,751	1.5	6,842	1.2	4,843	0.9
Spain	4,339	1.3	6,052	2.1	4,947	1.4	6,259	1.3	4,581	1.1	3,611	0.8
EU	40,311	0.8	56,911	1.3	45,611	0.8	62,549	0.9	44,633	0.7	38,235	0.6

Source: Authors' calculations based on Comtrade data

5.1.1 Imports of generic and specific processed intermediates

As a next step, to focus on GVC trade and to determine which goods are processed intermediates, we sorted the 233 products according to the UN Broad Economic Categories classification (BEC Rev.5), extracting trade data for generic and specific processed intermediates.[2] As mentioned, especially specific intermediates represent a proxy for global value chain-related trade, consisting of more differentiated, complex intermediates that are used in certain industries.[3] For these products, substitution-costs are higher due to product specialisation and long-standing relationships between suppliers and lead firms, based on trust and forms of industrial collaboration (co-design, co-projecting).

Considering the two categories of imported processed intermediates and the respective share on the 233 products with high extra-EU dependence, we observe some differences among the four EU countries (Table 2). In the case of Italy, in 2024 generic intermediates had the highest share

[2] For our purposes, we exclude dual-use codes, mainly referring to Harmonised System division 27 (oil and gas), as they can be classified according to economic destination both as consumer and intermediate goods.

[3] See UNSD (2018: 8): "The rise of global value chains has made the analytical distinction between trade in intermediates and trade in final goods more important. However, researchers have found the definition of intermediates in BEC Rev.4 too broad for examining global value chain participation [...]. It was found that the processed intermediate goods category contained many generic products with published reference prices (e.g., cotton bales, linseed oil) or commonly sold at auction, as well as more differentiated, complex intermediate products intended for use in specific industries and for specific final goods (e.g., auto parts made for a specific brand or model of car). The 'specific' processed intermediate goods category was therefore create for BEC Rev.5 to better identify global value chain related trade."

(36.2 per cent), while specific products amounted to 7.8 per cent. Moreover, we notice a sizeable decrease of the second group since 2019. Similarly, for Spain the share of generic products (17 per cent) was far higher than the share of specific intermediates (6.3 per cent and rising). Considering France, the weight of generic intermediates was 19.7 per cent and that of specific products 14.5 per cent, the latter showing a sharp decline compared to 2019. Conversely, in Germany specific intermediates outweighed the share of generic intermediates (18.1 vs. 13.9 per cent) and the role of specific goods grew in the last two years under examination (2023 and 2024).

Table 2 | Imports of generic and specific processed intermediates. Values in millions of euro and shares of the total value of the 233-product list

	2019	%	2020	%	2021	%	2022	%	2023	%	2024	%
	Generic processed intermediates											
France	560	13.7	448	4.7	706	17.2	874	17.9	792	19.1	677	19.7
Germany	710	12.5	525	4.7	1,118	16.6	1,034	8.6	790	11.7	721	13.9
Italy	2,402	35.8	1,785	21.9	2,800	39.7	2,985	30.6	2,474	36.2	1,751	36.2
Spain	1,163	26.8	1,104	18.2	726	14.7	737	11.8	599	13.1	613	17.0
	Specific processed intermediates											
France	844	20.7	940	9.9	674	16.4	830	17.0	566	13.6	498	14.5
Germany	745	13.1	760	6.8	931	13.9	1,326	11.1	1,080	16.0	940	18.1
Italy	1,101	16.4	815	10.0	817	11.6	980	10.1	686	10.0	379	7.8
Spain	167	3.9	161	2.7	205	4.1	338	5.4	274	6.0	227	6.3

Source: Authors' calculations based on Comtrade data.

Note: The analysis excludes product codes that are classified as dual use according to BEC Rev.5.

The following two graphs show the geographic distribution of imported generic and specific processed intermediates for Italy, Germany, France and Spain, comparing the respective shares in the years 2019 and 2024. The diverse trends among European economies are influenced by the composition of imported generic/specific goods, reflecting each countries' industrial production and specialisation.

Considering generic intermediates (Figure 1),[4] we find that the East Asia region is particularly relevant for Spain, Germany and Italy. Although

[4] Among generic intermediates, the top five imported goods include iron, cast iron and steel products, along with ferrous products and oils and fats (raw palm oil, coconut oil).

