Federica Marconi

(ed.)

Navigating New Geostrategic Challenges

EU-US Cooperation and Italy's Role

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NAVIGATING NEW GEOSTRATEGIC CHALLENGES

EU-US COOPERATION AND ITALY'S ROLE

edited by
Federica Marconi

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IAI Research Studies

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UNITED STATES EMBASSY
TO ITALY

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Leo Goretti

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List of abbreviations

ADPPA	American Data Privacy Protection Act
AG	Australia Group
AI	Artificial intelligence
AMECO	Annual macro-economic database
APRA	American Privacy Rights Act
AU	African Union
B3W	Build Back Better World
BIS	Bureau of Industry and Security
BRGM	Bureau de Recherches Géologiques et Minières
BRICS	Brazil, Russia, India, China, South Africa
CCL	Commerce Control List
CCP	Common Commercial Policy
CFIUS	Committee on Foreign Investment in the United States
CJEU	Court of Justice of the European Union
CRMA	Critical Raw Materials Act
DFFT	Data Free Flow with Trust
DHS	Department for Homeland Security
DMA	Digital Market Act
DNA	Digital Networks Act
DPA	Defense Production Act
DSA	Digital Service Act
EAR	Export Administration Regulations
ECA	Economic Cooperation Agency
ECHI	Export Controls and Human Rights Initiative
ECOWAS	Economic Cooperation Organisation of West African States
ECRA	Export Control Reform Act
EPA	Economic Partnership Agreement
EU	European Union
FBI	Federal Bureau of Investigations
FDI	Foreign direct investment
FDPR	Foreign-produced direct product rule

FINSA	Foreign Investment and National Security Act
FIRRMA	Foreign Investment Risk Review Modernization Act
GDP	Gross domestic product
GDPR	General Data Protection Regulation
GECC	Global Export Control Coalition
HS	Harmonised System
ICE	Italian Trade Agency
ICT	Information and communications technology
ICTS	Information communication technology and services
IEEPA	International Emergency Economic Powers Act
IMF	International Monetary Fund
INSTEX	Instrument in Support of Trade Exchanges
IPCEI	Important Project of Common European Interest
IPEF	Indo-Pacific Economic Framework for Prosperity
IRA	Inflation Reduction Act
ISTAT	Italian National Institute of Statistics
JCPOA	Joint Comprehensive Plan of Action
M&A	Mergers and acquisitions
ME/CT	Microelectronics and communication technologies
MNE	Multinational enterprise
MTCR	Missile Technology Control Regime
NRRP	National Recovery and Resilience Plan
NSG	Nuclear Suppliers Group
NZIA	Net Zero Industry Act
OECD	Organisation for Economic Co-operation and Development
PPP	Purchasing power parity
R&D	Research and development
SME	Small and medium-sized enterprise
TSMC	Taiwan Semiconductor Manufacturing Company
TTC	Trade and Technology Council
TWEA	Trading with the Enemy Act
UK	United Kingdom
UN	United Nations
US	United States
WA	Wassenaar Arrangement
WMD	Weapons of mass destruction

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Introduction

Federica Marconi

In recent years, several initiatives have been launched with the objective of fostering transatlantic cooperation. A number of factors, including the emergence of new challenges such as China's expansionist policies and Russia's aggressive revanchism, notably the invasion of Ukraine, have prompted Europe and the US to seek new avenues and tools to deepen cooperation across the Atlantic. Furthermore, while rapid technological progress has been a catalyst for economic growth and greater interconnectedness between nations, it has also contributed to blurring the lines between the pure economic relevance of goods and services and their security implications. This dynamic has been particularly evident in cases of dependence on third-party suppliers, which has often resulted in an increased vulnerability, posing fundamental national interests at risk. The intertwining of economic interests with geopolitical ambitions has led to a growing reliance on trade and investment as strategic tools in the competition between major powers and in the pursuit of geopolitical objectives. In light of these developments, the United States and the European Union have explored new strategies in their respective trade and investment policies, but also worked together to establish closer, often unprecedented, forms of bilateral cooperation.

The Istituto Affari Internazionali (IAI), in cooperation with the Italian Ministry of Foreign Affairs and International Cooperation, the US Embassy to Rome, Fondazione Compagnia di San Paolo, and in collaboration with LUISS University and the Stockholm International Peace Research Institute (SIPRI), has conducted a research project on the main challenges and opportunities for cooperation between the US and

the EU in key sectors, amidst increasing geo-economic rivalry among major powers. The project has also included a special focus on Italy's role within the Euro-Atlantic partnership.

This book presents the project's findings, which benefitted from the inputs of a group of international experts who were actively engaged in the research process throughout the project. The volume is composed of three sections. The first (chapters 1-2) offers a national perspective, focusing on Italy's role and positioning within the wider geopolitical context and on its transatlantic ties. The second section (chapters 3-6) examines the strategic dialogue between the US and the EU as it has developed in response to the reconfiguration of economic relations and to the growing weaponization of finance and trade. It also considers the limits and potential of US and EU trade and investment policies. These issues, which are strategic in a context of shifting global power, increased multipolarity and fragile value chains, are analysed with regard to four macro-themes: (i) industrial policy, (ii) control of foreign direct investment, (iii) export control of dual-use technologies and materials, and (iv) restrictive measures and sanctions. The third section (chapters 7-8) evaluates the current state of transatlantic cooperation and identifies potential avenues for making it more effective in areas that are key to geo-economic competition, with a focus on digital infrastructure and the diversification and resilience of supply chains.

The first chapter, by Giuseppe Travaglini, provides an overview of the economic relationship between the United States and Italy, using available data from recent decades. He argues that the revival of the EU-US relations represents both an opportunity and a strategic tool for addressing current geo-economic challenges and promoting the growth. The second chapter by Nicola Bilotta examines Italy's quest for technological sovereignty in the wider EU context and the challenges posed by global competition. It also examines how these efforts relate to and impact on transatlantic cooperation initiatives. The third chapter, co-authored by Fabio Bulfone, Donato Di Carlo, Filippo Bontadini and Valentina Meliciani, offers a comparative analysis of the policy strategies employed by the US and the EU in the semiconductor industry. The authors note that the comparison between the main features of the US CHIPS Act and the EU Chips Act, reveals that the EU badly needs increased suprana-

tional funding for digital industrial policy in order to establish itself as a global leader and enhance its standing relative to emerging powers. In the fourth chapter, Federica Marconi explores the rising use of FDI controls to safeguard critical sectors and assets from potentially hostile acquisitions by third countries, both in the EU and the US. She also discusses how this growing focus on FDI regulation influences transatlantic relations and the broader geopolitical landscape. The fifth chapter by Mark Bromley and Kolja Brockmann examines the export control of dual-use technologies and materials. Although transatlantic cooperation in regulating these sensitive exports has increased in recent years, significant differences remain between the EU and the US systems. The chapter compares key aspects of the two dual-use export control frameworks, analyses the different coordination processes, and assesses the prospects for deeper cooperation and greater convergence across the Atlantic in this critical area. The sixth chapter, authored by Francesco Giumelli, examines the impact of the mounting wave of restrictive measures and sanctions on the global economy, presenting three potential scenarios for its future trajectory. In the last two chapters Francesca Maremonti explores the potential for enhanced EU-US cooperation on digital infrastructure and data governance as a crucial aspect of transatlantic convergence, while Manuela Moschella discusses the possibility of greater coordination of the efforts to diversify supply chains and make them more resilient. In the conclusions, Riccardo Alcaro synthesises the core arguments from the eight chapters, weaving together the various insights into the evolving geoeconomic paradigm. A multifaceted picture emerges. Italy continues to face structural challenges, including insufficient investment in advanced technology, which hinders its ability to achieve technological sovereignty. The EU has made significant progress in reducing its reliance on single-source suppliers, but to maintain competitiveness, it must focus on niche sectors where it has a competitive advantage. The US, with greater financial capacity, is well-placed in the competitive race towards critical assets but faces its own challenges in maintaining a long-term competitive edge in a rapidly evolving market.

In such a challenging scenario and volatile time, it is of the utmost importance to identify and analyse the main factors that either hinder or facilitate the development of new forms of cooperation and partner-

ship among like-minded partners. This is of great importance to tackle shared challenges while also addressing the growing divide resulting from intensifying geo-economic competition among major powers. While progress has been made, significant discrepancies remain that necessitate a more comprehensive and structured discourse to result in a more tangible strengthening of the transatlantic partnership.

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1.
The US-Italy Economic Relation over the Last Decades

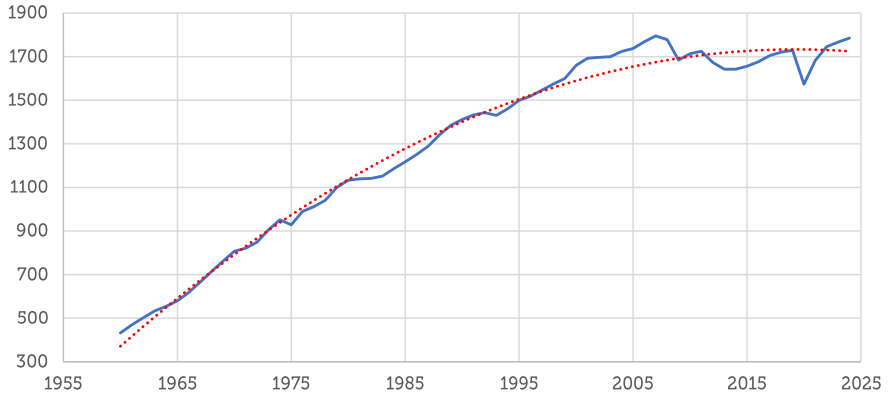
Giuseppe Travaglini

In the sixty years from 1963 to 2023, the peaks and troughs that characterised much of the Italian economic development alternated. As time passed, some weaknesses of the Italian economic system have been overcome. Others, old and new, have conditioned the path of the economic growth and the transformation of the Italian society. Some fragilities are common to other major European countries too, such as Germany and France. But others are historically country specific. The small size of firms, industrial specialisation in traditional sectors, low propensity to innovate, sluggish wages, and an increasing fragility of public finance remain structural knots of the Italian economy. Further, over the last thirty years, the growth of GDP (Figure 1.1), labour productivity, investment, and technology progress, have all shown continuous slowdown that nowadays appear as the main question of the Italian development (even though during the 1960s they were the highest among European countries).

This is the background of the relationship between Italy and the United States. This latter has been the main partner of Italy's industrial renaissance of post-war reconstruction. Starting from 1946, Washington helped post-fascist Italian governments to re-establish relations with the western community of nations. In January 1947 – on the visit of then Prime Minister Alcide De Gasperi to President Harry Truman – the US government agreed to allow Italy to be part of the post-war international order consolidating around the dollar. For Italy, two dates are crucial. The first one is 2 October 1946, when it was admitted to the Bretton Woods agreements, and the second is 27 March 1947, when Italy became full member of the Bretton Woods

institutions, namely the International Monetary Fund (IMF) and the World Bank. Afterwards, and throughout the Cold War, the Italian participation in the Marshall Plan sealed the strategic relationship between the two countries. The main consequence of this set of agreements was Italy's acceptance of openness to international trade and free competition.[1]

Figure 1.1 | Italian real GDP



Source: Eurostat, *AMECO database*, https://economy-finance.ec.europa.eu/node/27_en.

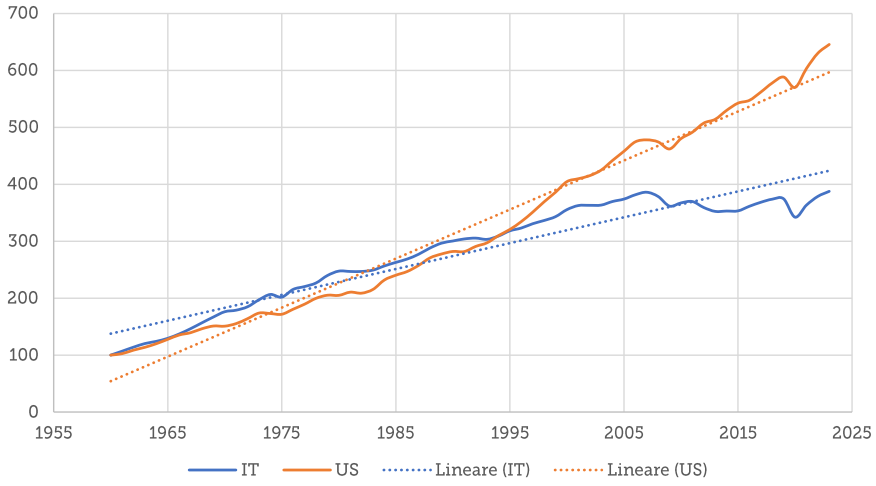
These short historical notes – widely known – are useful to trace the trajectory of geoeconomic and geopolitical relations between Italy and the United States over the more recent decades (Figure 1.2). Since 1945, the United States has been working to reintegrate the Italian nation into the international arena and into the group of its closest partners. The memory of the mistakes made in 1919 with the Treaty of Versailles, where the punitive outcome of that peace was a harbinger of future conflicts,[2] led the US government to adopt a multilateral view of international relations and advocate for a world order capable of laying the foundation for a recovery

[1] Guido Carli and Paolo Peluso, *Cinquant'anni di vita italiana*, Bari/Roma, Laterza, 1993; Adriana Castagnoli, "The US–Italy Economic Relations in a Divided World", in *IAI Papers*, No. 22|12 (May 2022), https://www.iai.it/en/node/15497; Emanuele Felice, *Ascesa e declino. Storia economica d'Italia*, Bologna, Il Mulino, 2015.

[2] John Maynard Keynes, *The Economic Consequences of the Peace*, London, Macmillan, 1919.

of Western European economies. In that period, US aid to Western Europe consisted mainly of goods and loans. Most of the loans came directly from the Economic Cooperation Agency (ECA) and from the Export-Import Bank. All this aid represented public investment. The early level of private US investment in the European economic recovery was extremely low.[3] The opening of foreign trade and the large increase in exports suggested that the Italian case fit into a pattern of *export-led* development that would characterise the post-war European experience.[4] This pattern has it that a stable rise in foreign demand generates an increase in income that tends to be self-sustaining through investment, which in turn increases productivity by making exports even more competitive.[5]

Figure 1.2 | US-Italy GDP growth (1960–2023)



Source: Eurostat, *AMECO database*, cit.

[3] Luciano Segreto, "Reopening the Doors: U.S. Private Investments in Italy and the International Economic Integration Policy of the Italian Government, 1945-1965", in *Business and Economic History*, Vol. 24, No. 1 (Fall 1955), p. 231-242, https://www.jstor.org/stable/23703287.

[4] Charles P. Kindleberger, *Europe's Postwar Growth. The Role of Labor Supply*, Cambridge, Harvard University Press, 1967.

[5] Augusto Graziani (ed.), *L'economia italiana dal 1945 a oggi*, 3rd ed., Bologna, Il Mulino, 1989.

Still today the United States is one of the most important markets for Italian exports, with a bilateral trade exchange of more than 89 billion euros.[6] Outside the European Union, the US economy is Italy's leading export partner, absorbing about 10 per cent of Italian exports, while Italian demand amounts to about 4 per cent of US exports.[7] These trade flows strengthened after the 2008 and Covid-19 crises. In 2022, the Italian manufacturing system consolidated its presence in the United States, confirming the international competitiveness of the Italian companies and the attractiveness of its products. It is no coincidence that Italian exports to the United States have reached record values, so much so that the United States is now in second place among Italy's customer countries, surpassing France, which since 1971 had firmly established itself as the second largest recipient after Germany.

However, the global scenario is continuously changing.[8] US multilateralism has been replaced by an increasingly unilateral view of its political and economic relations. The EU's commercial policy appears to be often inconsistent in relation to the strategies of individual countries. The international energy crisis, resulting from the Russian-Ukrainian conflict and the instability of oil strategies of Arab countries (as Saudi Arabia) poses new constraints on global economic growth. Further, digital transformation, machine learning and artificial intelligence are having a disruptive impact on many economic activities and global value chains.[9] Meanwhile, the green transition in advanced economies is struggling, with impacts on production, employment, education, and industry yet to be evaluated.[10]

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[6] infoMercatiEsteri, *Osservatorio economico*, novembre 2023.

[7] Ibid.

[8] Charles A. Kupchan, *The End of the American Era. U.S. Foreign Policy and the Geopolitics of the Twenty-first Century*, New York, Vintage Books, 2003; Sergio Romano, *Atlante delle crisi mondiali. Dalla guerra fredda ai conflitti moderni*, Milano, BUR Rizzoli, 2019; Tommaso Detti and Giovanni Gozzini, *L'età del disordine. Storia del mondo attuale 1968-2017*, Bari/Roma, Laterza, 2018.

[9] Giorgia Giovannetti, Enrico Marvasi and Giorgio Ricchiuti, "The Future of Global Value Chains and International Trade: An EU Perspective", in *Italian Economic Journal*, Vo. 9, No. 3 (2023), p. 851-867, https://doi.org/10.1007/s40797-023-00252-4.

[10] Ettore Greco, Federica Marconi and Francesca Maremonti, "The Transformative

This changing paradigm characterises the relationships between the Italian and US economy. From the overall picture, contradictory elements emerge. International trade between the two countries has grown over the last decade and represents a consolidated basis for industrial and geoeconomic relations. The slowdown is mainly captured by the evolution of the per capita GDP and labour productivity.

However, the US-Italy commercial relations remain a crucial tool to consolidate the strategic relationship in the global context. Both countries can get mutual benefits with the economic integration arising from bilateral trade, foreign direct investment (FDI) and more integrated global value chains.[11] Artificial intelligence and green transition are going to be priority issues in the US-Italy collaboration, and Italy has gathered some excellences in the robotics and energy industries; it is the world's sixth largest exporter of renewable technologies.[12] Hence, bilateral trade and FDIs, with an increasing cooperation among institutions and enterprises can be the 'leitmotif' for new and immediate synergies and win-win results.

1.1 Trade and investment in numbers

Italy is the 17th destination market for US exports and the 11th supplier to the US economy.[13] Additionally, the United States is the second destination market for Italian exports (10.4 per cent of total in 2022), after the European Union, and the US production system is the seventh supplier to the Italian economy (3.8 per cent of total imports in 2022).[14]

Potential of AI and the Role of G7", in *Documenti IAI*, No. 24|03 (March 2024), https://www.iai.it/en/node/18223.