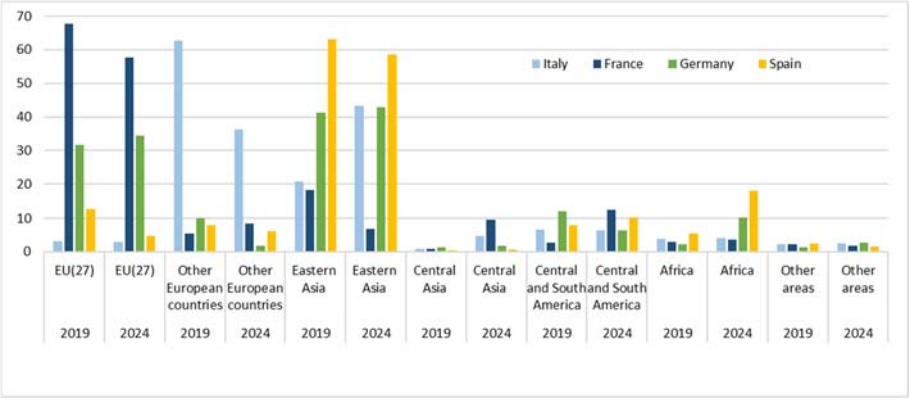
it is declining, the import share is very high for Spain (reaching 58.5 per cent in 2024), Germany (42.8 per cent, compared to 41.4 per cent in 2019) and Italy (43.4 per cent, more than the double compared to 2019). Conversely in the case of France, East Asia's share fell by more than half with respect to 2019 (6.8 per cent).

France's imports of generic intermediates originated mainly from the European Union (57.7 per cent in 2024, despite a downturn compared with 2019). Germany's imports from the EU rose to 34.4 per cent, while in the case of Spain the share was limited (4.8 per cent) and declining, followed by Italy with 2.9 per cent.

In Italy (unlike in Germany, France and Spain), a large portion of imports in 2019 originated from other European countries (62.7 per cent) which include Ukraine and Russia. This value dropped sharply in 2024 due to the ongoing war and geopolitical tensions (diving to 36.2 per cent).

The role of other regions was very limited. However, we observe that imports were climbing as firms try to diversify their suppliers (e.g. Central Asia for Italy, Africa for Spain).

Figure 1 | Italy and the major European economies: imports of generic processed intermediates, by geographic area (percentage share of values, 2019 and 2024)



Source: Authors' calculations based on Comtrade data.

For firms sourcing specific processed intermediates, which, as mentioned, are typically related to GVC trade, East Asia's role remained crucial (Figure 2). For Italy, the weight of this region more than doubled since 2019: the share grew from 19.8 to 43.9 per cent in 2024. As an example, in 2024 Italy imported from China mainly organic chemicals, followed by

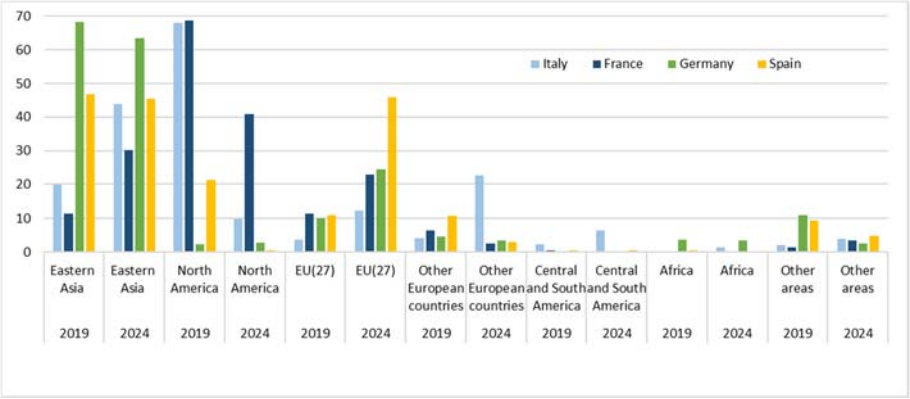
bicycle parts (notably frames and front forks, a supply chain which China and Taiwan dominate) and semi-finished products for the textile-clothing supply chain (silk fabric, cotton yarn).

Germany sourced an even higher share of specific inputs from East Asian countries (63.4 per cent) and Spain imports reached 45.4 per cent (with a slight decline compared to 2019), while France's share jumped from 11.4 to 30.2 per cent.