[11] Filippo Bontadini et al., "Technology, Global Value Chains and Functional Specialisation in Europe", in *Research Policy*, Vol. 53, No. 2 (March 2024), Article 104908, https://doi.org/10.1016/j.respol.2023.104908.

[12] European House-Ambrosetti and National Italian American Foundation, *The Strategic Importance of US-Italy Relations. Past, Present and Future of a Mutually Beneficial Alliance*, September 2022, https://www.ambrosetti.eu/en/news/the-strategic-importance-of-italy-us-relations.

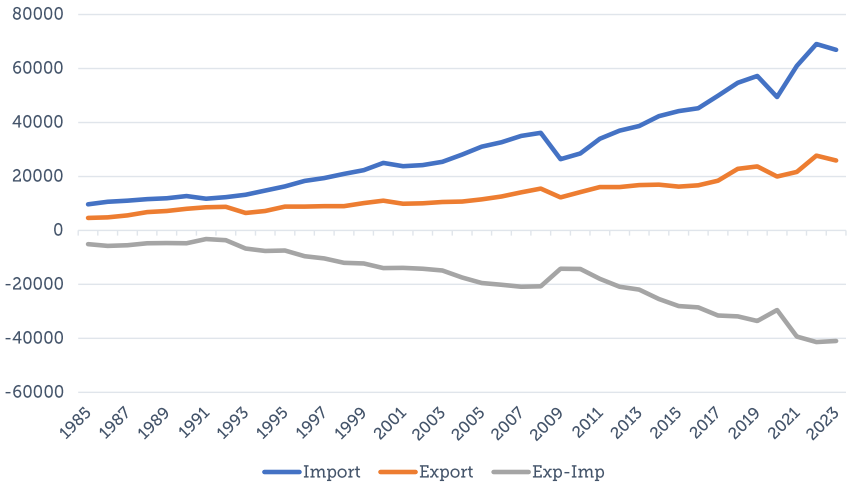
[13] Italian Trade Agency, *L'Italia nell'economia internazionale. Rapporto ICE 2021-2022*, 2022, https://www.ice.it/it/studi-e-rapporti/rapporto-ice-2020.

[14] infoMercatiEsteri, *Osservatorio economico*, 2022.

Trade balance

Figures 1.3 and 1.4 show the net export in goods and services between Italy and the United States over the last decades. Two facts stand out. Since the mid-1980s, US imports of Italian products have grown steadily (blue line) and are now worth more than twice as much as US exports to Italy (red line). Consequently, the US bilateral trade balance deteriorated progressively over the period, with a negative (net) balance of about 40 billion euros in 2023 (grey line). These trends are confirmed by the latest data. In the last decade, Italian exports of goods and services to the United States have shown an overall positive trend, except for the decline occurred in 2008 and 2020 due to the international financial crisis and the pandemic, respectively.

Figure 1.3 | US trade balance with Italy (million euros)



Source: Federal Reserve Bank of St. Louis, *FRED Economic Data* (2023), https://fred.stlouisfed.org.

As evidence of the dynamism of bilateral trade, since 2013 Italian exports of goods and services in the United States have almost doubled with an increase of 66 per cent. US exports have grown by 47 per cent since 2013.[15] According to data of ISTAT and ICE, the steady growth of

[15] infoMercatiEsteri, *Osservatorio economico*, 2023.

Italian exports across the Atlantic, since 1981, has placed the United States in second position in the ranking of destination countries for Italian exports. Data shows the consistent growth of Italian exports of goods in the United States, from 27 billion euros in 2013 to over 55 billion euros in October 2023, although with a slowdown compared to 2022 when they reached a total value of 65 billion euros. At the end of 2023, Italy was the second commercial partner of the US among European countries. Germany is the first with an export market share of 5.15 per cent, Italy is in second position with 2.36 per cent, followed by the United Kingdom with 2.07 per cent and France with 1.86 per cent.

In recent decades, a significant share of the Italian industry sector has focused on improving the *quality* of its exports to compete with low-cost emerging countries.[16] This change has led to a gradual shift in Italy-US trade towards market segments with higher added-value. As a result, Italian exporters achieved higher average unit values for their exports, increasing their mark-up compared to other countries.[17] Therefore, the improvement of Italy's trade balance with the United States was determined by both price and quality factors.

However, the benefits of this strategy were not equally distributed among Italian exporters. The highest profit margins were in the higher value-added sectors – such as pharmaceuticals, chemicals, automotive, made in Italy – and in traditional manufacturing sectors. These disparities highlight the need for new bilateral sectorial agreements between Italy and the United States to promote the coordination of innovation and technological advancement along the value chains of their commercial routes.

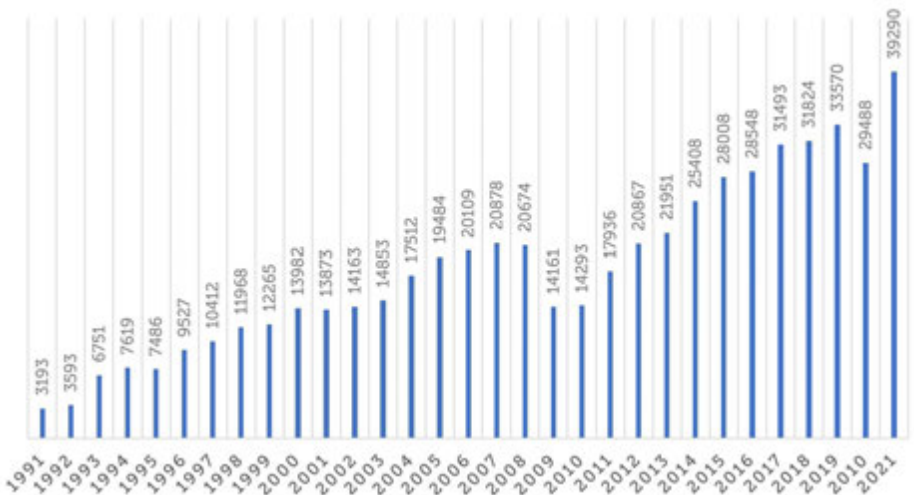
The specialisation of Italy's exports has shifted towards sectors less exposed to competitive pressures stemming from Chinese producers

[16] Sergio De Nardis and Fabrizio Traù, *Il modello che non c'era. L'Italia e la divisione internazionale del lavoro industriale*, Soveria Mannelli, Rubbettino, 2005; Sergio De Nardis, *Imprese italiane nella competizione internazionale*, Milano, Franco Angeli, 2010; Matteo Bugamelli et al., "Back on Track? A Macro–Micro Narrative of Italian Exports", in *Italian Economic Journal*, Vol. 4 (2018), p. 1-31, DOI 10.1007/s40797-018-0072-8.

[17] Alessandro Lanza and Beniamino Quintieri (eds), *Eppur si muove. Come cambia l'export italiano*, Soveria Mannelli, Rubbettino, 2007.

(vehicles and pharmaceuticals) and towards specific assets as food and beverages. Today, Italian exports to the United States are concentrated in machinery, automotive, chemical sector, food, beverages, tobaccos, textiles clothing and leather (Table 1.1). In 2023, the Italian production system consolidated its presence in the United States, confirming the competitiveness of national firms, the attractiveness of its products, and the dynamism of the US economy.

Figure 1.4 | Italy-US trade balance, 1991–2021 (million US dollars)



Source: Ambrosetti, Eurostat and US Census Bureau data, 2022.

Finally, regarding services, US exports to Italy have remained relatively stable since 2013 (8 billion dollars). Italian exports grew from 9 billion dollars in 2013 to a record figure of 11.8 billion dollars in 2019, and then decreased significantly following the Covid-19 crisis in 2020 (-62 per cent) and 2021 (-50 per cent). During the same period, the closure of many activities in the sector due to the pandemics has caused declines for the US exports (-38.5 per cent in 2020 and -32.7 per cent in 2021).

Foreign direct investment

Foreign direct investment refers to investments made by a firm or government of one country in another firm or project in a foreign country. The investment may involve the acquisition of a substantial share or the

complete purchase of a foreign company to expand operations in a new region.[18] FDI is a key tool in international economic integration because it creates stable and lasting links between the economies of different countries. It is a strategic tool and a crucial growth opportunity for Italy.[19]

Table 1.1 | Top sectors for Italian exports towards US

Sector	Share of total Italian exports (in %)
Machinery	18.3
Automotive	16.7
Chemical sector	12.4
Food, beverages and tobacco	9.9
Textiles, clothing and leather	8.4
Other manufactured products	8.1

Source: Istat, *Serie storiche commercio estero*, March 2024, https://www.istat.it/it/archivio/297230.

Data from the Organisation for Economic Co-operation and Development (OECD) and Bank of Italy for 2022 show a structural imbalance between high Italian FDI to the US and low US FDI to Italy. According to the Bank of Italy, in the 2022 the *stock* of Italian FDI in the United States amounted to 58.37 billion euros, while in the same year the US had in Italy a FDI stock equal to just 11.759 billion euros (Table 1.2). The annual net flow of FDI confirms this trend. In 2022, from the Bank of Italy FDI database emerges that the Italian net FDI to the United States amounted to about 7.7 billion euros compared to only 2.3 billion euros of US net FDI to Italy.

It should be noted that when compared to other countries, Italy is the eleventh investor in the United States.[20] The main sectors in which

[18] Eduardo Borensztein, José De Gregorio and Jong-Wha Lee, "How Does Foreign Direct Investment Affect Economic Growth?", in *Journal of international Economics*, Vol. 45, No. 1 (June 1998), p. 115-135, DOI 10.1016/S0022-1996(97)00033-0.

[19] Alessandro Borin and Riccardo Cristadoro, "Gli investimenti diretti esteri e le multinazionali", in *Questioni di Economia e Finanza*, No. 243 (October 2014), https://www.bancaditalia.it/pubblicazioni/qef/2014-0243/index.html.

[20] European House-Ambrosetti and National Italian American Foundation, *The Strategic Importance of US-Italy Relations*, cit.

Italian companies invest in the United States are industrial equipment, automotive, renewable energy, metals, food and beverages, auto components, software, and ICT. Conversely, the sectors in which US FDIs in Italy are most concentrated are chemicals, mechanics, software, electronics, telecommunications, and services (financial, insurance and banking). Added to these are new investments in the energy sector, infrastructure, fashion, and the sport industry.

Table 1.2 | Italy-US net FDI (million euros)

	2017	2018	2019	2020	2021	2022	Stock in 2022
Italian FDI in US	457	3,236	1,469	1,578	5,488	7,688	58,370
US FDI in Italy	-192	-675	-660	2,284	-304	2,278	11,759

Source: Bank of Italy data, *Direct Investment by Counterpart Country*, December 2023, https://www.bancaditalia.it/statistiche/tematiche/rapporti-estero/investimenti-diretti/index.html?com.dotmarketing.htmlpage.language=1.

FDI is crucial for Italy's domestic economic growth and for its international positioning. According to the Bank of Italy, in 2019 the United States was the first non-EU destination for Italy's inward direct investments. Their value in euros had almost quadrupled compared to Italy's FDIs in China or Russia. Likewise, Italy's foreign direct investment in the United States has increased steadily since the 2008 crisis.

However, according to the Bureau of Economic Analysis within the US department of Commerce, Italy has been rather unattractive for a long time. As stressed by Castagnoli, in 2020 US FDI in Italy "was as little as 7.6 per cent of US FDI in Germany and 11.1 per cent of that in France".[21] Italy's cumulative inward FDI investment is well below the EU average, due largely to structural problems that affect domestic as well as foreign investment. Despite belonging to the G7, Italy is not the best country in which to do business because of political instability, excessive bureaucracy, a slow judicial system, and inefficient infrastructure and tax system.[22]

[21] Adriana Castagnoli, "The US–Italy Economic Relations in a Divided World", cit., p. 3.

[22] World Bank, *Ease of Doing Business Rankings*, 2023, https://archive.doingbusiness.org/en/rankings.

Nevertheless, since 2021 the flow of US trade relations with Italy has started to grow and today US FDI in the Italian market mainly focuses on advanced technologies. According to KPMG – the global leader in professional business services – in the first three quarters of 2021, US mergers and acquisitions (M&A) in Italy amounted to 4.5 billion dollars, while that of Italian groups in the United States was worth a total of 1.8 billion.[23]

It should be noted that Italy is the seventh European country in terms of number of employees in US-controlled companies. According to data of the Italian Embassy in Washington,[24] as many as 3,151 Italian companies operate in the United States. They are active in the energy, textile-clothing, instrumental mechanics, and wholesale trade sectors, with more than 252,000 employees and a total turnover of 166.106 billion euros. In the United States, there are 1,826 Italian investors who hold stakes in 3,519 companies, supporting approximately 260,000 jobs and generating 143.7 billion of dollars in revenue. From the report emerges that 1,451 Italian companies have only one branch or joint venture in United States, while 375 have multiple shareholdings. Many companies operate in the manufacturing sector (522 subsidiaries, of which 479 with controlling interests): 22.8 per cent in instrumental mechanics, followed by metallurgy, information technology and electronic products, food and beverage industry, automotive sector, defence, wholesale and retail trade and catering. No less important is the fact that 2,564 companies in Italy are with US participation and that they employ 340,000 Italian workers. Their presence is substantial in Lombardy (51.4 per cent), Emilia Romagna (10.1 per cent) and Lazio (9.8 per cent).[25]

Italian companies investing in the United States are a mix of a few large companies and many small and medium-sized enterprises (SMEs). SMEs are the backbone of the Italian economy. They usually employ limited staff and make a massive use of 'state of the art' high-tech machinery. Geographically, most Italian companies are in the northern areas of

[23] Adriana Castagnoli, "The US–Italy Economic Relations in a Divided World", cit., p. 3.

[24] Marco Mutinelli (ed.), *L'impatto economico italiano negli Stati Uniti*, Washington, Italian Embassy, June 2023, https://ambwashingtondc.esteri.it/it/?p=2976.

[25] Ibid.

the country. They are representatives of the Italian 'fourth capitalism', which includes the well-known "Made in Italy" and a considerable number of highly specialised suppliers of complex and advanced products and components, grounded in technological.

Italian companies with at least a hundred employees are mainly located on the east coast of the United States (Northeast and South Atlantic together reach 50 per cent) and in the states of the Central-Eastern Northern regions (22 per cent). The state of New York is home to the largest number of businesses with at least a hundred employees. Interestingly, over three quarters of Italian investors come from Lombardy, Veneto, Emilia-Romagna and Piedmont. Investors from these regions represent more than two-thirds of companies and approximately 90 per cent of employees and turnover.[26]

Some critical aspects of FDI

Over the past thirty years, at the global level there has been a decline in FDIs to advanced economies, including Italy, in favour of emerging countries. In 1990, Italy represented 2.9 per cent of global FDI, but by 2012 this share had reduced to 1.6 per cent. This trend is common among major world economies, and currently, over a third of FDIs are held by emerging economies, with a significant role of China and the other BRICS nations (Brazil, Russia, India and South Africa).[27]

The role of emerging economies has not only grown as a *destination* for foreign investments, but also as a *source* of these investments. In 1990, over 90 per cent of FDI originated from advanced economies, but today, this percentage has drastically decreased. The United States, though still the primary source of FDI, accounts for less than one-fifth of the global stock.

Typically, FDIs in advanced countries are characterised by a prevalence of mergers and acquisitions, while in emerging countries, *green-*

[26] Ibid.

[27] Avisha Malik and Ash Narayan Sah, "Does FDI Impact the Economic Growth of BRICS Economies? Evidence from Bayesian VAR", in *Journal of Risk and Financial Management*, Vol. 17, No. 1 (2023), Article 10, https://doi.org/10.3390/jrfm17010010.

field investments (investments in new projects or enterprises) make up most of the operations both in number and value, despite an increase in M&A transactions. Accordingly, it is important to note that recent studies indicate that foreign multinational enterprises (MNEs) engaging in FDIs have technological advantages over domestic companies. Therefore, in general, it is believed that incoming FDI brings benefits to local businesses, including new technical skills, organisational and managerial routines, as well as access to new markets. However, the impact depends on the heterogeneous composition of FDI innovations within productive sectors.[28]

The study by Ascani et al. investigates this issue of FDI for Italy, using the dataset collected by the Bank of Italy.[29] This dataset categorises FDI inflow amounts by provinces and sectors. Employing the Pavitt taxonomy[30] of manufacturing sectors the study reveals that the knowledge advantages of MNEs may diffuse to local actors and enhance their innovative capacity, particularly in certain types of inward FDI.

Specifically, the study identifies that knowledge diffusion occurs more prominently in 'Science-based' sectors (these industries include electrical equipment manufacturing, fine chemicals, including pharmaceuticals and biotechnology, and aircraft) and, to a lesser extent, in 'Specialised supplier' activities (they include the sectors producing machinery and equipment; these products are new processes for other industries. Research and development (R&D) is present, but an important innovative input comes from tacit knowledge and design skills embodied in the labour force). These sectors are considered branches of manufacturing that can contrib-

[28] Konstantinos Dellis, David Sondermann and Isabel Vansteenkiste, "Determinants of FDI Inflows in Advanced Economies: Does the Quality of Economic Structures Matter?", in *ECB Working Papers*, No. 2066 (May 2017), https://www.ecb.europa.eu/pub/pdf/scpwps/ecb.wp2066.en.pdf.

[29] Andrea Ascani, Pierre-Alexandre Balland and Andrea Morrison, "Heterogeneous Foreign Direct Investment and Local Innovation in Italian Provinces", in *Structural Change and Economic Dynamics*, Vol. 53 (June 2020), p. 388-401, DOI 10.1016/j.strueco.2019.06.004.