Considering imports from the European Union, we find a trend of increasing shares, which can be interpreted as a growing regionalisation process, or nearshoring strategies. In the period in question, Spain shows huge growth (from 11.1 to 45.8 per cent), followed by Germany (from 10.1 to 24.5 per cent), France (from 11.4 to 22.8 per cent) and Italy (3.7 to 12.2 per cent). By contrast, the weight of other European countries decreased in 2024 for all countries except Italy (which increased its imports from Switzerland).

Moreover, for both Italy and France, in 2019 there was a very high reliance on specific inputs originating in North America, with shares reaching respectively 67.9 and 68.7 per cent. However, in 2024 we notice a very sharp contraction, especially for Italy (9.7 per cent).[5]

Figure 2 | Italy and the major European economies: imports of specific processed intermediates, by geographic area (percentage share of current values, 2019 and 2024)



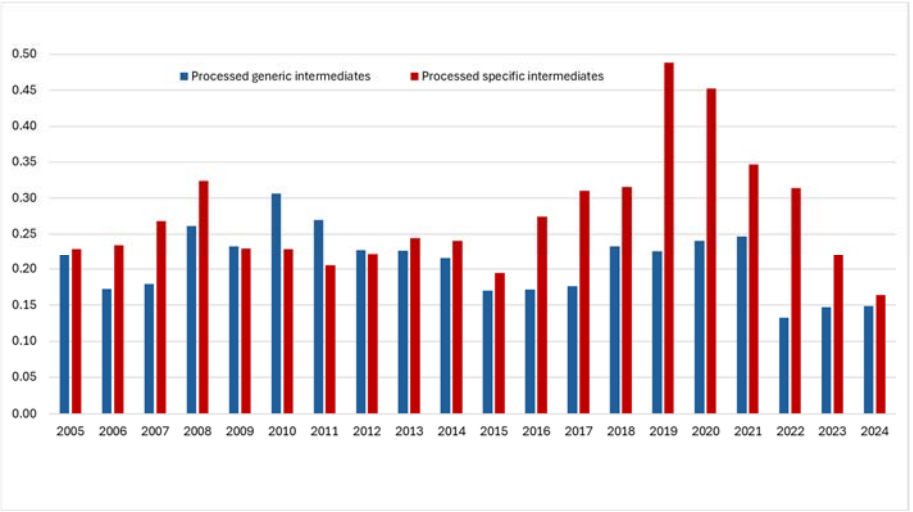
Source: Authors' calculations based on Comtrade data.

[5] For France and Italy, the decrease of the North American share is largely due to declining imports of the pharmaceutical product insulin.

5.2 The case of Italy: Evidence of supplier diversification

The following illustration (Figure 3) shows how the Herfindahl-Hirschman (HH) Concentration Index evolved from 2005 to 2024. The HH Index, which fluctuates between 0 and 1, is a measure of diversification of Italy's imports of generic and specific processed intermediates.

Figure 3 | Italy's imports of generic and specific processed intermediates: HH index calculated on the top 20 suppliers, 2005-2024



Source: Authors' calculations based on Comtrade data.

Note: The HH Index considers the top 20 supplying countries, which represent over 95 per cent of imports of generic intermediates and 97 per cent of specific intermediates.

Considering generic intermediates, the HH concentration index tends to be lower compared to specific intermediates, except from 2009 to 2012. In most years, the index ranged between 0.17 and 0.25, showing a steady increase from 2015 to 2021. In the case of specific intermediates, concentration appears to be more pronounced. The highest level was reached in 2019 (0.49), before the Covid-19 crisis and the subsequent disruptions in the supply chains.

Focusing on the most recent time span, which is also the main scope of our analysis, the HH index shows a declining trend for both types of processed intermediates, signalling import diversification. For generic intermediates, the level of the HH index in 2022 is the lowest of the whole time series, despite an uptick in 2023-2024. However, the main changes occurred for specific processed intermediates. In fact, the graph shows a

sharp decline in import concentration since 2019, hitting its lowest level in 2024 (0.16), only slightly higher than generic intermediates.

To summarise, recent global shocks appear to have led to a contraction in import concentration across both categories of processed intermediates included in the 233-product list. Over the past three years (2022-2024), this trend is more appreciable for specific inputs (at least in the case of Italy) despite the higher substitution-costs associated with customisation and the related explicit coordination within GVCs, between lead firms and their suppliers.

We further develop our analysis in Figures 4 and 5, which illustrate Italy's 15 top suppliers of processed intermediate goods. Two indicators are used for this purpose: i) the average percentage share of each country on Italy's imports in 2019-2024, and ii) the compound annual growth rate (CAGR) over the same timeframe. Additionally, the size of the bubbles represents each country's share of Italian imports in 2024.

The aim is to map the main suppliers of both generic and specific intermediates across four quadrants. Quadrant 1 includes countries that qualify as alternative sourcing markets for Italy – those with very high growth between 2019-2024, albeit with a relatively limited current share in Italian imports. Quadrant 2 groups countries with both above-average import shares and strong dynamic growth, showing a trend towards growing concentration. Quadrant 3 contains countries with high import shares but below average growth rates, indicating the main suppliers subject to diversification, to mitigate over-reliance.

Quadrant 4 includes supplying countries that currently play a marginal role, with both relatively low growth and limited import shares.

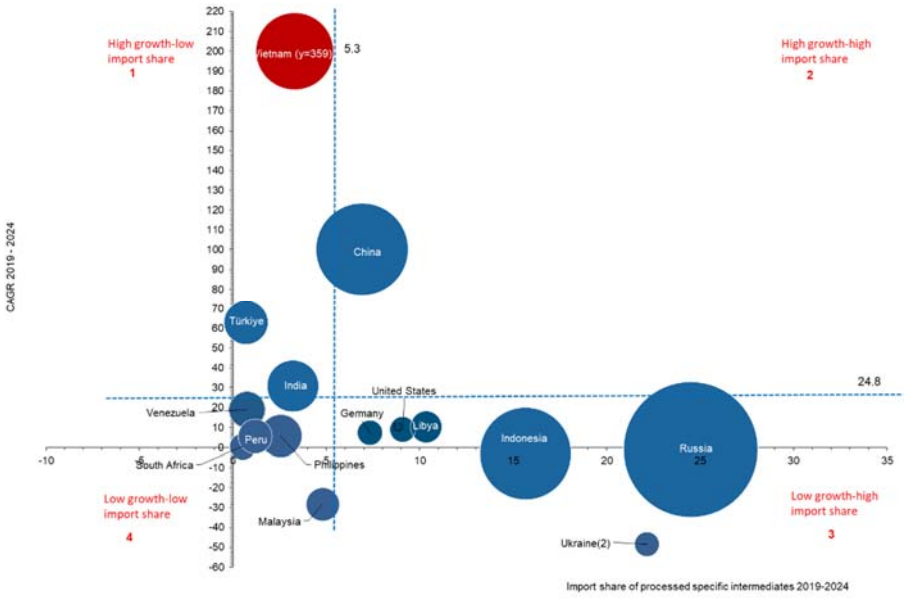
Applying this framework to generic processed intermediates, we observe that Vietnam and Türkiye in particular experienced high growth and a strong expansion of their import shares, followed by India (all countries in Quadrant 1). At the product level, imports from these three countries consist almost entirely of semi-finished products of iron or non-alloy steel.

The only country in Quadrant 2 is China, due to the sizeable share and the high average annual growth rates in 2019-2024. At the product level, China is a major supplier of semi-finished products made of iron or non-alloy steel,[6] along with Vietnam, Türkiye and India, substituting imports

[6] The top five generic intermediates with high extra-EU dependence imported by Italy are: semi-finished iron and non-alloy steel products; ferrous products;

previously sourced from Ukraine. In fact, import diversification of generic intermediates appears to be greatly affected by the Russian war in Ukraine, and Italian firms had to find alternative suppliers, going so far as to source from distant locations. In fact, Ukraine's share plummeted from 38.8 per cent in 2019 to 2 per cent in 2024, while China became the number two supplier for these products.