[30] Keith Pavitt, "Sectoral Patterns of Technical Change: Towards a Taxonomy and a Theory", in *Research Policy*, Vol. 13, No. 6 (December 1984), p. 343-373, DOI 10.1016/0048-7333(84)90018-0.

ute knowledge input to other sectors through inter-industry linkages. The research also points out that different sectors may experience negative outcomes in terms of local innovation. For instance, FDI in 'scale-intensive' activities (they include industries where scale economies are relevant, as automotive, and basic metals, and a certain rigidity of production processes exists, so that technological change is usually incremental), where foreign MNEs are present, appears to be particularly detrimental to local knowledge generation. The same study emphasises the importance of considering *intersectoral* linkages in understanding the impact of FDI on innovation. It suggests that sectors relying heavily on external knowledge inputs, such as traditional 'supplier dominated' activities (they include traditional sectors, such as food and textile, where small firms are prevalent and technological change is introduced through the inputs and machinery provided by suppliers from other industries) may face more frequent challenges to innovation due to the presence of inward FDI.[31]

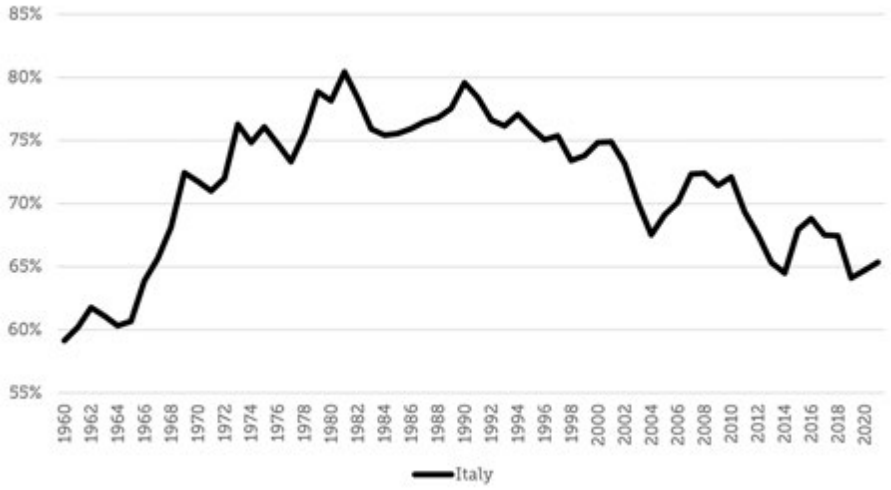
1.2 The US-Italy economic relation in the long run

For policy considerations, the previous analysis suggests that strategies to strengthen international trade and FDIs help promote economic development, innovativeness of the local economy, technology progress, and R&D. For Italy, this has crucial implications for its long-term relationship with the United States.

As said, the US-Italy economic dynamics changed profoundly during the last decades. An economic measure of this change is provided by the comparison of their real GDP per capita. This measure approximates the relative variations in the average income per head of population. Further, it is an index of the capacity of the economies to advance at similar or different growth rates over time. Obviously, the evolution of the ratio depends on many factors, including the initial level of development of the economies, the geopolitical scenario, production specialisation, and international trade and investment links.

[31] Francesco Bogliacino and Mario Pianta, "The Pavitt Taxonomy, Revisited: Patterns of Innovation in Manufacturing and Services", in *Economia Politica*, Vol. 33 (2016), p. 153-180, DOI 10.1007/s40888-016-0035-1.

Figure 1.5 | Italy's GDP per capita compared to the United States (US=100)



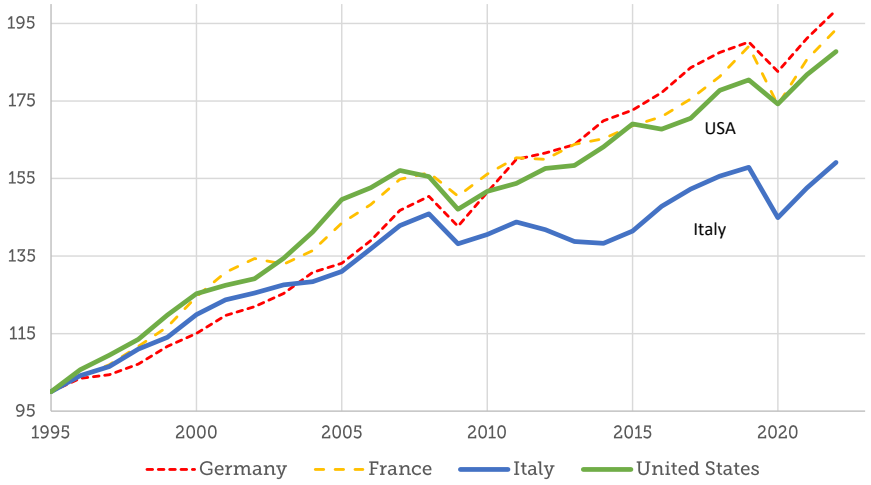
Source: Author's calculation on Eurostat, *AMECO database*, cit.

Figure 1.5 provides information on the long-term US-Italy economic changes. In the post-war period the geoeconomics and geopolitics of Italy and the United States were aligned to get the reintegration of Italy into the international community. This resulted in the 'catching up' of the Italian economy. As it emerges from Figure 1.5, the trajectory of the Italian economy *towards* the US one characterised the Italian development until the end of the 1970s. It was only with the end of the 1980s (caused by the changing international scenario, a consequence of the collapse of the Soviet Union, with the decreasing centrality of Europe on the international chessboard) that the weakening of the US-Italy relationship began to emerge. This structural change had a negative impact on Italian growth.

Figure 1.5 again shows this great transformation. In the early 1960s, Italy's average GDP was only 57 per cent of that of the United States. However, the growth rates of the Italian economy (6 per cent on average) – driven by the 'Marshall Plan', the openness to international trade, and the entry of the lira into the dollar area – drove the nation into the 'economic boom'. The ratio between per capita GDP improved in favour of Italy until the 1980s, when the value exceeded 81 per cent. It remained

around this threshold until the beginning of the 1990s. But thereafter the Italian economy entered a phase of prolonged slowdown, which caused it to lag not only the US economy but also the major European economies. To better describe the severity of this trend, Figure 1.6 reports the GDP growth patterns (measured in purchasing power parity – PPP) of Italy, the United States and of other major European economies since 1995. It emerges the dramatic slowdown of Italy when compared to others.

Figure 1.6 | GDP per capita of the major EU countries compared to the US (1995=100)



Source: Author's calculation on Eurostat, *AMECO database*, cit.

Finally, it is important to emphasise that the Italian slowdown is strictly related to the collapse of labour productivity, capital accumulation and technological progress. Tables 1.3 and 1.4 show the contributions of these inputs to the GDP growth as they result from the 'growth accounting' analysis.[32] From 1960 to 2022, there was a continuous deteriora-

[32] Robert M. Solow, "A Contribution to the Theory of Economic Growth", in *The Quarterly Journal of Economics*, Vol. 70, No. 1 (February 1956), p. 65-94, DOI 10.2307/1884513. See also Enrico Saltari and Giuseppe Travaglini, *Le radici del declino economico. Occupazione e produttività in Italia nell'ultimo decennio*, Torino, Utet, 2006; Enrico Saltari

tion in the structural forces of growth for Italy, resulting in a negative average GDP growth rate in most recent years. For the United States, on the other hand, relative stability prevailed, and this has contributed to maintaining its position as the world's leading economy.

These features stress once again the necessity for Italy to restart the investment in tangible and intangible assets,[33] focusing on sectors that can drive the realignment of the Italian economy with that of the United States. An intense effort that requires a revival of international cooperation. This should involve more structured synergies between the two nations, large companies, research institutions, universities, and emerging technology fields.

Table 1.3 | Growth accounting – Italy

Growth rates of:	> 60	61-70	71-80	81-90	91-2000	2001-10	2010-22
Real GDP	6,65	5,66	3,40	1,94	1,68	0,33	-0,10
Technology progress	4,74	4,19	1,28	0,57	0,86	-0,86	-0,05
Capital stock	1,78	1,78	1,48	1,04	0,79	0,78	-0,02
Labour	0,13	-0,30	0,64	0,33	0,03	0,40	-0,02

Source: Author's calculation on Eurostat, *AMECO database*, cit.

Table 1.4 | Growth accounting – US

Growth rates of:	> 60	61-70	71-80	81-90	91-2000	2001-10	2010-21
Real GDP	3.12	4,11	3,07	3,19	3,61	1,71	2,07
Technology progress	_	1,87	0,77	1,13	1,78	0,78	0,72
Capital stock	_	1,12	1,01	0,99	1,05	1,05	0,81
Labour	_	1,12	1,29	1,07	0,79	-0,12	0,54

Source: Author's calculation on Eurostat, *AMECO database*, cit.

and Giuseppe Travaglini, *L'economia italiana del nuovo millennio*, Roma, Carocci, 2009; Enrico Saltari and Giuseppe Travaglini, "The Productivity Slowdown Puzzle. Technological and Non-Technological Shocks in the Labor Market", in *International Economic Journal*, Vol. 23, No. 4 (2009), p. 483-509, DOI 10.1080/10168730903377819.

[33] Alessandro Bellocchi, Giuseppe Travaglini and Beatrice Vitali, "How Capital Intensity Affects Technical Progress: An Empirical Analysis for 17 Advanced Economies", in *Metroeconomica*, Vol. 74, No. 3 (July 2023), p. 606-631, https://doi.org/10.1111/meca.12421.

1.3 Conclusions

As the literature on international trade has extensively shown, the Italian economic growth in the post-World War II era was driven by Italian exports, with a consistent flow to the United States, and US investments in Italy.[34] However, the current global scenario reveals a weakening of the economic relations between the two nations.

Over the last thirty years, the Italian growth model has lagged the global one. Many factors are at the basis of the slowdown. At the end of the 1980s, the geopolitical context of European countries changed. In this transition, Italy witnessed a decrease of its strategic role in the transatlantic alliance, and an increase of its responsibility towards the EU for the reliability of its public finance. The combined effect of these changes was a shrinkage of resources for economic growth and an updating of its historical relations with the United States.

During this period, Italy has lost many large firms, lacked excellence in R&D, underfunded its university system and public research, struggled to consolidate its industrial positioning in the new sectors of communications, digital, ICT, and machine learning. Today, it has limited resources to meet the new challenges faced by firms oriented to internationalisation and innovation.

Currently, EU countries are supporting the recovery of the European economic system within the recovery plan named NextGenerationEU.[35] The objectives of the Italian National Recovery and Resilience Plan (NRRP) funded by NextGenerationEU are to promote the economic and social recovery of European nations after the crisis caused by the Covid-19 pandemic, enhance the country's resilience to potential future shocks, and strengthen the competitiveness and sustainability of the European economic system.[36] These objectives also include digital transformation,

[34] Augusto Graziani (ed.), *L'economia italiana dal 1945 a oggi*, cit.; Luciano Segreto, "Reopening the Doors", cit.; Giacomo Nardozzi, *Miracolo e declino. L'Italia tra concorrenza e protezione*, Bari/Roma, Laterza, 2004.

[35] European Union website: *NextGenerationEU*, https://next-generation-eu.europa.eu/index_en.

[36] See Italia Domani portal: https://www.italiadomani.gov.it/en/home.html.

green transition, social and territorial cohesion, as well as the enhancement of the research and innovation sectors.

Italy is among the nations that will benefit most from the resources and benefits associated with the NextGenerationEU fund (750 billion of euros in six years), but this is contingent upon its ability to fulfil the commitments made to the EU and achieve the goals agreed upon by the government. Importantly, many of the economic issues discussed in this chapter are included in the recovery plan, as well as strategic policies aimed at promoting greater competitiveness and sustainability of Italian economic system.

In this scenario, the data presented above show that the US-Italy international trade remains a key factor for global economic growth and a milestone of the geopolitical relationship between the two countries. But in the current context of international relations some further key questions arise.

Today, the US establishment is concerned about the economic relationship between Italy and Russia. Even before the Russian-Ukrainian conflict, companies from both countries started significant investment projects in the field of energy and oil extraction. Many Italian small and medium-sized firms played a relevant role in international supply chains from European countries to Russia.[37]

Similarly, Italian interests in 'routes to Asia' are the consequence of the new international (dis)equilibrium that sees the Chinese economy as a major player in international trade and value chains in high technology, communications, industrial vehicles, and microchip manufacturing.[38]

The framework of Italy's relations with African countries also deserves consideration because of the political instability of these regions and because of the strategic role they can play in global economic development. Italy possesses considerable potential soft power, including

[37] Giovanna De Maio and Nicolò Sartori, "Le relazioni tra Italia e Russia", in *Approfondimenti dell'Osservatorio di politica internazionale*, No. 144 (November 2018), https://www.iai.it/en/node/9691.

[38] Baker-McKenzie, *Chinese Outbound FDI Held Steady in 2021, As Global FDI Rebounded*, 26 January 2022, https://www.zawya.com/en/press-release/chinese-outbound-fdi-held-steady-in-2021-as-global-fdi-rebounded-qnca1zlk.

extensive expertise in various fields. It is widely recognised as a nation that promotes peace and fosters development. Consequently, Italian-led investments, peacekeeping efforts and economic initiatives are generally welcomed by local authorities. Italy has the potential to relaunch its strategic role in African countries. This opportunity can be a reason for a renewal of US-Italy relations in cooperation with African countries and a springboard for contributing to political stabilisation in the region.[39]

No less important is the EU's overall role in trade relations with the United States. The European Union, despite its heterogeneity, remains one of the major international economic players. Therefore, the strength of US-Italy relations also depends on the strategic value of the EU's role. As the European Commission recently emphasised "trade is key to the EU's long-term competitiveness" and the EU draws economic and political strength from its position as a major trader and investor.[40] The EU is today the world's largest exporter. The Italian economy and the "made in Italy" supply chain benefit from this positioning. In this geoeconomic scenario, it is important that the EU and the United States avoid tariffs and export restrictions, which would only slow down the development of Western countries and their transition to sustainable economic growth.

Today, the United States holds 15.4 per cent of the world's GDP in purchasing power parity. China accounts for 18.8 per cent and India for 7.5 per cent. Russia reaches the 2.9 per cent. In Europe, Germany accounts for 3.3 per cent and France for 2.2 per cent. Italy, at 1.83 per cent, is still among the top economies, albeit with some difficulties.[41]

If the current GDP is measured in *per capita* levels the positions among countries change greatly and Western economies jump to the top

[39] Ian O. Lesser, "The United States and the Mediterranean in an Age of Shocks", in *IEMed Mediterranean Yearbook 2020*, p. 248-250, https://www.iemed.org/publication/the-united-states-and-the-mediterranean-in-an-age-of-shocks.

[40] European Commission, *The 2024 Annual Single Market and Competitiveness Report* (COM/2024/77), 14 February 2024, https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52024DC0077.

[41] International Monetary Fund (IMF), *World Economic Outlook, April 2024. Steady but Slow: Resilience Amid Divergence*, https://www.imf.org/en/Publications/WEO/Issues/2024/04/16/world-economic-outlook-april-2024.

of this ranking. So, in 2023 the US current per capita income is more than 80 thousand dollars, while in China it is only 13 thousand dollars and in India it drops down to 2.9 thousand. Also, in Russia it is 14.4 thousand dollars. For Europe, in Italy the GDP per capita amount at 39 thousand dollars, in France 48 thousand and Germany 54 thousand dollars. These facts confirm the centrality of the European and US economies in the global economy and the strategic role of Italy for the stability of the US economy and its international relations.

It has often been stressed that the White House has never really believed in the primacy of markets over sovereignty.[42] The United States has been accustomed over the last seventy years to rule the world order. The United States knows that it is the strength of the economy, the institutional stability and the military power that make it the world's political leader and the dollar the international reserve currency. In this imperial vision, the United States does not consider trade deficits a risk because only a negative commercial trade balance allows the dollar to spread across the world. This is certainly not the case with China, jealous of its trade surplus and greedy for dollars, or the EU still uncertain between a federal vision of itself or a minimalist vision of a community of nations.[43]

American multilateralism characterised the international relations with European countries until the end of the 20th century. Instead, a unilateralist orientation has prevailed over the last three decades with the end of the Cold War.[44] Even in this new scenario, Italy remains a key partner of the United States because of its geopolitical and geoeconomic position. Moreover, a global leader like the United States benefits from sharing political and economic goals with its historical partners. Thus, strengthening trade between the two countries still emerges as a strategic asset of their international relations, not just their economic relations.

[42] Dario Fabbri, "Burro e cannoni: Il segreto del dollaro è la grandezza dell'America", in *Limes*, No. 2/2015, p. 23-32; Marcello De Cecco and Fabrizio Maronta, "Il dollaro non teme rivali", in *Limes*, No. 2/2015, p. 47-52.

[43] Sergio Fabbrini, *Sdoppiamento. Una prospettiva nuova per l'Europa*, Bari/Roma, Laterza, 2017.

[44] Charles A. Kupchan, *The End of the American Era*, cit.

DOI: 10.4458/7127-03

2.
Technological Sovereignty: Italy, the EU and the US

Nicola Bilotta

Technology will increasingly play a pivotal role in driving economic growth and serve as a critical competitive asset in global markets, enhancing productivity and profitability across all industries. International economic competition is intricately tied to technological advancements, and nations relying on foreign technology providers face a growing risk of dependency. Amidst escalating global geopolitical tensions, all major powers have implemented strategies to promote domestic technological development at different speeds and trajectories.

While China and the United States are leading the technological race, the European Union needs to catch up and reduce dependencies in its technological supply chain. Brussels has been promoting actions and initiatives to empower the Union's strategic autonomy in the technology domain. Yet, the EU struggles to find a balance between supranational policy and national policy; member states seem unwilling to leave strategic industrial responsibility to the EU level, while, at the EU level, 27 member states need to find consensus before acting.

Finding an alignment of objectives and related policy actions requires an enduring diplomatic effort. This becomes especially pertinent when addressing critical technologies as the EU grapples with balancing open trade and emerging economic security concerns. In this context, a significant aspect is the future of transatlantic relations within the technological and digital sphere, marked by a substantial imbalance and divergent developmental paradigms between the US

and the EU. However, the growing fragmentation of the global economy requires smooth and high-level cooperation between the two sides of the Atlantic.

To foster a balanced and efficient partnership with the US, the EU should consolidate its strategic positioning in the global supply chain and reduce its dependencies. Each EU member state will play a key role in supporting this ambition, shaping its national technological strategy in a European context to leverage complementariness and efficiently ensure its national and European development. Italy's technological sovereignty in a European context is a challenge and an opportunity. While Rome plays a marginal role in the EU's technological sphere, it has room to play a more relevant role in influencing the EU's agenda and, subsequently, in building a technical transatlantic bridge.

2.1 EU technological sovereignty: Looking for an identity in global and transatlantic relations

Escalating geopolitical tensions, particularly the risk of technological decoupling between China and the US, has put economic security and strategic autonomy at the forefront of countries' political agendas. Export restrictions, investment screening, control over technology transfers and domestic technology subsidies are becoming standard tools to mitigate the risk of technology dependencies.