Figure 4 | Italy's imports of generic processed intermediates with high extra-EU dependency: growth and import share of the top 15 suppliers 2019-2024



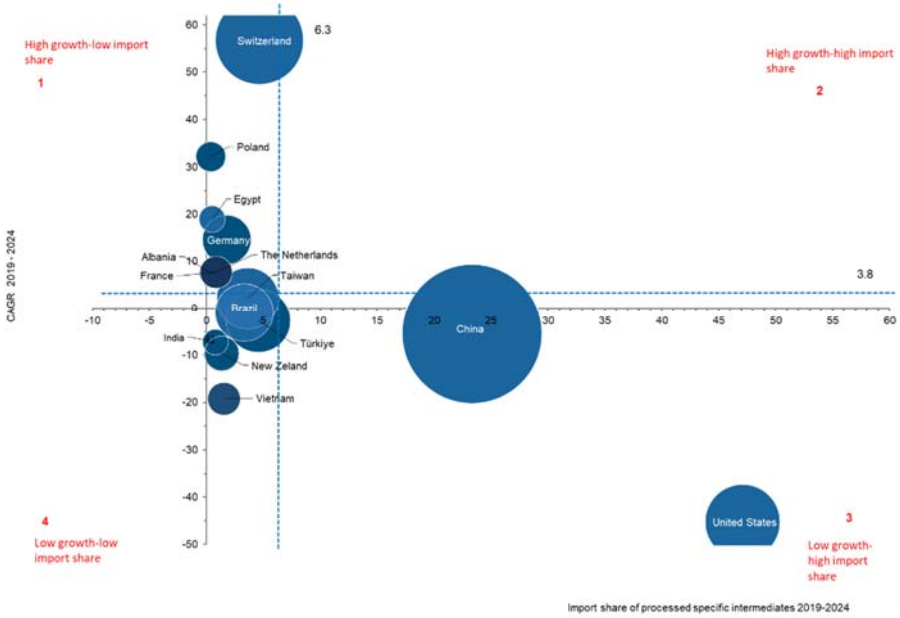
Source: Authors' calculations based on Comtrade data.

Notes: The size of the bubble represents the import share of generic processed intermediates in 2024. Vietnam is an outlier (CAGR 2019-2022 of 359 per cent). The dotted lines represent the average of the top 15 suppliers. This chart excludes goods classified as dual use according to the BEC Rev.5. Ukraine's share contracted sharply during the period in question due to the war.

With regard to specific processed intermediates, Graph 5 shows that several countries in Quadrant 1 are contributing to the diversification process, with import volumes growing at above-average rates. Switzerland stands out here (followed by Poland, Egypt, Germany, France and Albania) with a share that soared from 0.5 per cent in 2019 to 13.8 per cent, due to a

fatty acid distillate; crude palm oil; and fine animal hair, carded or combed. These products represent 89 per cent of generic intermediate's imports in terms of value.

Figure 5 | Italy's specific processed intermediates with high extra-EU dependency: growth and import share of the top 20 suppliers, 2019-2022



Source: Authors' calculations based on Comtrade data.

Note: The dimension of the bubble reflects the supplying country's import share of specific processed intermediates in 2024. The dotted lines represent the average of the top 15 suppliers. The analysis excludes product codes that are classified as dual use, according to BEC rev.5.

surge in imports of a veterinary medicine. To cite another example, we observe a diversification process related to cotton yarn imports, with an expansion of Poland's and Egypt's import shares (which could be linked to nearshoring strategies), while the role of Asian countries declined. Another example is the increase of bicycle frames imported from Germany.

China and the United States are both positioned in Quadrant 3 due to the low or negative import growth rates.[7] China features the largest import share and, looking at individual products, is a vital supplier for the Italian bicycle industry (frames and front forks are among the top five specific products imported by Italy),[8] along with silk crêpe fabric for the fashion

[7] No country is positioned in Quadrant 2, mainly due to a slowdown of intermediates sourced from China.

[8] In 2024 the top five specific intermediates are: frames for cycles, silk crêpe fabric, woven fabrics, front forks for cycles, inorganic chemicals. The products represent 93 per cent of Italy's specific intermediates imported from China.

industry. As for the United States, the dramatic drop during the last period (-58,2 per cent) depends mainly on changes occurred in pharmaceutical supplies, whose import value experienced a sharp contraction.

5.3 Conclusions and policy implications

In recent years, we have seen signs of supplier diversification in Italian imports of processed intermediates, particularly of a group of products that are highly dependent on extra-EU sources. This shift reflects the growing need among firms to mitigate risks associated with excessive supplier concentration and to minimise the likelihood of disruptions in global supply chains.

As a consequence of the Covid-19 pandemic and the ongoing war in Ukraine, Italy's imports of both generic and specific processed intermediates have become less concentrated. For generic intermediates, the HH Index fell to one of its lowest historical levels in 2024 (0.15). This diversification trend has been largely driven by the Russian invasion of Ukraine, with countries such as Vietnam, China, Türkiye and India increasing their respective shares in Italian imports.

Interestingly, import concentration declined even more sharply for specific intermediates – products typically exchanged within GVCs and often requiring highly coordinated relationships. In 2024, the HH Index for specific intermediates dropped to 0.16, the lowest level since 2005, following a peak of 0.49 in 2019. This is particularly notable given the typically higher substitution costs firms face when seeking alternative specialised suppliers. Imports of specific intermediates from Switzerland, Poland, Egypt and Germany have grown at above-average rates, supporting a broader diversification across multiple industries.

From a geographical perspective, while evidence of regionalisation is mounting within the EU, East Asian countries continue to play a crucial role in Italy's sourcing strategies. In this context, where switching suppliers can be costly and complex, there is broad scope for policy intervention to strengthen supply chain resilience, especially for small and medium-sized enterprises (SMEs), which often face greater barriers to accessing foreign markets.

Trade policy can help alleviate geographical concentration in GVCs by influencing the relative cost of sourcing from different countries (Schwellnus et al. 2023). A range of policy options is available, covering both bord-

er and behind-the-border measures, and can be implemented at various levels: national, bilateral, regional, plurilateral (among like-minded partners) and multilateral. For example, customs duties on imported intermediate goods should be kept as low as possible, particularly in times of heightened geopolitical uncertainty and supply chain stress. Higher tariffs on intermediates raise production costs for firms that assemble final goods, as duties accumulate across borders in multi-stage international production. This cumulative effect can severely affect prices and competitiveness, especially in cases of multiple sourcing.

In addition, customs authorities should actively promote trade facilitation measures aimed at simplifying border procedures. These include the electronic exchange of shipment data, the simplification and harmonisation of trade documents, and transparent mechanisms for appealing administrative decisions (Sorescu and Bollig 2022). Even inside the European Union, there is still more room to enhance trade facilitation and boost intra-EU trade flows.

Other trade policy instruments, such as non-tariff barriers also play a critical role. One key area is the harmonisation of rules of origin (RoO) in preferential trade agreements. RoOs determine whether a product qualifies for reduced tariffs, but these rules are often overly complex, inconsistent and non-transparent. This complexity discourages many firms (particularly SMEs) from taking advantage of preferential tariffs, especially when inputs are sourced from multiple countries.

Another sizable barrier to supplier diversification is the lack of universal technical standards and conformity assessment procedures. When firms enter new trade relationships, they may need to comply with multiple burdensome certification regimes. Promoting mutual recognition of conformity assessments and harmonisation of technical standards would help moderate unnecessary regulatory divergence and support GVC resilience.

Finally, more broadly, digital technologies can assist firms in identifying vulnerabilities and managing supply chains more effectively. Public support for organisational innovation, infrastructure development, and digital skills can also enhance sourcing intelligence and improve supply chain management (Szczepański 2021).

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Conclusion

Matteo Bursi and Ettore Greco

The chapters in this volume examine a global economic environment which, starting from the mid-2010s, has been affected by repeated shocks that have undermined the post-Cold War international trade system. Pandemics, deepening rivalries among major powers and military conflicts have slowed what once seemed to be an inexorable march of globalisation, disrupting supply chains built over decades and reviving arguments about the need to protect domestic industries that are considered strategic. It clearly emerges from this volume that market openness has been seriously eroded and is today much more precarious than at the beginning of the millennium. Recent dynamics also show the emergence of other drives that make the future of the global economic system highly uncertain. The commercial policies adopted in the past months by the Trump administration threaten to further accentuate the slowbalisation mentioned by Borin, Di Stefano and Mancini. Some analysts even emphasise the risk of an out-and-out de-globalisation (Agrawal 2025). Only time – and data – will tell us if this scenario is actually underway; what seems evident is that a geoeconomic fragmentation, intertwined by a geopolitical one, is taking root (Colantone 2025).

Trump's first presidency gave a powerful boost to the rise of economic protectionism; in fact, some protectionist measures – especially those targeting China – remained in force during the Biden administration. Trump's return to the White House has brought further effects of considerable magnitude.