The EU is not an exception. Since 2016, with the endorsement of the Global Strategy, the EU has begun incorporating the concept of strategic autonomy into its narrative with an initial focus on the foreign and security dimension. In the following years, reflecting a growing and conflicting geopolitical context, the perimeter of what strategic autonomy implies broadened its meaning and scope. With the European Commission led by Ursula von der Leyen, strategic autonomy has become an underlying political objective of the EU's external action. This drives the EU power agenda in the key strategic sectors.[1]

[1] Charlotte Beaucillon, "Strategic Autonomy: A New Identity for the EU as a Global Actor", in *European Papers*, Vol. 8, No. 2 (July 2023), p. 417-428, https://doi.org/10.15166/2499-8249/664.

Technological sovereignty is at the heart of such ambitions. It has been increasingly used interchangeably with digital sovereignty in the EU narrative.[2] Technologically, sovereignty is the ambition of the EU to strengthen its technical leadership and mitigate its dependence on foreign providers.[3] However, there is yet to be a standard definition of what technological sovereignty means or implies. EU documents refer to either "critical" technologies, "next frontier" or generic applications such as artificial intelligence, or blockchain.

This vagueness undermines the EU's aspirations for technological sovereignty as the definition of the term plays a crucial role in shaping policy objectives and the impact of these ambitions. In addition, any plan on technological sovereignty must consider the delicate allocation of powers between the EU and its member states and related variations in priorities and interests among member states. It must synchronise the stance of twenty-seven countries where EU institutions determine specific competencies (such as trade) while national governments lead others (such as foreign policy and national security).

Nevertheless, the policy ambitions and the approaches aimed at enhancing technological sovereignty can be discerned from the evolution of the European Commission's agenda in this domain.

In the 2020 Communication on Shaping Europe's Digital Future, the European Commission set a first basis, stating that technological sovereignty starts with the integrity and resilience of data, infrastructure, networks and communication.[4] Building on this high-level political objective, with the Communication on the 2030 Digital Compass, endorsed in March 2021, Brussels has established an ambitious action plan grounded on four pillars to enhance technological development within the EU: (i) digitally skilled citizens; (ii) secure, efficient and sus-

[2] Nathalie Tocci, *European Strategic Autonomy: What It Is, Why We Need It, How to Achieve It*, Rome, IAI, February 2021, https://www.iai.it/en/node/12819.

[3] Matthias Bauer and Fredrik Erixon, "Europe's Quest for Technology Sovereignty: Opportunities and Pitfalls", in *ECIPE Occasional Papers*, No. 2/2020 (May 2020), https://ecipe.org/?p=81627.

[4] European Commission, *Shaping Europe's Digital Future*, Publications Office of the EU, 2020, https://data.europa.eu/doi/10.2759/091014.

tainable infrastructure; (iii) digital transformation of business and (iv) digitalisation of the public administration.[5]

With the 2030 Digital Compass, the EU aims to gradually transition from primarily functioning as a regulatory power to actively asserting its presence in the technology realm. The Gaia-X cloud computing initiative serves as an interesting example. Despite diverging opinions on the success or failure of the project, Gaia-X was meant to consolidate various small European initiatives to foster a robust and sustainable cloud infrastructure within the region, aiming at providing an alternative to American and Chinese cloud providers. From a political standpoint, Gaia-X's significance lies in its status as the initial effort to implement the new European Commission's policy approach aimed at fostering pan-European technological development.

While the 2030 Digital Compass prioritises an approach to address technology gaps in the EU, the Economic Security Strategy endorsed in June 2023 underscores and scales up the political imperative to mitigate dependencies in a challenging global geopolitical landscape. The strategy outlines economic security measures to reduce the EU's excessive dependencies while maintaining an open and rules-based international trade system. In terms of concrete actions, a cardinal point is the establishment of risk assessment mechanisms, conducted in collaboration between the European Commission and member states, on four key areas: (i) resilience of supply chain; (ii) physical security and cybersecurity of critical infrastructure; (iii) technology security and technology leakage; (iv) economic dependencies and risk of economic coercion.[6]

While the risk assessment marks a significant milestone, uncertainties persist regarding potential follow-up actions. The strategy broadly mentions that to mitigate identified risks, the EU envisions a three-phase approach driven by competitiveness, economic security and forming partnerships with as many partners as possible. Moreover, the EU

[5] European Commission, *2030 Digital Compass: The European Way for the Digital Decade* (COM/2021/118), 9 March 2021, https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52021DC0118.

[6] European Commission, *European Economic Security Strategy* (JOIN/2023/20), 20 June 2023, https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52023JC0020.

has endorsed four actions for the future: a legislative proposal to revise the EU Foreign Direct Investment Screening Regulation, a white paper addressing security risks related to EU outbound investment; another white paper focusing on improving controls for the export of dual-use goods to uphold international security; additional white papers on supporting research and development in technologies with dual-use potential; and a proposal for enhancing research security through a Council Recommendation.[7]

Given the progression of the EU agenda in this field, it seems that technological leadership, digital autonomy, and economic security have become interlinked policy objectives. Nevertheless, integrating security considerations into economic policies is a sensitive political decision and could lead to additional tensions among member states.[8] While the EU's Economic Security Strategy currently emphasises a protective stance from dependency on foreign countries, it should be complemented by a cohesive strategy aimed at bolstering the technological industrial capabilities across the EU. This entails proactively investing in research, innovation, and infrastructure to ensure the EU remains competitive in the global technology landscape. Yet, this ambition requires a political commitment to promote joint public investments and non-efficient market strategies.

Signs are not encouraging though.

Economically conservative member states have recently cut the proposal for an EU fund of 10 billion euros to develop critical technologies for future energy networks in Europe. They aim to limit their contributions to the EU budget and avoid new joint debt to finance new initiatives while prioritising the allocation of funds for competing, short-term priorities.[9] Moreover, an internal subsidy race could undermine the EU's common objective, favouring some EU economies that can mobi-

[7] European Commission, *Memo on European Economic Security*, 24 January 2024, https://ec.europa.eu/commission/presscorner/detail/en/qanda_24_364.

[8] Jakob Hanke Vela, "The 4 Technologies Europe Wants to Keep Safe from China", in *Politico Brussels Playbook*, 3 October 2023, https://www.politico.eu/?p=3650310.

[9] Gabriel Gavin and at., "EU's Green Funds Are Under the Guillotine", in *Politico*, 15 December 2023, https://www.politico.eu/?p=4024425.

lise more extensive public financing sources. For example, Germany was able to attract Intel's largest-ever foreign investment of 30 billion euros to establish two chip manufacturing facilities in Magdeburg as part of its European expansion strategy. The German government provided substantial support by committing subsidies for 10 billion euros to the American manufacturer.

Despite remarkable efforts, Europe still needs a common strategy to finance the challenges accompanying its supranational ambition of technological sovereignty. At the same time, national policies cannot assume this role because European rules on budgets and state aid limit the independent interventionism of individual countries' actions. A further element of uncertainty lies in the upcoming European elections. A potentially different parliamentary majority and Commission could result in different visions on how to consolidate its ambitions in the technological domain or how to shape its joint effort to promote technological sovereignty.

2.2 EU ambitions for a transatlantic bridge

The evolution of the EU's technological ambition is directly connected with transatlantic relations. The US and the EU are each other's main commercial trading partners in digitally-deliverable services.[10] According to the Transatlantic Economy 2023 report, the US exported 283 billion US dollars in digitally-deliverable services to Europe – double the figure for the entire Asia-Pacific region. In 2020, the US represented 22 per cent of the EU27's digitally-enabled services exports to non-EU27 countries and 34 per cent of EU27 digitally-enabled services imports from non-EU27 countries. According to Eurostat data for 2020, the US purchased 122.1 billion euros worth of digitally-deliverable services, making it the largest importer of EU27 exports in this sector. In 2019, 585 billion US dollars cent of the 998 billion in services provided to Europe by US affiliates were digitally enabled. During the same period, US affiliates in Europe provided 585.5 billion US dollars in digitally enabled services, while European affil-

[10] Digitally-enabled or digitally-deliverable services include digital services as well as activities that can be specified, performed, delivered, evaluated and consumed electronically.

iates in the US provided 287 billion US dollars in digitally enabled services. The digitally-enabled services supplied by US affiliates in Europe were more than double the US digitally-enabled exports to Europe, and the digitally-enabled services provided by European affiliates in the US were double the European digitally-enabled exports to the US. In 2020, Europe represented 72 per cent of the 333 billion US dollars in global information services provided abroad by US multinational corporations through their majority-owned foreign affiliates.[11]

Despite this solid economic basis, the EU and the US have divergent views on how technological development and innovation should be regulated, especially with regard to data management and protection and competition in digital markets. In addition, Brussels and major European capitals have stated that the dependency on technologies and providers – including the American ones – is a vulnerability and a risk for the Union.[12]

The EU has sought to establish standards and regulations in technology, compelling foreign technology companies to adhere to these rules to access the EU's domestic market, one of the largest and wealthiest in the world. Positioned at the forefront of regulations, the EU has also generated a spillover effect from its regulatory interventions influencing other jurisdictions. For instance, the General Data Protection Regulation (GDPR) has inspired revising privacy laws in 120 countries. The effort has continued with the approval of the Digital Market Act (DMA), Digital Service Act (DSA), the Artificial Intelligence Act (AI Act), and the Data Act, which aim to set boundaries and regulate digital markets and technology. As US corporations currently dominate European technology markets, the US Administration and US private enterprises have raised concerns about EU legislation's

[11] Daniel S. Hamilton and Joseph P. Quinlan, *The Transatlantic Economy 2023: Annual Survey of Jobs, Trade and Investment between the United States and Europe*, Washington, Foreign Policy Institute, Johns Hopkins University SAIS/Transatlantic Leadership Network, 2023, https://transatlanticrelations.org/?p=4334.

[12] Massimo Craglia (ed.), "Artificial Intelligence and Digital Transformation: Early Lessons from the COVID-19 Crisis", in *JRC Science for Policy Reports*, 2020, https://data.europa.eu/doi/10.2760/166278.

potential adverse or uncompetitive effects, stating that EU regulations might unfairly target US firms.[13]

Following challenging times during the Trump Administration, characterised by trade frictions and disagreements in digital and taxation policies, President Joe Biden has embraced a more cooperative approach. In December 2020, a Joint Communication to the European Parliament and Council introduced a fresh EU-US agenda for global transformation. It underscored the unparalleled strength and influence of the transatlantic alliance, advocating for its use to uphold a rules-based order as a counter to authoritarian forces. Since the beginning of his presidency, remarks by President Biden set the stage for enhanced transatlantic diplomacy, setting the ground for the establishment of the Trade and Technology Council (TTC) in 2021. The TTC was greeted with great enthusiasm as an opportunity to revive transatlantic cooperation on strategically central issues. It is essential to clarify that the TTC's goal is not to establish a free trade agreement but to encourage ongoing dialogue between the two sides of the Atlantic to address common challenges and propose coordinated actions and responses.

The rapprochement has not resulted in the elimination of obstacles and frictions since differing strategic priorities between Washington and Brussels remain.

First, political agendas between the EU and the US are driven by different underlying and substantial ambitions of economic security. The US has shifted its focus to prioritise national security within its global economic agenda even at the expense of trade. The EU has instead adopted a strategy based on diversifying its supply chain and mitigating dependencies. Moreover, the EU must balance approaches and interests that might diverge across its member states.[14]

[13] Martin Coulter, "Exclusive: US Lawmakers Warn Biden to Probe EU Targeting of Tech Firms -Letter", in *Reuters*, 18 December 2023, https://www.reuters.com/technology/us-lawmakers-urge-biden-probe-eu-targeting-tech-firms-letter-2023-12-18.

[14] Marcin Szczepański, "EU-US Trade and Technology Council Modest Progress in a Challenging Context", in *EPRS Briefings*, February 2023, https://www.europarl.europa.eu/thinktank/en/document/EPRS_BRI(2023)739336.

Second, a shared and complementary strategy to maximise investment plans has yet to be agreed. The risk that the US and the EU engage in a subsidy race rather than developing a virtuous synergy is evidenced by the Inflation Reduction Act (IRA), adopted by the US Congress in August 2022, or by the introduction of the EU Chips Act and the Chips and Science Act.[15]

Despite its name, the former is a massive investment plan in green technologies. The EU has raised concerns about the potential for the IRA to instigate a transatlantic subsidies competition and about the possibility of investment in EU green technologies being diverted to the US due to the IRA's attractive incentives and discriminatory rules. Given that the EU lacks a free trade agreement with the US, EU companies do not qualify for the subsidies under the IRA. While a dedicated TTC task force was set up to discuss the US implementation rules for the Inflation Reduction Act, efforts towards a broader solution are still underway.

In the case of the Chips Act, discussions about avoiding subsidy competitions are ongoing, but they have yet to prevent subsidy programmes from advancing. Government initiatives supporting foundries and significant private investments have a risk of generating an overcapacity for chip production. Competing subsidy schemes might escalate into trade disputes between the EU and the US at the World Trade Organisation.

2.3 Italy: Finding an identity in a global context

The paradigm change at the EU level forces member states to embrace a new mindset, shifting from an open market and free trade economic policy to a more geoeconomic approach. The new industrial policy and financial security measures will shape the future of the EU with a powerful influence on member states. Yet, the EU always has to work hard to find a synthesis between national and European strategic objectives. Sometimes, there may be instances of overlapping, while at other times, national interests may diverge.

[15] Andy Bounds, "Belgium Accuses US of 'Aggressive' Push to Lure European Business", in *Financial Times*, 10 January 2023, https://www.ft.com/content/16816444-1694-4530-84bb-ac289d6776dd.

In this dynamic EU internal discussion, while its national technological strategy has been largely aligned with the evolution of the EU approach, Italy appears side-lined. France and Germany dominate the internal negotiation on EU technological sovereignty, which also drives transatlantic relations in this domain. The French government has been a central driving force on technology issues, pushing to promote EU domestic digital infrastructure, launch joint initiatives, establish European tech champions and increase domestic capacity. Berlin, by contrast, has been more focused on industrial competitiveness while avoiding protectionism.

Despite being the third-largest economy and second-largest manufacturer of the Union, Italy is not a frontrunner in the digital and technology domain, even if it excels in some niches. According to the Digital Economy and Society Index (which combines data on human capital, connectivity, integration of digital technologies and digital public services), Italy ranks 18th out of the 27 EU member states.[16] In 2022, Italy allocated only 1.3 per cent of its GDP to research and development (R&D) against 2.18 per cent by France and 3.13 per cent by Germany.[17] It is unsurprising that looking at high-tech manufacturing, Italy's production value was about 57.7 billion euros, while France's and Germany's were 139.7 billion euros and 184.5 billion euros, respectively.[18] Even smaller EU member states with high-tech knowledge and services-oriented economies have higher stakes than Italy in shaping the technological industrial policy of the EU. While Italy's high-technology exports as a percentage of manufactured exports represented 8.7 per cent in 2022, the figure was around 20 per cent in the Netherlands, France and Belgium and about 15 per cent in Sweden, Latvia, Hungary, Greece, Denmark and Germany.[19]

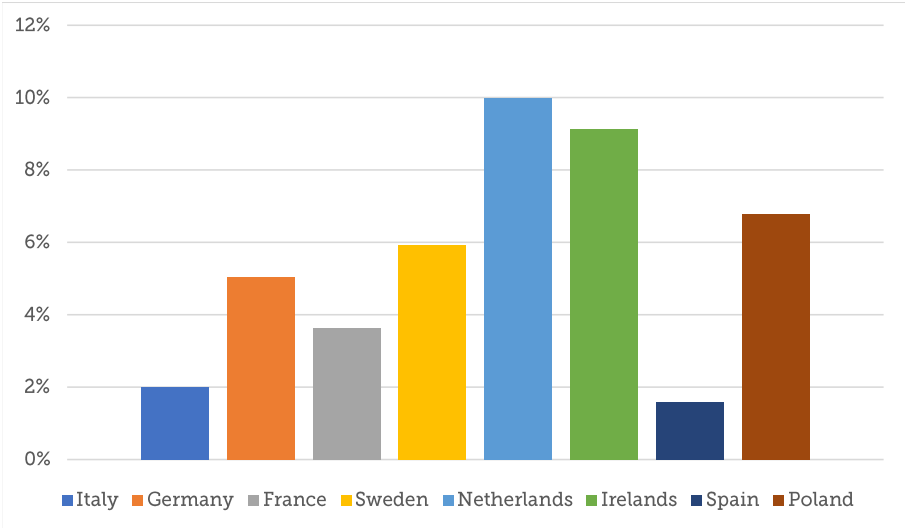
[16] Eurostat, *R&D Expenditure*, March 2024, https://ec.europa.eu/eurostat/statistics-explained/index.php?title=R%26D_expenditure&oldid=551418.

[17] Ibid.

[18] Eurostat, *International Trade and Production of High-Tech Products*, September 2023, https://ec.europa.eu/eurostat/statistics-explained/index.php?title=International_trade_and_production_of_high-tech_products.

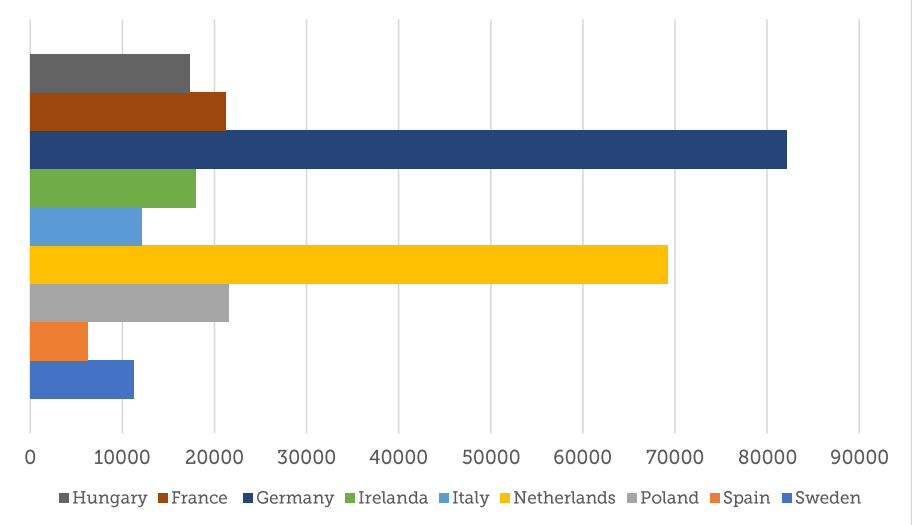
[19] World Bank Data: *High-Technology Exports (% of Manufactured Exports) - European Union*, https://data.worldbank.org/indicator/TX.VAL.TECH.MF.ZS?locations=EU.

Figure 2.1 | Share of ICT goods as a percentage of total trade in 2021



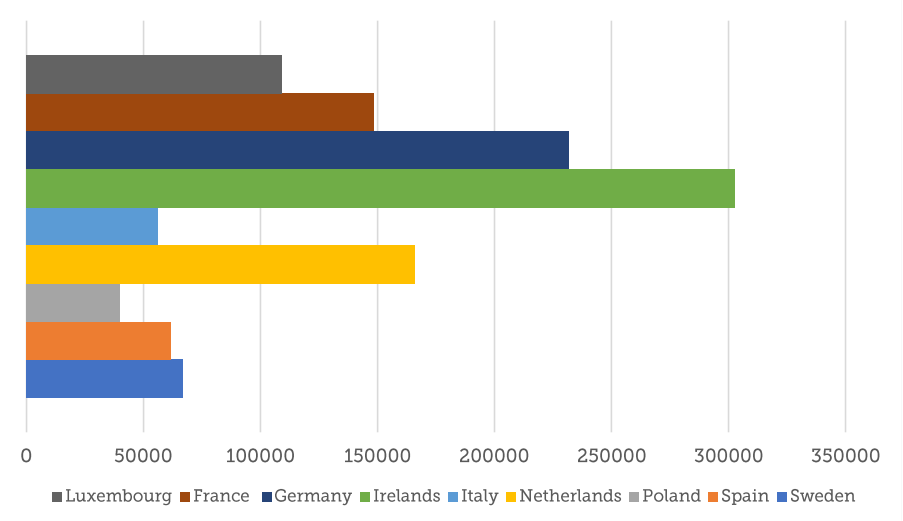
Source: Author's elaboration from UNCTADStats, *Share of ICT Goods as Percentage of Total Trade, Annual*, last updated on 14 February 2024, https://unctadstat.unctad.org/datacentre/dataviewer/US.IctGoodsShare.

Figure 2.2 | ICT total export in 2022 (million US dollars)



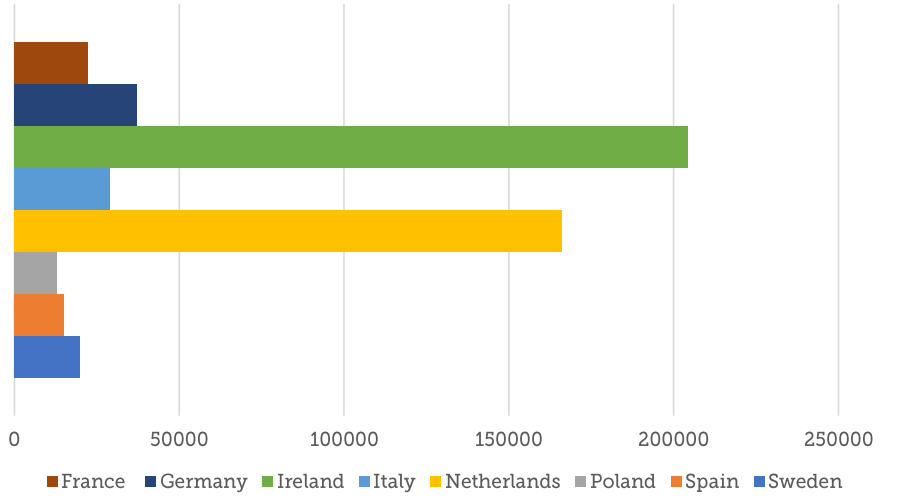
Source: Author's elaboration from UNCTADStats, *Share of ICT Goods as Percentage of Total Trade, Annual*, cit.

Figure 2.3 | International trade in digitally-deliverable services in 2022 (million US dollars)



Source: Author's elaboration from UNCTADStats, *Share of ICT Goods as Percentage of Total Trade, Annual*, cit.

Figure 2.4 | International trade in ICT services in 2022 (million US dollars)



Source: Author's elaboration from UNCTADStats, *Share of ICT Goods as Percentage of Total Trade, Annual*, cit.

However, Rome has been trying to consolidate its role in this field. On the one hand, it has been supporting the efforts of the EU to foster a technological sovereignty strategy, playing a pivotal role in shaping regulatory initiatives (from the AI Act to the Digital Market Act) and promoting a plan to boost its internal capacity in the framework of the National Recovery and Resilience Plan (NRRP).

More specifically, under Mario Draghi's government (February 2021-October 2022), the Minister of Technological Innovation and Digital Transition promoted the "Italia Digitale 2026" plan, which was primarily aligned with the EU Digital Compact objectives and funded in the framework of Italy's NRRP.[20] Vittorio Colao, Minister for Technological Innovation and Digital Transition in Draghi's government, set the ground for the Italian vision of national technological strategic autonomy. Italy framed European sovereignty where Italian actors could develop synergies in the EU landscape to consolidate its national players. Moreover, Italy should shape collaboration and cooperation independently from the EU. While the current government has abolished the post of minister for innovation, leaving the competence to the Undersecretary to the Presidency of the Council of Ministers Alessio Butti, Giorgia Meloni's government has broadly confirmed the previous priorities, incorporating an Italian and European strategic autonomy approach.[21]

On the other hand, while maintaining a collaborative approach with China and other third countries – such as India –, Rome has clarified its alignment on crucial emerging technology issues. The Draghi government carefully leveraged its special power to prevent mergers and acquisitions with Chinese companies in strategic high-technology sectors, such as in the 5G infrastructure. The recent decision of Meloni's government to exit from the Belt and Road Initiative confirms Italy's approach.

[20] Italian Minister for Technological Innovation and Digital Transition, *Italia digitale 2026. Risultati 2021-2022 e azioni 2023-2026*, October 2022, https://innovazione.gov.it/notizie/articoli/documento-italia-digitale-2026.

[21] Alessio Butti, "Butti: 'Connessioni, sicurezza e competenze: le priorità del Governo per l'Italia digitale'", in *Agenda Digitale*, 20 March 2023, https://www.agendadigitale.eu/?p=175767.

As a reflection of the Italian tech sector's degree of maturity, technology does not lie at the core of its bilateral relations with the US. In 2022, bilateral trade in goods and services between the US and Italy reached a historic peak of 117 billion US dollars. Italy was the 19th largest market for US exports, valued at 37.1 billion US dollars, and the sixth largest export market within the EU, trailing Germany, the Netherlands, Ireland, France, and Belgium. US exports to Italy primarily focus on oil and gas, precious metals, machinery, and pharmaceuticals. The US is Italy's largest non-EU export market, comprising approximately 10 per cent of all exports and 22 per cent of non-EU exports. In 2022, the US was Italy's second-largest export destination, after Germany, with US imports from Italy reaching 80.2 billion US dollars, resulting in a trade surplus for Italy of 43 billion US dollars.[22]

Italian foreign direct investment (FDI) in the US amounted to 46.2 billion US dollars in 2022.[23] Critical sectors for Italian FDI encompass industrial equipment, renewable energy, food and beverages, electronic components, software and IT services, and metals. Italy's cumulative inward FDI investment remains below the EU average. Conversely, US direct investment in Italy totalled just 26.1 billion US dollars in 2022, ranking tenth among EU destinations, following Norway, and representing one-third of that invested in Spain. US investment in Italy predominantly focuses on manufacturing, energy, food and beverages, and software and IT services, with significant industrial partnerships in the aerospace and automotive sectors.[24]

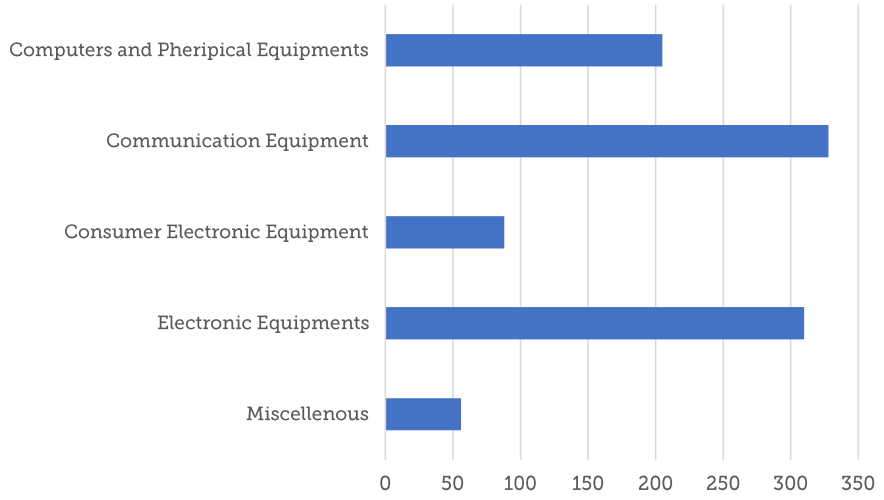
However, deepening economic ties and cooperation with the US on technology could be a key factor in strengthening and expanding Italy's domestic technological capacity. As expressed in the latest Joint Declaration of the 14th Italy-US Joint Commission Meeting on Science and Technology Cooperation in January 2023, technology cooperation is perceived as a strategic issue in US-Italy relations.

[22] US International Trade Administration, *Italy - Market Overview*, last updated on 23 January 2024, https://www.trade.gov/country-commercial-guides/italy-market-overview.

[23] Ibid.

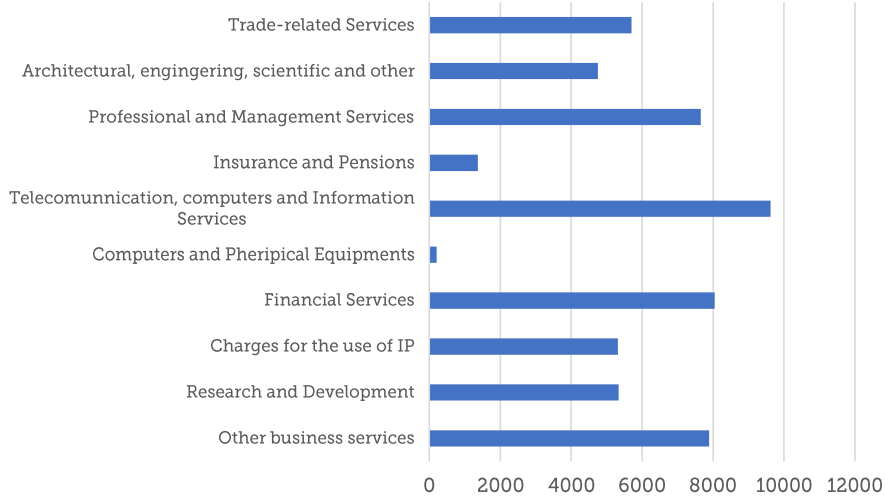
[24] Ibid.

Figure 2.5 | Italian export to North America in ICT goods in 2021 (US dollars)



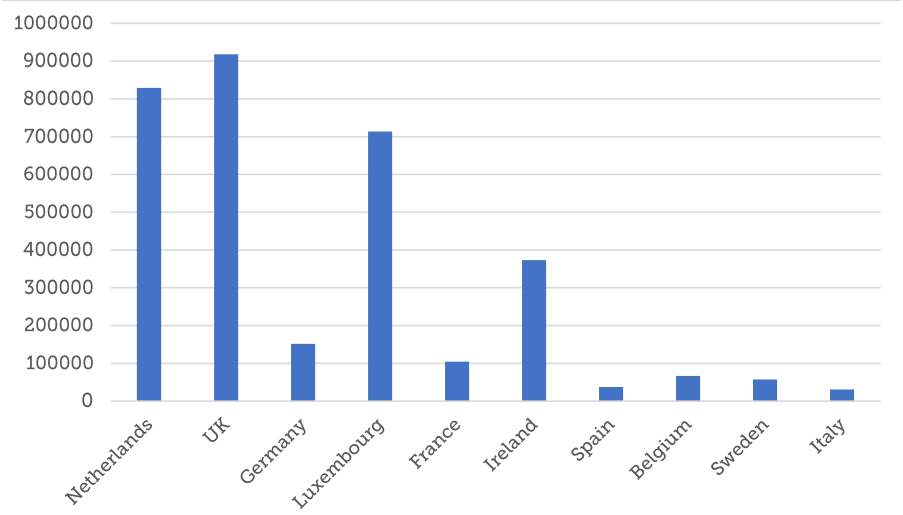
Source: Author's elaboration from UNCTADStats, *Share of ICT Goods as Percentage of Total Trade, Annual*, cit.

Figure 2.6 | Italian international trade in digitally-deliverable services in 2022 (US dollars)



Source: Author's elaboration from UNCTADStats, *Share of ICT Goods as Percentage of Total Trade, Annual*, cit.

Figure 2.7 | FDI stock from the US to selected EU countries



Source: European House-Ambrosetti and National Italian American Foundation, *The Strategic Importance of US-Italy Relations. Past, Present and Future of a Mutually Beneficial Alliance*, September 2022, https://www.ambrosetti.eu/en/news/the-strategic-importance-of-italy-us-relations.

Yet, it is not clear which vision Italy has on how to shape and leverage such cooperation. First, the document stressed that this initiative does not envision any funding line for nongovernmental research centres and academic institutions to establish new projects; they need, instead, to leverage their funds for cooperation projects.[25] This clearly potentially anchors down potential opportunities for cooperation between institutions from the two sides of the Atlantic. Second, out of the eighteen projects that are funded through Italian public grants in this framework, only two are allocated to the strategic areas identified in the Italian technological strategy, namely AI and chips.

[25] Italy and US, *Joint Declaration of the 14th Italy-U.S. Joint Commission Meeting on Science and Technology Cooperation*, Rome, 26-27 January 2023, https://www.esteri.it/wp-content/uploads/2023/01/JOINT_DECLARATION_OF_THE14th-ITALY-U.S._JOINT_COMMISSION_MEETING_Signed.pdf.

On the other hand, while private investments from the US could play a crucial role in enhancing the competitiveness of Italy's technological ecosystem, Italy must undertake significant efforts to become an attractive destination for US FDI in the tech sector. This includes improving regulatory frameworks, fostering a more innovation-friendly environment, and addressing infrastructural and bureaucratic hurdles that currently deter potential investors. By creating a more conducive environment for business and innovation, Italy can position itself as a more appealing option for American tech funding.

2.4 Conclusion

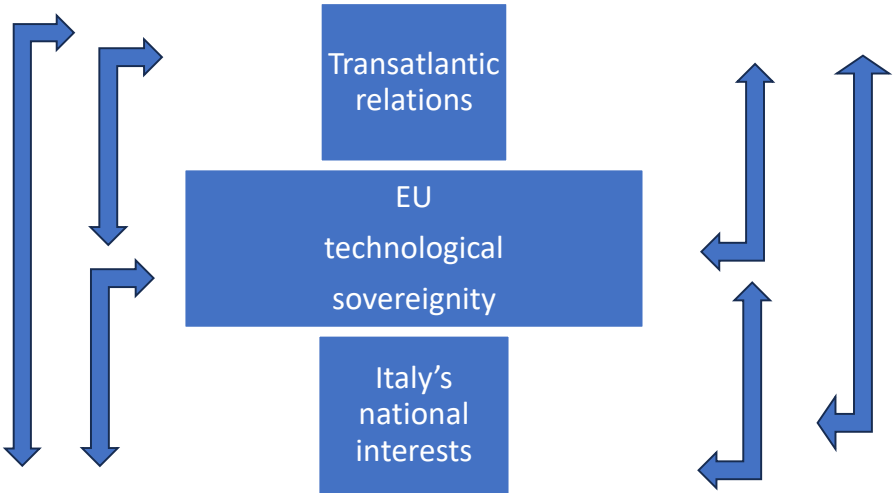
The challenge is to scale up Italy's internal capacity to improve its strategic positioning with concrete actions to consolidate its national interests within the EU and in transatlantic technological relations.

As technology is a global and geostrategic game, Italy must pursue two main objectives: (i) foster internal technological competence and capacity with concrete actions such as promoting public and private investments in key strategic technologies – such as AI applications and chips – levering Italy's existing niche of excellence and (ii) strengthen Italy's geopolitical influence in the technological domain consolidating Italy's voice in the EU institution and expanding collaboration with third countries. To achieve these ambitions, Rome must have a multi-layer strategy. First, its national technological strategic autonomy should be pursued in a European context. Second, since Italy and the EU have privileged economic and political relations with the US, Rome should be more proactive in shaping these efforts. Third, Italy should be acting to strengthen its ties with other global partners while standing within the EU and transatlantic framework.

First, Rome needs to accelerate the implementation of the "Italia Digitale 2026" plan. In addition to detailing ambitions and actions, the document stressed that Italy would have prioritised three critical strategic areas in which it could actively advance the EU's ambition for strategic autonomy: space, artificial intelligence, and advanced technologies – with a specific reference to semiconductors. In line with this ambition, Italy needs to strategically evaluate how to maximise its comparative advantages in these domains and empower newly launched initiatives

– such as the AI4 Industry or Fondazione Chips.IT, to leverage private investments from leading US firms and EU financing funds. The risk otherwise is to set a range of uncoordinated initiatives that do not add value or promote concrete actions to the Italian system.

Figure 2.8 | Italy's technological sovereignty in a multilayer framework



Source: Author's elaboration.

Second, Italy can leverage the G7 Presidency to lead the multilateral agenda's development on vital technological aspects. Building upon the effort of the EU, Italy has the opportunity to position itself as the driver and not just a passive actor in international fora. The current government has set the ambition to put the topic of artificial intelligence at the centre of the Italy-hosted G7.

Third, Italy needs to expand its cooperation with critical third-partner countries. The goal should be to ensure the diversification and resilience of Italian supply chains and create new business opportunities. Standing firm in its European and transatlantic identity, Italy has space to strengthen its bilateral relations with other global partners.

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3.