The economic agenda of the 47th American President contemplates a radical revision of economic (and not only economic) relations between states and the marginalisation of international organisations – such as the World Trade Organisation – that are accused by Trump to limit Washington's economic potential and, more broadly, its influence on the international scene. Tariffs are the cornerstone of the new system envisioned by

Trump. From the "Liberation Day" onward they have been raised to levels comparable to those prior to World War II. For some weeks after Trump's re-election, some analysts argued that such tariff hikes were used as a negotiating lever to exert pressure on US counterparts (Crawley 2024). However, the threat to impose tariffs was actually carried out although in many cases they were fixed, following trade negotiations, at lower levels than originally indicated on the "Liberation Day". Trump's declared goal is also to induce domestic and foreign companies to invest more in the US in view of re-industrialising the country. He also aims to raise revenues from tariffs to finance a package of huge tax cuts – a flagship initiative of his economy policy. All that requires that tariffs, far from being only a negotiating card, remain in force as a stable feature of US trade policy. The Trump administration wants to handle trade relations, including with allied countries, as much as possible on a bilateral basis, getting rid of multilateral rules. However, in the case of the European countries, whose economies have been deeply integrated with that of the United States for decades, he has no other option but to negotiate with the European Commission. In this context, the G7 – a forum that in past years, as noted by Berger, showed a certain degree of unity on commercial issues – could do little to counter the US protectionist push. At the 2025 G7 Summit in Kananaskis, Western leaders held intensive discussions on trade issues, but just a few weeks later Trump re threatened to impose tariffs even higher than those previously outlined (Renshaw et al. 2025).[1]

Trump seeks to build a new system of trade relations in which the United States enjoys preferential treatment thanks to its economic and military preponderance. His ultimate goal is to preserve or re-establish the global economic leadership the US achieved in the 20th century even at the risk of higher inflation and a deterioration of America's global image (Wike et al. 2025). By reneging on a decade-long commitment to support market openness and globalisation, the US is losing much of its soft power that has served it so well after the Second World War. In this context, supply chains consolidated over decades risk being disrupted or abruptly interrupted, while companies – and countries – heavily dependent

[1] In light of this new American stance, also with regard to GVCs, it is therefore difficult at present to imagine that in the coming years the G7 will be able to undertake significant shared commitments.

on exports to the United States face challenges of such magnitude as to threaten their prosperity.

However, the Trumpian attempt to redefine the global economic order has collided with certain factors that make it unthinkable – even for the US – to pursue blind economic nationalism. What happened in the negotiations with China is significant: Beijing reacted to Trump's tariff announcement by threatening restrictions on exports of rare earths, which are essential for key sectors of today's economy. This, in turn, prompted the White House to make substantial trade concessions to China (Baskaran and Schwartz 2025).

Other dynamics make it unlikely that the global economic order can return, at least in the short term, to what it was at the beginning of the millennium.

Beijing's economic model remains largely export-driven; its domestic economy is still underdeveloped, and the persistent real estate crisis represents a further brake on its growth (Wakabayashi and Dong 2025). Accusations of dumping against the Chinese regime – as well as those concerning the massive state subsidies to support exports – are multiplying, leading other countries to erect barriers to protect their domestic industries from such anti-competitive practices.[2] These practices also include the continued lack of protection for foreign companies' intellectual property, paired with widespread violations of regulations – such as environmental standards or privacy rules – that represent significant costs for businesses in other parts of the world.

The tariff hikes imposed by Washington – although smaller than originally envisioned – may induce Beijing to adopt more robust measures to balance the drop in exports to the US and avert an overproduction crisis. In fact, evidence now abounds that China is working to offset the decrease in exports to America by increasing exports to other areas (by, inter alia, artificially lowering the prices of its goods).

At the same time, the Chinese regime may see the US isolationist turn as an opportunity to strengthen the web of alliances it has built in recent decades. The American disengagement from multilateralism and global governance offers China the chance to consolidate the international role

[2] In recent years, for example, in order to counteract anti-competitive practices, the EU has raised tariffs on Chinese electric vehicles; see García Bercero (2024).

of its currency and further solidify (and beyond) ties with trade partners, including the increasingly large BRICS group. However, China's effort to expand its role within BRICS continues to come up against considerable obstacles. First, some BRICS members, including India (Fong 2025) have both economic and geopolitical interests that conflict with those of China; as long as they persist, it is difficult to imagine the consolidation of a rock-solid relationship. Second, as reported by Brotto, Beijing adopts even towards the BRICS states anti-competitive behaviours that prevent a further deepening of commercial ties.

In this increasingly conflictual scenario, the European Union finds itself in a difficult position as faces daunting policy dilemmas.