Adjusting to New Geopolitical Realities: Semiconductors Industrial Policy in the US and EU

Fabio Bulfone, Donato Di Carlo, Filippo Bontadini and Valentina Meliciani

In this chapter, we provide a comparative analysis of the major industrial policies for the semiconductor industry by the United States and the European Union over the past five years – a period that has witnessed growing industrial policy activism, accelerating a dynamic that dates back to the global financial crisis. While industrial policy was already being practiced on both sides of the Atlantic before, this period marked by the Covid pandemic and the incumbency of the Joe Biden Administration in the United States was a turning point both in terms of the *discourse* on industrial policy and the *scale* of government intervention.[1]

This renewed state activism has been driven by growing geopolitical tensions and their increasing interpenetration with economic dynamics. The rise of China as a global political and economic superpower and growing tensions between the United States and the EU, especially during the Donald Trump Administration, have put the issue of strategic autonomy high on the agenda of policymakers on both sides of the Atlantic. While an analysis of the motives behind this new state activism is beyond the scope of this chapter, we aim to provide a preliminary and

[1] Fabio Bulfone, "Industrial Policy and Comparative Political Economy: A Literature Review and Research Agenda", in *Competition & Change*, Vol. 27, No. 1 (2023), p. 22-43, https://doi.org/10.1177/10245294221076225.

largely descriptive comparative analysis of the industrial policy efforts of the United States and the EU, with a particular focus on the semiconductor industry – a crucial subset of digital industrial policies which, along with green industrial policy, have been the main strategic concern of policymakers. For the sake of brevity, we focus on the main industrial policy interventions in the semiconductor sector implemented in the United States and the EU: the US Chips and Science Act (US CHIPS) and the EU Chips Act.

Our analysis is divided into two main parts. In section one, we rely on trade data for the period up to 2021 to map the strategic *strengths* and *weaknesses* of the United States and the EU in the semiconductor value chain and highlight the challenges the two blocs face in designing their industrial policy interventions. We focus on the value chains of computers and communication equipment, considering strategic minerals and components and looking at import dependencies of the EU[2] (also with a specific focus on Germany and Italy) and United States in comparison with China over the period 2011–2021. In section two, we compare the industrial policy plans adopted by the United States and the EU along five dimensions identified as crucial in the industrial policy literature: *protagonists* (the main actors carrying out the industrial policy effort), *goals*, *size/financial commitment*, type of *policy instruments* used (e.g. subsidies, tax benefits or other forms of incentives), and the forms of *conditionalities* attached to public support. We also provide a tentative analysis of the main beneficiaries, that is, firms and (member) states, reaping the benefits of these two policies in terms of new investment plans and job creation.

3.1 The status quo ante: Strengths and weaknesses of the US and EU semiconductors value chains compared

In this section we use trade data to measure the import dependencies of EU (here referred to as Europe) and United States at the different stages of the digital value chain in 2011 and 2021. For comparison, we

[2] EU27 as of 2020 including Croatia but not the UK.

also report the same figures for China and for the two largest manufacturing European countries: Germany and Italy. Data comes from the BACI-CEPII database,[3] which provides harmonised trade data from UN Comtrade. The selected products are based on a recent study commissioned by the European Parliament's Committee on Industry, Research and Energy.[4] The study provides groupings of harmonised (HS) codes[5] linked to products relevant for the green transition and decarbonisation, which we have expanded with an eye to including the digital transition. To identify a subset of the relevant critical raw materials we have relied on insights from the SCRREEN3 Horizon project,[6] coordinated by the French Bureau de Recherches Géologiques et Minières (BRGM). To operationalise the various stages of the value chain, we include basic minerals that are strategic for the digital value chain at the *mining* stage (copper, cobalt, gallium and rare earths) and at the *refining* stage (copper, cobalt and silicon); the *strategic components* that are used to produce ICT goods (microchip machineries, optical fibres, wafers and microchips) and the *final goods* (computers and communication equipment).

Based on data in Figure 3.1, Europe displays notable dependencies at all stages of the value chain. At the mining stage, Europe is dependent on the imports of copper ore, and gallium and rare hearts. At the refining stage, Europe's dependencies include copper and cobalt. Moreover, despite the attention and monitoring of critical raw materials,[7] these dependencies have not changed over the decade 2011–2021.

[3] CEPII data: http://www.cepii.fr/cepii/en/bdd_modele/bdd_modele.asp.

[4] Elmer Rietveld et al., "Strengthening the Security of Supply of Products Containing Critical Raw Materials for the Green Transition and Decarbonisation", in *EPRS At a Glance*, December 2022, https://www.europarl.europa.eu/thinktank/en/document/IPOL_ATA(2022)740059.

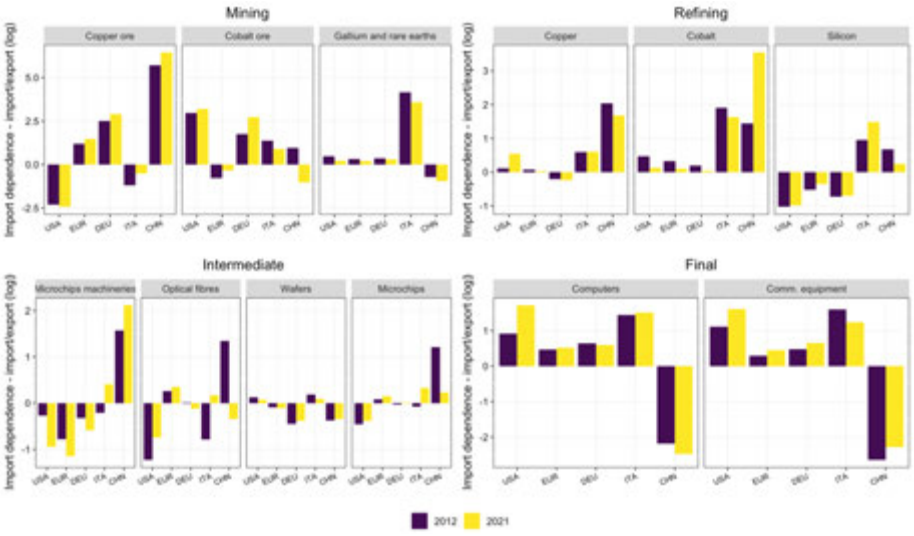
[5] HS codes are commonly used throughout the export process for goods. The Harmonised System is a standardised numerical method of classifying traded products. It is used by customs authorities around the world to identify products when assessing duties and taxes and for gathering statistics.

[6] See SCRREEN3 website: *The Project*, https://scrreen.eu/the-project.

[7] EU initiatives on critical raw material initiatives date back to 2008. The EU has produced various lists of critical materials in 2011, 2014, 2017, 2020 and 2023.

At the stage of the components, where the interconnection between production capabilities and technological development creates important synergies, Europe has a strong advantage only in the production of microchips machineries, while it is a net importer of optical fibres and microchips, with a dependence that has increased over the period 2011–2021. At the final stage of the value chain, Europe is a net importer of both computers and communication equipment, and the net dependence is growing over time.

Figure 3.1 | Key dependencies in the digital value chain as of 2011 and 2021



Source: Authors' elaborations on BACI-CEPII data.
Notes: Values above zero indicate a net import, i.e. a measure of dependence in the relevant good. The figure reports the natural logarithm of the ratio of imports over exports for the years 2011 and 2021.

Overall, with the notable and important exception of machineries, where Europe plays a leading role, the position in the digital value chain appears critical and calls for policymakers' attention and the rethinking of effective industrial policies. Thus, Europe's strengths along the digital value chain can be found at the intermediate stage, with Germany being a net exporter of machineries for microchips and wafers. Italy used to be a next exporter of machineries for microchips and optical fibres in 2011, but as of 2021 has turned into a net importer, while Germany has improved its trade balance between 2011 and 2021.

When looking at the Unites States, one detects important dependencies across the various stages of the chain, although the position appears less critical than that of Europe. In the case of the minerals, the United States is a net importer of cobalt ore, gallium and rare earths but it has a trade advantage in copper ore. At the refining stage, the United States enjoys a strong advantage in silicon. When looking at the stage of intermediate components, the United States is positioned much better than Europe with strong advantages in optical fibres, microchips and microchips machineries but a trade dependence for the import of wafers. However, over time, the advantage of the United States in optical fibres and microchips had eroded. At the final stage of the digital value chain, the United States is a net importer of both computers and communication equipment and import dependencies have substantially increased between 2011 and 2021.

Thus, although its leadership has been gradually eroding, the United States is still a dominant actor along the digital value chain, accounting for 46 per cent of the global trade in semiconductors. The EU is a less central player accounting for less than 10 per cent of global trade, instead.[8] While the United States hosts many global leaders in the design segment like Qualcomm, Nvidia and Intel, none of the ten largest global producers resides in the EU.

While having import dependencies in both microchip machineries and in microchips, China dominates the market for final goods, with marked trade surpluses in computers and communication equipment. At the intermediate stage, China has improved substantially its position in optical fibres (where it became a net exporter) and in microchips (where it is still a net importer but increasingly less so) while it still exhibits a strong dependence in the microchip machinery sector.

Overall, Europe displays notable vulnerabilities across all the stages of the digital value chain. Nevertheless, the EU can still rely on some strengths, particularly in the production of manufacturing equipment, artificial intelligence (AI) chip design, as well as research and development (R&D) invest-

[8] Niclas Frederic Poitiers and Pauline Weil, "Fishing for Chips: Assessing the EU Chips Act", in *Briefings de l'Ifri*, 8 July 2022, https://www.ifri.org/en/node/24413.

ment,[9] and a non-negligible productive capacity in less advanced chips used for the car-making sector, with important players like STMicroelectronics. At the same time, the United States' previous strength is increasingly challenged by China's rapid expansion of key capabilities along all stages of the digital value chain. Such developments justify policymakers' attention, across both sides of the Atlantic toward industrial policy initiatives aimed at strengthening strategic autonomy in the digital value chain.

Table 3.1 | Overview of critical dependencies in Europe and the US, vis-à-vis selected other countries

	Mining	Refining	Intermediate products	Final products
EU	Copper ore, gallium, rare hearts	Copper, cobalt	Optical fibres, microchips	Computers, communication equipment
USA	Cobalt ore, gallium, rare hearts	Copper, cobalt	Wafers	Computers, communication equipment
Germany	Copper ore, cobalt ore, gallium, rare hearts	Cobalt	-	Computers, communication equipment
Italy	Cobalt ore, gallium, rare hearts	Copper, cobalt, silicon	Microchips machineries, optical fibres, wafers, microchips	Computers, communication equipment
China	Copper ore	Copper, cobalt, silicon	Microchips machineries, microchips	-

Source: Authors' elaboration based on data from Figure 3.1.

In what follows, we focus on the European Union and the United States' Chips acts as the major industrial policies aimed at strengthening manufacturing and technological capabilities in the digital realm. To do so, we consider the two initiatives in the context of broader dynamics characterising the semiconductors industry and changes within the geopolitical context.

[9] Bob Hancké and Angela Garcia Calvo, "Mister Chips Goes to Brussels: On the Pros and Cons of a Semiconductor Policy in the EU", in *Global Policy*, Vol. 13, No. 4 (September 2022), p. 585-593, https://doi.org/10.1111/1758-5899.13096.

3.2 Comparing the US CHIPS and EU Chips Act

The semiconductor industry: Some descriptive features

Semiconductors are a key input in many strategic industries, "the building blocks of current and future infrastructures and applications including 5G/6G telecommunications networks, smart energy production and distribution networks, transportation systems, supercomputing, cloud computing, and AI".[10] As a central pillar of the digital transition, semiconductors are also "powerful enablers" of the green transition, being for instance a key component of electric car engines.

Two features characterise the semiconductors supply chain. First, production requires very high fixed costs and R&D investments. According to some estimates, building a state-of-the-art production facility can cost on average 20 billion euros.[11] Second, the semiconductor market has historically been characterised by frequent boom-and-bust cycles, with periods of high demand followed by long stints of overcapacity.

These two features have led to an extremely high level of market concentration, with few players controlling each phase of the supply chain. US companies have a dominant position in the design phase, controlling 65 per cent of the market.[12] Production of advanced semiconductors is dominated by Taiwan's TSMC, which accounts for 92 per cent of the total productive capacity. However, TSMC depends on the Dutch ASML for the supply of high-end chip manufacturing machines – while also Germany (and Italy to a much lesser extent) exhibits strong capabilities in the production of machineries for microchips (Figure 3.1).

The presence of bottlenecks along the supply chain due to high concentration, coupled with the growing demand for semiconductors, has led to severe supply-chain disruptions during and after the Covid-19 pandemic, particularly in the automotive sector.[13] Supply-chain tensions are further aggravated by the fact that a large share of the global productive capacity is located in Taiwan, a Western partner under threat of

[10] Ibid., p. 589.

[11] Ibid.

[12] Niclas Frederic Poitiers and Pauline Weil, "Fishing for Chips", cit.

[13] Ibid.

Chinese invasion.[14] The growing strategic importance of semiconductors has led many advanced economies including the United States, China, South Korea, Japan and the EU to implement ambitious plans of targeted funding in support of the semiconductor industry. The US CHIPS and the EU Chips Act analysed here should be seen in the context of this global subsidy race.

The politics of the US and EU industrial policies

Moving from the global context to issues related to domestic politics, the political circumstances that have led to the approval of the two acts were similar. However, the timing of the two measures differs, with the EU Chips Act enacted as a direct response to the US CHIPS Act.

The US CHIPS Act stands out as one of the few bills that gathered bipartisan support, including a 60 per cent majority in the Senate, amid great polarisation between the Democratic and the Republican Party. This rare agreement shows how industrial policy is one of the few common denominators between the developmentalist platform promoted by the Democratic Party under Biden and the protectionist policy championed by "Make America Great Again" Republicans.[15]

The emergence of China as a new global rival, and the ensuing geopolitical tensions, have played a decisive role as a coalitional magnet, as the US CHIPS Act was mainly conceived to counter Chinese investment in the sector as part of the Made in China 2025 strategy.[16]

In the EU, a political alignment in favour of supporting the semiconductors industry emerged at a later stage. In fact, until 2019 the Commission was still supporting multilateral trade solutions. It was only after the aggravation of the geopolitical tensions between China

[14] Shawn Donnelly, "Semiconductor and ICT Industrial Policy in the US and EU: Geopolitical Threat Responses", in *Politics and Governance*, Vol. 11, No. 4 (2023), p. 129-139, https://doi.org/10.17645/pag.v11i4.7031.

[15] Shawn Donnelly, "Political Party Competition and Varieties of US Economic Nationalism: Trade Wars, Industrial Policy and EU-US Relations", in *Journal of European Public Policy*, Vol. 31, No. 1 (2024), p. 79-103, https://doi.org/10.1080/13501763.2023.2226168.

[16] Ibid.

and Taiwan, and the outbreak of the war in Ukraine, that an alignment within the Commission and the Council emerged in favour of an industrial policy intervention. The discussion and later approval of the US CHIPS and the Inflation Reduction Act (IRA) in the United States has played a decisive role in favouring this dynamic, as EU authorities and member states agreed on the need to respond to the alleged attempts by the US government to lure EU companies and talents to America. Despite the emergence of such a political coalition, deep divisions still exist within the Council and the Commission on the extent to which an industrial policy action is needed in the sector. Most notably, while the French government supports the protection of domestic companies to achieve strategic autonomy, Germany seems more reluctant to call multilateral trade into discussion.[17] These enduring divisions are reflected in the very limited common budgetary resources allocated in support of the EU Chips Act. With this political background in mind, we can now turn to a more detailed analysis of the two pieces of legislation.

The US CHIPS: Goals, main elements, funding and preliminary beneficiaries

Approved in summer 2022, the US CHIPS and Science Act explicitly aims at helping the United States restore its leadership in the manufacturing of advanced semiconductors, thereby reducing dependence on foreign countries along the supply chain.[18] The bill involves a financial commitment of 52.7 billion US dollars by the US government, of which 39 billion to subsidise domestic facilities for the production, assembly and packaging of semiconductors, and 13.2 billion for the financing of research and development facilities. To this, the bill adds a 25 per cent tax credit for investments in semiconductor manufacturing, as well as measures to speed-up permitting procedures.[19]

[17] For a reconstruction of these political dynamics, see Shawn Donnelly, "Semiconductor and ICT Industrial Policy in the US and EU", cit.

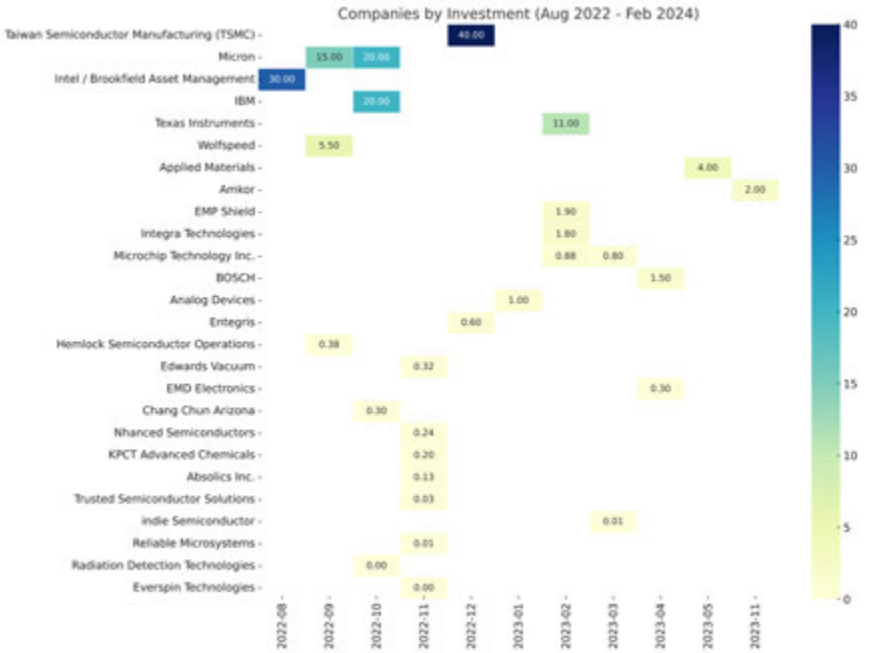
[18] Shawn Donnelly, "Semiconductor and ICT Industrial Policy in the US and EU", cit.

[19] White House, *Fact Sheet: CHIPS and Science Act Will Lower Costs, Create Jobs,*

In general, the US CHIPS Act stands out for its centralised structure. Funding comes entirely from the federal government, whereby the administration plays a leading role in selecting investment priorities. This centralised structure makes the distribution of funds relatively rapid.

In terms of beneficiaries, preliminary data allows for some tentative observations concerning the main companies who have *announced* new investments benefiting from the CHIPS' tax credits and other incentives (Figure 3.2), the US states in which these investments will be located (Figure 3.3, panel A) and the expected employment repercussions (Figure 3.3, panel B).