The White House's intensifying pressure on the EU to contribute a substantially higher share of the costs for European security and, above all, its willingness to disengage from Europe's strategic theatre have brought into even sharper relief the imbalance of power between the two Atlantic partners. Being highly dependent on their historical ally for security reasons, the European countries have so far reacted to Trump's economic pressure with great caution for fear that he could respond by withdrawing the US military forces from Europe, significantly weakening the continent's defence systems. Not surprisingly, the trade agreement signed between the European Union and the United States in July 2025 reflects this imbalance: in exchange for a partial reduction of the Trumpian tariffs imposed on European exports, it provides for the complete elimination of EU tariffs on industrial goods imported from the US.[3]

The EU's relationship with China has also become increasingly challenging. As mentioned above, the confrontation with Washington is likely to push Beijing to seek alternative markets to offset the falling exports to the United States, and the European Union seems an ideal candidate. Increasing imports of Chinese goods – which are kept artificially cheap also thanks to state's aids – represent a significant threat to several European industries; the deepening crisis of the automotive sector is a telling example of this risk.[4] At the same time, even in its dealings with Beijing, the

[3] We refer to the deal reached by the United States and the European Union on 27 July 2025. See European Commission website: *The EU-US Trade Deal*, https://commission.europa.eu/node/42927_en.

[4] According to an investigation carried out by the European Commission, the share of electric vehicles built in China and sold in the EU increased from 3,5 per

European Union finds itself constrained in adopting retaliatory measures (such as the activation of the Anti-Coercion Instrument mentioned by Gangarossa). Two issues appear particularly relevant here. The first concerns the considerable importance of exports to China, particularly for certain member states (such as Germany; see Zeneli 2025); although declining, this factor is key to the functioning of several industrial sectors. The second, and probably most crucial, issue relates to China's predominance in the processing of rare earths and critical minerals, which enables Beijing to threaten the development of some of Europe's most high-tech industries.

In this challenging context, the European Union must perform a delicate balancing act, seeking to reconcile short-term interests with long-term objectives. It needs a more integrated internal market – a long-neglected element, due to Europe's strong export-oriented vocation – and much closer coordination among European states in the economic and defence field. In this context, the issue of global value chains (GVCs) inevitably takes on central importance. The creation of diversified GVCs, capable of withstanding exogenous shocks of various kinds, is essential to strengthen European sovereignty and place the continent in a position where it cannot be blackmailed by other major global players. At least in certain areas, European enterprises have already begun moving in this direction – as highlighted in the chapter by Castelli and Giangaspero. The new geopolitical challenges require that such initiatives be accelerated; if the European Union failed to do so, it would pay heavy costs – both economic and political.

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Istituto Affari Internazionali

The uneven recovery from the 2008 global financial crisis led to a stabilisation of international trade and capital flows. However, in the following years the surge of protectionist measures and deepening rivalries between big powers precipitated a crisis of the rule-based multilateral order.

The pandemic crisis and the impact of the Russian invasion of Ukraine have boosted international economic fragmentation along geopolitical lines and may drive the global economy towards a reversal of the globalisation process that marked the second half of the 20th century.

Mounting cross-border restrictions on the exchange of essential goods and services during the recent poly-crisis has caused big disruptions in global production networks revamping the debate on the future of global economic interdependence, and the potentialities and downsides of reshoring, nearshoring or friendshoring processes. Indeed, the reconfiguration of global value chains (GVCs) has been increasingly debated as an economic policy tool to secure the supply of critical products and establish economic security at the national level. Such defensive posturing raises concerns over how to manage emerging trade-offs between the benefits of openness (economic integration) and those of autonomy (economic security).

The Istituto Affari Internazionali (IAI), in the framework of its partnership with Intesa Sanpaolo, launched a task force of experts to contribute to the current discussion on the implications and possible future configurations of international production networks at a time of a resurgence of national economic security. The overall research effort has involved different regional perspectives and multidisciplinary approaches to shed light on the implications of the policy-driven process of international economic fragmentation in the fields of trade, technology, labour, international finance, global public goods and other dimensions of international economic relations.

Matteo Bursi is Research Fellow with the Multilateralism and Global Governance programme at the Istituto Affari Internazionali (IAI).

Ettore Greco is Executive Vice President of the IAI and also Head of the Multilateralism and Global Governance programme of the Institute.

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