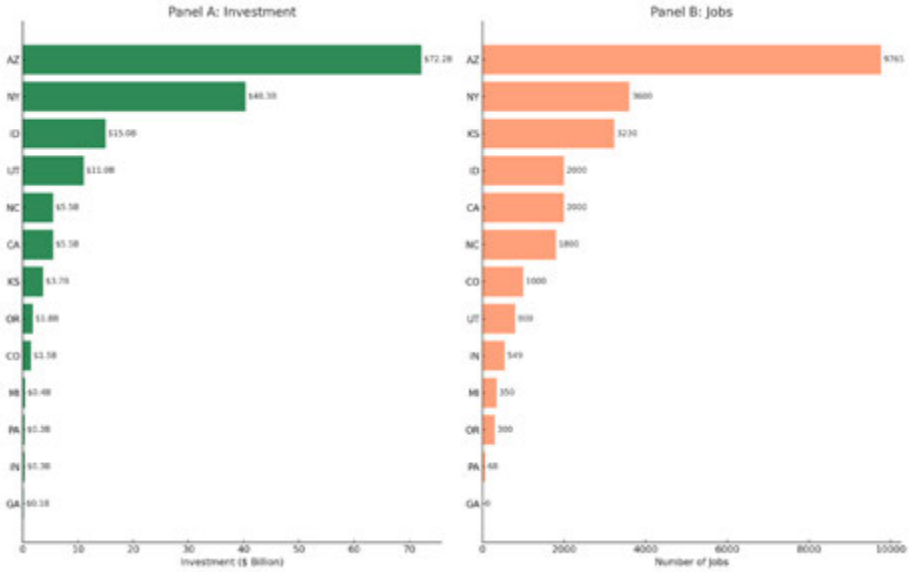
Figure 3.2 | Chips and Science Act manufacturing investment announcements by company and by size of the investment in billion US dollars (August 2022–February 2024)



Source: Authors' elaboration based on data from the Jack Conness IRA+CHIPS Investments database, https://www.jackconness.com/ira-chips-investments.

Strengthen Supply Chains, and Counter China, 9 August 2022, https://www.whitehouse.gov/briefing-room/statements-releases/2022/08/09/fact-sheet-chips-and-science-act-will-lower-costs-create-jobs-strengthen-supply-chains-and-counter-china.

Figure 3.3 | Investment and jobs generated in relation to the CHIPS Act in the different US States (August 2022–February 2024)



Source: Authors' elaboration based on data from the Jack Conness IRA+CHIPS Investments database, cit.

Between August 2022 and February 2024, twenty-eight investment announcements were recorded across the United States in relation to the CHIPS Act.

The Taiwanese semiconductor champion TSMC had announced the largest investment – 40 billion US dollars – in December 2022. As of early April 2024, TSMC has announced to further expand its investment to up to 65 billion US dollars to build a fabrication plant in Phoenix where to produce cutting-edge chips, benefitting from government support worth 6.6 billion in grants and up to 5 billion in loans.[20] Other major investment announcements have come from US technology and semiconductors firms such as Micron Technology for a total of 35 billion, Intel for 30 billion US dollars, IBM for 20 billion, Texas Instruments for 11 billion,

[20] Kathrin Hille, "TSMC Boosts Joe Biden's AI Chip Ambitions with $11.6bn US Production Deal", in *Financial Times*, 8 April 2024, https://www.ft.com/content/4798ab77-e063-4784-bdf3-19852b41fd1f.

Wolfspeed for 5.5 billion, and Applied Materials for 4 billion. Thus, overall, apart from TSMC (and the German multinational Bosch), it is mostly American firms that responded to the CHIPS Act.

Regarding the geographical distribution of investments and the forecasted job creation (Figure 3.3), the largest recipient of both investments and expected job creation has been Arizona, by far, followed by New York state. In terms of investment attraction, notable beneficiaries have also been Idaho, Utah, North Carolina, California and Kansas. With regard to jobs, other major beneficiaries have so far been Kansas, Idaho, California and North Carolina.

The EU Chips: Goals, main elements, funding and preliminary beneficiaries

Adopted in 2023, the EU Chips Act Regulation has the main goal to strengthen the "competitiveness" and "resilience" of the EU by addressing the "strategic dependencies" in the design and production of all types of semiconductors (Chips Act Regulation).[21] Hence, like in the United States, the initiative was explicitly framed in relation to the achievement of "strategic autonomy."[22] To do so, the EU Chips Act concretely aims at increasing the global share of semiconductor production of the EU from 10 to 20 per cent by 2030.

Since the industry has been rapidly expanding, some estimates have indicated that meeting this objective would require quadrupling the current productive capacity – a goal deemed excessively ambitious given the EU's current position in the market.[23]

The EU Chips Act has three pillars. The first pillar centres on research, development and innovation; the second includes measures to facilitate the development of semiconductor manufacturing plans (foundries); the third sets up a system to monitor and address supply chain crises.[24]

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[21] European Parliament and Council of the EU, *Regulation (EU) 2023/1781 of 13 September 2023 Establishing a Framework of Measures for Strengthening Europe's Semiconductor Ecosystem (Chips Act)*, http://data.europa.eu/eli/reg/2023/1781/oj.

[22] European Commission, *European Chips Act - Questions and Answers*, 30 November 2023, https://ec.europa.eu/commission/presscorner/detail/en/qanda_23_4519.

[23] Bob Hancké and Angela Garcia Calvo, "Mister Chips Goes to Brussels", cit.

[24] For an overview, see Niclas Frederic Poitiers and Pauline Weil, "Fishing for Chips", cit.

The first pillar brings together existing schemes to financially support research and development of semiconductors, like Horizon Europe, under the umbrella of the Chips for Europe Initiative. These projects are already considered quite successful, reflecting one of the strengths of the EU in the semiconductors value chain.

The second pillar aims at broadening the production capacity of the EU for both leading-edge and mature chips by attracting (mainly foreign direct) investment.[25] To do so, the EU Chips Act gives member states the possibility to grant subsidies to companies willing to open new semiconductor foundries in the EU. Member states are also authorised to provide administrative support in the form of fast-tracking of permit granting procedures. If the Commission approves the plans presented by the member states, designated foundries can receive this support in derogation to the State Aid regime.[26]

The third pillar involves the establishment of a coordination system between the Commission and the member states tasked with monitoring the semiconductor supply chain anticipating future shortages.[27] Crucially, as shown in detail in the following section, according to this scheme, during supply chain emergency situations the Commission could impose conditionalities to companies that had received financial and administrative support in the framework of the second pillar, as well as setting up joint procurement systems.

In terms of the funding structure, the Commission envisaged a funding of 43 billion euros for the EU Chips. However, this funding is only forecasted, meaning that the Commission expects this sum to be generated by combining funding from the EU budget, the budget of the member states and private companies. In particular, the Commission expects public investments from the EU and the member states to amount to 11.2 billion euros, with 32 billion coming from private investors. If we look at the actual funding from the EU budget, which is the most direct comparator of the funding from the budget of the US federal government,

[25] European Commission, *European Chips Act - Questions and Answers*, cit.

[26] Ibid.

[27] Ibid.

this should amount to a mere 3.3 billion euros, mostly coming from the repurposing of existing funding streams.[28] For their part, member states are expected to provide funding independently in the framework of the second pillar, or in common projects established using the instrument of the Important Projects of Common European Interest (IPCEIs).

The difference in the funding structure of the EU and US Chips Acts highlights one of the main limits of the EU's industrial policy effort, at least when it comes to targeted funding. Lacking own fiscal authority, the Commission is forced to rely on member states' funding for national subsidies, as opposed to the United States' centralised provision of fiscal subsidies.[29] Although member states still depend on the Commission for the approval of their funding plans, the Commission remains evidently limited in its capacity to set up and follow up on its industrial policy priorities. Furthermore, given EU countries' varying fiscal capacity, leaving the task of supporting strategic industries to the member states is poised to exacerbated existing economic inequalities and jeopardise the European single market.

This complex funding structure and the multi-level governance of the EU's industrial policy makes it difficult to identify the main beneficiaries of the EU Chips Act, due to the lack of a direct comparator. We thus briefly focus only on the IPCEI instrument, which has become a major vehicle for the EU to steer its industrial policy.[30] In relation to the EU Chips Act, in June 2023, the European Commission approved under EU state aid rule the IPCEI in microelectronics and communication technologies (IPCEI ME/CT).[31] The project aims to enable Europe's digital and green transformation by creating innovative microelectronics and communication

[28] Shawn Donnelly, "Semiconductor and ICT Industrial Policy in the US and EU", cit.

[29] Niclas Frederic Poitiers and Pauline Weil, "Fishing for Chips", cit.

[30] Andreas Eisl, "EU Industrial Policy in the Making. From ad hoc Exercises to Key Instrument: How to Make IPCEIs Fit for the Long Run", in *Jacques Delors Institute Policy Papers*, No. 286 (December 2022), https://institutdelors.eu/en/publications/eu-industrial-policy-in-the-making.

[31] A first IPCEI on microelectronics had been launched already in 2018 and predates the EU Chips Act. See European Commission DG for Competition website: *Approved IPCEIs in the Microelectronics Value Chain*, https://competition-policy.ec.europa.eu/node/1112_en.

solutions and by developing energy-efficient and resource-saving electronics systems and manufacturing methods.[32] The IPCEI ME/CT comprises 68 projects run by 56 companies[33] and thirty associated partners including universities and research organisations across 180 cross-border collaborations. It envisages the participation of fourteen member states[34] providing 8.1 billion euros in public funding, with the expectation that an additional 13.7 billion euros will be unlocked in private investment. Moreover, the projects covered by the IPCEI ME/CT include a claw-back mechanism whereby firms' whose successful projects generate extra net revenues are mandated to return part of the aid received to the respective member state. Thus, while the industrial policy role of the US government is increasingly to shape the semiconductor sector through centralised governance and targeted funding directly available to single firms, the EU Commission increasingly operates as an "orchestrator" of industrial policy by facilitating the provision of national state aid by member states and by incentivising the emergence of cross-country and cross-sectoral production networks in the single market.[35]

Conditionality in the US CHIPS Act

According to prominent industrial policy scholars, targeted funding like that envisaged by the US CHIPS Act and the EU Chips Act can only yield positive societal impact when the transfer of financial resources from the public to the private sector is conditional to the fulfilment of public

[32] Ibid.

[33] For the detailed list of all the companies involved in the IPCEI ME/CT, see: European Commission, *State Aid: Commission Approves up to €8.1 billion of Public Support by Fourteen Member States for an Important Project of Common European Interest in Microelectronics and Communication Technologies*, 8 June 2023, https://ec.europa.eu/commission/presscorner/detail/en/IP_23_3087.

[34] Austria, Czechia, Finland, France, Germany, Greece, Ireland, Italy, Malta, the Netherlands, Poland, Romania, Slovakia and Spain.

[35] For a broader discussion of the European Commission role as facilitator of industrial policy in the single market, including by means of the IPCEIs, see Donato Di Carlo and Luuk Schmitz, "Europe First? The Rise of EU Industrial Policy Promoting and Protecting the Single Market", in *Journal of European Public Policy*, Vol. 30, No. 10 (2023), p. 2063-2096, https://doi.org/10.1080/13501763.2023.2202684.

goals by private actors.[36] This engagement typically comes in the form of contractual relationships based on conditionalities.[37]

In the case of the US CHIPS Act, the financial support to private companies comes with important conditionalities related to domestic production and employment targets. In fact, the US CHIPS Act forbids companies receiving financial support from expanding or building manufacturing capacity for certain advanced semiconductors in countries that represent a national security threat to the United States. The Biden Administration designed this measure with China in mind, and with the support of the Republican opposition.[38] The US CHIPS Act also features some redistributive conditions. For instance, recipients of federal funding must meet conditions related to the respect of labour standards and an obligation to offer adequate salary levels and are forbidden to use federal funds for share buybacks or dividends. Companies are also required to share profits exceeding a certain threshold with the federal government. The US CHIPS Act gives the federal government instruments to monitor the fulfilment of agreed goals, with the possibility to suspend or clawback funding.[39]

Conditionality in the EU Chips Act

Since most of the public funding is distributed by the member states, the Commission has less leeway to introduce and enforce conditionalities when compared to the US government in the US CHIPS Act. However, the bill still features some conditionalities. If a group of countries opts to provide targeted subsidies to semiconductor companies as part of an IPCEI, they are required by the Commission to set-up a profit-sharing

[36] Alice H. Amsden, *The Rise of 'the Rest'. Challenges to the West from Late-Industrializing Economies*, Oxford, Oxford University Press, 2001.

[37] Mariana Mazzucato and Dani Rodrik, "Industrial Policy with Conditionalities: A Taxonomy and Sample Cases", in *UCL IIPP Working Papers*, No. 2023-07 (September 2023), https://www.ucl.ac.uk/bartlett/public-purpose/wp2023-07.

[38] Shawn Donnelly, "Political Party Competition and Varieties of US Economic Nationalism", cit.

[39] For an overview, see National Institute of Standards and Technology (NIST), *Notice of Funding Opportunity: Commercial Fabrication Facilities*, last updated on 19 April 2024, https://www.nist.gov/node/1733461.

mechanism (claw-back mechanism) to make sure that companies redistribute extra profits obtained thanks to public funding to their financers. The other conditionalities included in the EU Chips Act are activated in case the Commission and the member states certify a situation of supply chain crisis under the third pillar. In this case, the Commission can ask foundries that had received support in the framework of the EU Chips Act to share information about their production capacities and, when deemed necessary, give priority to domestic orders of critical products. If companies refuse to fulfil these requirements, the Commission can impose fines or other forms of penalty payments.

3.3 Concluding reflections

This chapter has analysed the strategic dependencies of the United States and the EU in the digital value chain, and the two major industrial policy initiatives launched there to strengthen strategic autonomy and productive capabilities in the semiconductor industry. The EU has major vulnerabilities across the entire value chain. The United States is in a stronger position, but its resilience is far from granted, as China is fast catching up in the early stages of the digital value chain (Table 3.1 and Figure 3.1 above) – while being already dominant in final goods. In this respect, the United States and China are clearly fighting for global supremacy. The EU is caught between a rock and a hard place, and how and whether it will successfully manage to carve out is role in this global competition appears less clear.

Our brief analysis of the US CHIPS and the EU Chips Acts reveals some important elements for comparison. Both legislations focus predominantly on the third stage of the digital value chain, namely boosting the capacity for intermediate products. For the import of critical raw materials, the EU is highly dependent on extra-EU countries in the mining and refining stages of the value chain – an issue it is trying to address with the Critical Raw Materials Act (CRMA).[40] At the intermediate stage of the value

[40] European Parliament and Council of the EU, *Regulation (EU) 2024/1252 of 11 April 2024 Establishing a Framework for Ensuring a Secure and Sustainable Supply of Critical Raw Materials*, http://data.europa.eu/eli/reg/2024/1252/oj.

chain, both the United States and the EU have some strengths. However, in the case of the EU, they are mostly concentrated in machineries (Figure 3.1). This makes industrial policy interventions promising in both trading blocs. Given the complexity of the value chain, industrial policy efforts should prioritise the areas of relative strength while trade policy and international agreements with developing countries are strategic toward ensuring access to critical minerals.

However, while the ambitions of the United States and EU are broadly similar, crucial differences remain (see Table 3.2 for a general overview). In terms of governance, the US industrial policy for semiconductors is highly centralised at the federal level, with generous funding coming directly from the federal budget. Instead, for the lack of its own fiscal capacity, the EU has adopted a decentralised approach, with very little EU funding (mostly targeted at R&D). Much of the industrial policy funding is expected to come either from the private sector or via member states' fiscal resources. Regarding the instruments to carry out industrial policy interventions, the United States has resorted to direct and targeted subsidies in the form of tax credits for manufacturing production in the semiconductor sector.

On the contrary, the EU strategy has been to carve out or repurpose regulatory flexibilities in the EU state aid regime, for example by incentivising member states to support strategic investment via the provisions of the IPCEI framework – and cajoling member states, firms and research institutions across the single market to cooperate in transnational production networks.[41] In terms of conditionalities, the US CHIPS Act imposes notable conditionalities in terms of domestic production for firms benefitting from public support, employment targets, profit-sharing and the respect of labour standards – as well as a prohibition to beneficiaries of tax credits to expand or build manufacturing capacities in rival countries.

The EU Chips Act, too, imposes a claw-back mechanism for profit sharing and envisages the possibility for the European Commission to impose the prioritisation of European orders for semiconductors in times of supply chain crises – though these conditions are overall less encompassing than in the case of the United States.

[41] See also Donato Di Carlo and Luuk Schmitz, "Europe First?", cit.

Table 3.2 | Comparative overview of the main characteristics of the US CHIPS Act and the EU Chips Act

	US Chips and Science Act	EU Chips Act
Protagonists	US Federal government (centralised governance)	European Commission and member states (decentralised governance in multilevel polity)
Goals	Restore US' leadership in the manufacturing of advanced semiconductors, reduce foreign dependences in the digital value chain	Strengthen the EU's "competitiveness" and "resilience" by addressing the "strategic dependencies" in the design and production of all types of semiconductors, by increasing the EU's global share of semiconductor production from 10 to 20 per cent by 2030
Financial commitments	52.7 billion euros	3.3 billion euros (expected leverage up to 43 billion euros – combined investment by EU budget, member states and private sector)
Instrument types	Subsidies (39 billion dollars), R&D facilities funding (13.2 billion), tax credits on investments in semiconductor manufacturing, administrative simplifications	Financial support for semiconductors R&D, administrative simplifications, subsidies by EU member states for foundries, monitoring mechanism to anticipate shortages and crises
Forms of conditionality	Domestic production, employment targets, profit-sharing, respect of labour standards	Claw-back mechanisms within IPCEIs, priority to EU orders in case of supply chain crises

Source: Authors' elaboration.

Overall, the EU's gap vis-à-vis dominant players like the United States, Taiwan and China in some stages of the digital value chain is large and requires vigorous investments to regain some of the ground lost. The public funds so far invested by the EU and the member states are limited in relation to the ambitious targets, and there is no guarantee that enough private resources will effectively be mobilised. Moreover, member states have different technological capabilities and fiscal capacities. Therefore, without common EU resources, there is a serious risk of fragmentation of investment and of increasing disparities. To be effective, the new EU industrial strategy requires an increase in EU-wide funding, a strengthening of cross-country coordination in investment efforts, and the completion of the banking and capital markets union necessary to mobilise private funding.

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4.

Foreign Direct Investment and National Security: Perspectives from the EU and the US

Federica Marconi

Foreign direct investment (FDI) represents a form of cross-border investment wherein an investor resident in one economy establishes a lasting interest in and a significant degree of influence over an enterprise resident in another economy.[1] The significance of FDI extends far beyond its role as a financial inflow. FDI serves as a catalyst for growth, an accelerator of competitiveness and an engine of prosperity on a global scale. Its pivotal role lies in ensuring openness, transparency and integration within economies, making it a crucial driver of technological advancement, efficient management practices and deeper integration into a developed network for international trade.[2]

In 2023, global FDI inflows experienced a year-on-year decline, totalling 1.3 trillion euros, marking a notable decrease of -7 per cent compared to 2022. However, this reduction still stood significantly above levels recorded in 2020, reflecting the massive rebound from the pandemic-induced downturn.[3]

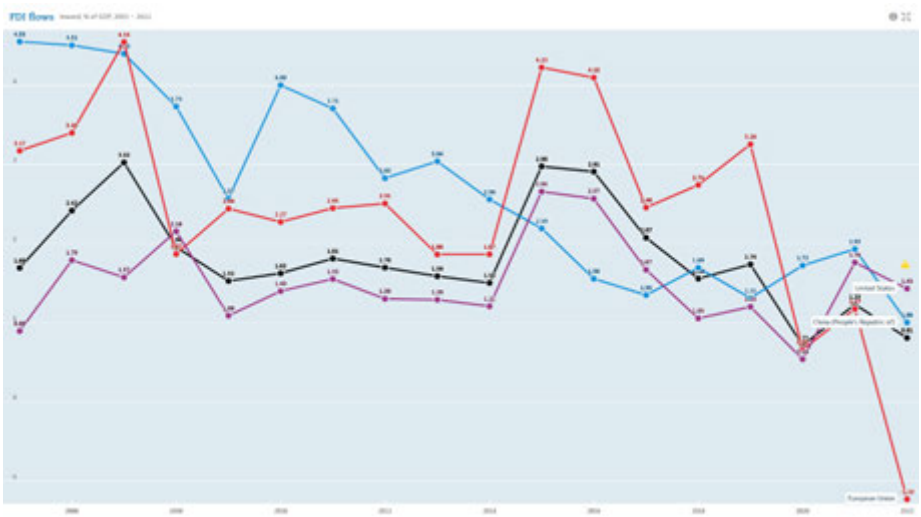
[1] OECD data: *Foreign Direct Investment (FDI)*, https://doi.org/10.1787/9a523b18-en.

[2] Bibhuti Sarker and John Serieux, "Multilevel Determinants of FDI: A Regional Comparative Analysis", in *Economic Systems*, Vol. 47, No. 3 (September 2023), Article 101095, https://doi.org/10.1016/j.ecosys.2023.101095.

[3] OECD, *FDI in Figures*, April 2024, https://www.oecd.org/corporate/mne/statistics.htm.

According to data provided by the Organisation for Economic Co-operation and Development (OECD) for the year 2023, there has been a noticeable decline in FDI inflows into the EU27 when compared to the preceding year. The United States – the leading FDI recipient worldwide, followed by Brazil and Canada – also recorded fewer FDI inflows in 2023.[4]

Figure 4.1 | FDI inward flows as GDP share in the European Union (red), US (violet), China (blue), OECD average (black)



Source: OECD Data: *FDI Flows*, https://data.oecd.org/fdi/fdi-flows.htm#indicator-chart.

The United States also emerged as a prominent source of outbound investment, worldwide, alongside China and Japan. Notably, the United States accounted for a substantial portion of FDI into the EU27.[5]

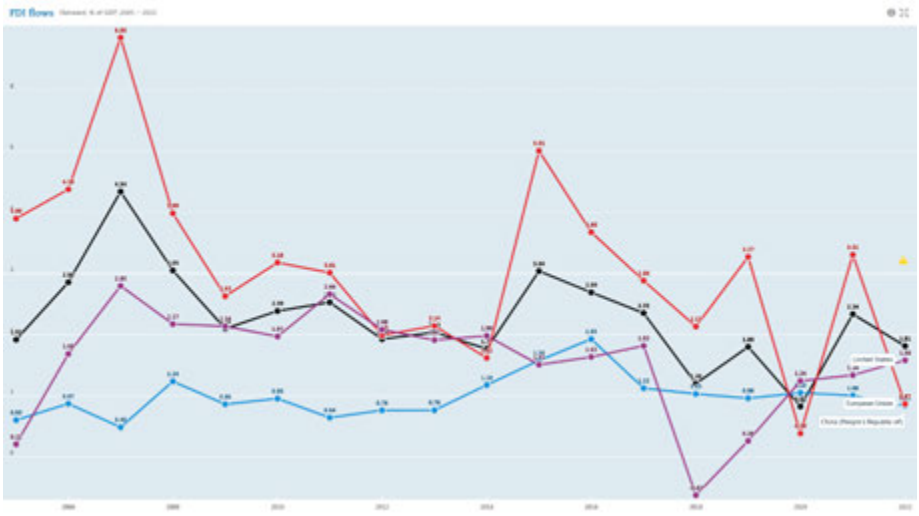
FDI is often associated with potential risks to national security. Three distinct threats related to FDI and national security have been identified: i) the possibility of limiting or denying the output from the recently acquired producer; ii) the potential misuse or sale of sensitive technology in a manner that undermines the national interests of the recipient country; iii) the risk of infiltrating the recipient country's dig-

[4] Ibid.

[5] OECD Data: *FDI Flows*, cit.

ital systems to engage in monitoring, surveillance or the introduction of destructive malware within those systems.[6] Taken together, these threats highlight the overarching risk associated with FDI, namely the potential for the investor to gain significant political and economic influence within the host country.

Figure 4.2 | FDI outward flows as GDP share in the European Union (red), US (violet), China (blue), OECD average (black)



Source: OECD Data: *FDI Flows*, cit.

Growing concerns surrounding FDI have been amplified by several events and trends over the past decade. These events have underscored the importance of safeguarding national security, critical infrastructure and economic interests in the face of evolving geopolitical dynamics and emerging threats.

The financial crisis of 2008–9 underscored the interconnectedness of global financial markets, emphasising the need for enhanced oversight of cross-border investments to prevent systemic risks. Similarly, the Covid-

[6] Theodore H. Moran, *Three Threats: An Analytical Framework for the CFIUS Process*, Washington, Peterson Institute for International Economics, July 2009, https://www.piie.com/bookstore/three-threats-analytical-framework-cfius-process.

19 pandemic in 2020 exposed supply chain vulnerabilities, particularly in critical sectors like healthcare and pharmaceuticals, prompting calls for greater domestic production capabilities and protection of strategic national assets. Additionally, Russia's invasion of Ukraine highlighted the risks of relying on countries with conflicting values or geopolitical interests for critical supplies (of energy in Russia's case), emphasising the security implications of foreign investments.

Against this backdrop, rapid technological progress has fostered greater interconnectedness between nations, blurring the boundaries between the economic relevance and security implications of goods and services. This has raised concerns about potential implications of technological progress for national security and strategic competitiveness.[7] This dynamic has prompted governments to scrutinise more closely foreign investments in sectors critical to technological innovation and national defence.

Thus, the traditional concept of national security has undergone a significant change in response to new challenges. Once primarily concerned with defence and military matters, national security has now expanded to include economic considerations that reflect the complexities of a globally interconnected world.[8] As some experts have suggested, this transition can be seen as an instance of the "national security creep", meaning an expansion of national security-related scrutiny and regulation in investment activities.[9]

In the United States, both Donald Trump and his successor as president Joe Biden have asserted that "economic security is national secu-

[7] Clara Weinhardt, Karsten Mau and Jens Hillebrand Pohl, "The EU as a Geoeconomic Actor? A Review of Recent European Trade and Investment Policies", in Milan Babić, Adam Dixon and Imogen Liu (eds), *The Political Economy of Geoeconomics. Europe in a Changing World*, Cham, Palgrave Macmillan, 2022, p.107-136, https://doi.org/10.1007/978-3-031-01968-5_5.

[8] Mona Pinchis-Paulsen, "Let's Agree to Disagree: A Strategy for Trade-Security", in *Journal of International Economic Law*, Vol. 25, No. 4 (December 2022), p. 527-547, https://doi.org/10.1093/jiel/jgac048.

[9] Kristen E. Eichensehr and Cathy Hwang, "National Security Creep in Corporate Transactions 2023", in *Columbia Law Review*, Vol. 123, No. 2 (March 2023), p. 549-614, https://columbialawreview.org/?p=5110.

rity" in their respective National Security Strategies.[10] Similarly, the EU has taken steps to recognise and address this shift in perspective by emphasising the seamless integration of economic security into the EU's foreign and security policy.[11] Even more recently, the current President of the European Commission Ursula von der Leyen has emphasised the geopolitical role of the Commission she leads, promoting the proactive use of economic instruments to achieve geopolitical ends. The European Economic Security Strategy of June 2023 and the Communication "Advancing European Economic Security" of January 2024 further confirmed this new approach, culminating in the expressed equation of the concept of national security with that of economic security.[12]

4.1 The rise of geo-economic tools

The intertwining of economic interests with geopolitical ambitions has led to the growing use of trade and investment for strategic competition between global superpowers.[13] In particular, measures have been developed in response to the perceived challenges posed by China's state-imposed market distortions, pursuit of self-sufficiency and broader geopolitical objectives.[14]

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[10] US Presidency, *National Security Strategy of the United States of America*, 2017, https://history.defense.gov/Portals/70/Documents/nss/NSS2017.pdf; and *Interim National Security Strategic Guidance*, 2021, https://www.whitehouse.gov/wp-content/uploads/2021/03/NSC-1v2.pdf.

[11] European External Action Service, *Geopolitics of the Green Transition and Improving EU's Economic Security*, 28 March 2023, https://www.eeas.europa.eu/node/427640_en.

[12] European Commission, *An EU Approach to Enhance Economic Security*, 20 June 2023, https://ec.europa.eu/commission/presscorner/detail/en/IP_23_3358; Anna Vlasiuk Nibe, Sophie Meunier and Christilla Roederer-Rynning, "Pre-emptive Depoliticisation: The European Commission and the EU Foreign Investment Screening Regulation", in *Journal of European Public Policy*, Vol. 31, No. 1 (2024), p. 182-211, DOI 10.1080/13501763.2023.2258153.

[13] Sophie Meunier and Kalypso Nicolaidis, "The Geopoliticization of European Trade and Investment Policy", in *Journal of Common Market Studies*, Vol. 57, Annual Review (September 2019), p. 103-113, DOI 10.1111/jcms.12932.

[14] Sarah Bauerle Danzman and Sophie Meunier, "The EU's Geoeconomic Turn: From Policy Laggard to Institutional Innovator", in *Journal of Common Market Studies*, 3 March 2024, https://doi.org/10.1111/jcms.13599; Francesca Ghiretti, "From Opportunity to

The United States has been at the forefront of this geo-economic turn, implementing restrictions on open, liberal economic activity even during periods of relative stability. The shift toward a more geo-economic approach to trade policy, where trade measures serve not only traditional trade-related goals but also broader economic and strategic considerations, is now clear also within the EU.[15] This transition has become even more pronounced with the unveiling of the New Economic Security Strategy in June 2023.[16] This strategy positions the EU as a leader in formulating a holistic approach to economic security. A further step in this direction was taken on 24 January 2024, when the Commission adopted a comprehensive trade, investment and research package as part of the roll-out of the Economic Security Strategy, providing for five new initiatives to pursue its goals.[17] These initiatives aim at: (i) further strengthening the protection of EU security and public order by proposing enhanced screening of FDI into the EU; (ii) fostering dialogue and action for increased EU coordination on export controls; (iii) engaging member states and stakeholders in identifying potential risks associated with outbound investments in a narrow set of technologies; (iv) facilitating further discussions on supporting research and development related to technologies with

Risk: The Changing Economic Security Policies vis-à-vis China", in *MERICS Reports*, February 2023, https://merics.org/en/node/1805.

[15] Anna Herranz-Surrallés, Chad Damro and Sandra Eckert, "The Geoeconomic Turn of the Single European Market? Conceptual Challenges and Empirical Trends", in *Journal of Common Market Studies*, 14 April 2024, https://doi.org/10.1111/jcms.13591; Pierre Haroche, "Geoeconomic Power Europe: When Global Power Competition Drives EU Integration", in *Journal of Common Market Studies*, 18 April 2024, https://doi.org/10.1111/jcms.13596.

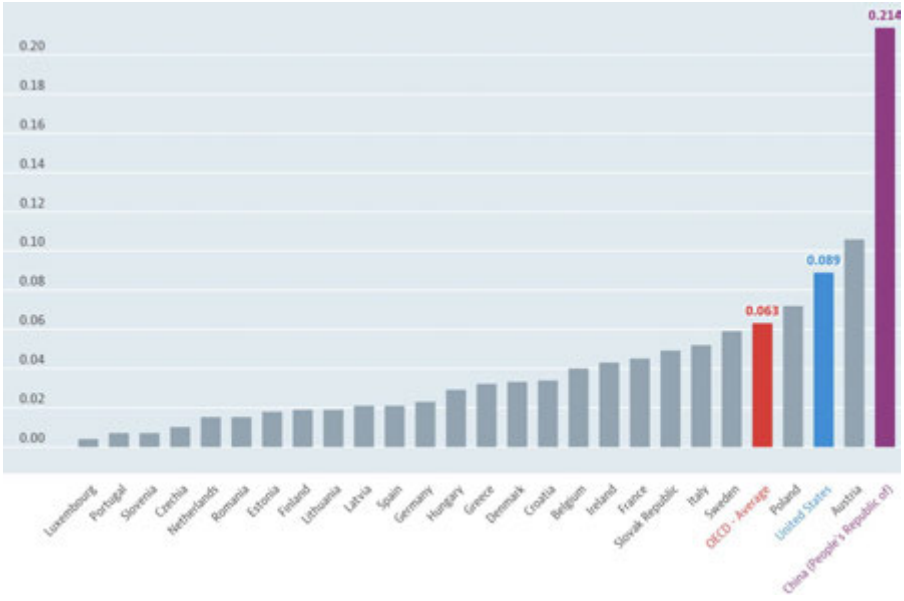
[16] Luuk Schmitz and Timo Seidl, "As Open as Possible, as Autonomous as Necessary: Understanding the Rise of Open Strategic Autonomy in EU Trade Policy", in *Journal of Common Market Studies*, Vol. 61, No. 3 (May 2023), p. 834-852, https://doi.org/10.1111/jcms.13428.

[17] European Commission, *Advancing European Economic Security: An Introduction to Five New Initiatives* (COM/2024/22), 24 January 2024, https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52024DC0022; Sarah Bauerle Danzman and Sophie Meunier, "Naïve no more: Foreign Direct Investment Screening in the European Union", in *Global Policy*, Vol. 14, Suppl. 3 (July 2023), p. 40-53, https://doi.org/10.1111/1758-5899.13215.

dual-use capabilities; (v) recommending measures through the Council to bolster research security at both national and sectoral levels.

FDI screening mechanisms are the most common instrument to manage the security implications of foreign investment. Both the United States and the EU – as well as most of its member states – have established comprehensive frameworks for reviewing and regulating foreign investment, albeit with different approaches and regulatory structures.

Figure 4.3 | OECD FDI Regulatory Restrictiveness Index



Source: OECD Data: *FDI Restrictiveness*, https://data.oecd.org/fdi/fdi-restrictiveness.htm#indicator-chart.
Note: The chart presents a comparison of the results of the OECD FDI Regulatory Restrictiveness Index among the US, China, EU member states, and the OECD Average.

According to the OECD FDI Regulatory Restrictiveness Index, overall, the United States has more restrictive FDI regulatory restrictions than almost all EU member states. The index, used to assess the degree of restrictiveness of a country's FDI regulations, examines four main types of restrictions: foreign equity restrictions; discriminatory screening or approval mechanisms; restrictions on key foreign personnel and opera-

tional restrictions.

The United States established a regulatory mechanism for overseeing FDI well before Europe, despite its historical aversion to centralised government interference in market affairs. This mechanism, known as the Committee on Foreign Investment in the United States (CFIUS), operates at the federal level and is central to assessing potential national security risks of foreign investments. Over the past decade, both the Trump and Biden Administrations have made significant changes to the authority and jurisdiction of CFIUS, reflecting evolving concerns and priorities related to FDI and national security.

While not examined in this chapter, it is crucial to acknowledge the existence of other instrument within the US system designed to protect national interests. In 1977, in response to the Vietnam War, Congress enacted the International Emergency Economic Powers Act (IEEPA).[18] This act, alongside the Trading with the Enemy Act (TWEA) of 1917, provides the president with the authority to oversee and restrict trade. While the TWEA can only be used in times of war, IEEPA requires the president to declare a national emergency in response to an "unusual and extraordinary threat" to national security, foreign policy interests or the economy, either from the country involved in the transaction or from the transaction itself.[19]

The EU's approach to the control of FDI is very different. Member states retain sole responsibility for the regulation of FDI due to their exclusive competence in matters of national security and public order. The FDI Regulation serves as a framework for cooperation between member states and between them and the European Commission. In this regard, the Economic Security Strategy has put forward a proposal to reassess the current FDI screening framework with a view to achieving greater regulatory

[18] Cfr. International Emergency Economic Powers Act, Public Law No. 95-223 (28 December 1977), §§ 202-203, (https://www.govinfo.gov/content/pkg/STATUTE-91/pdf/STATUTE-91-Pg1625.pdf#page=2), codified as amended at the Title 50 of the United States Code, Ch. 35, § 1702, https://uscode.house.gov/view.xhtml?path=/prelim@title50/chapter35&edition=prelim.

[19] David Zaring, "CFIUS as a Congressional Notification Service", in *Southern California Law Review*, Vol. 83, No. 1 (November 2009), p. 81-132 at p. 91, https://wp.me/p9cz3W-lS.

convergence. This initiative is driven by the recognition that FDI screening mechanisms vary widely across EU member states, creating potential obstacles to the coherent pursuit of collective security objectives in trade and investment within the EU. Harmonisation of these regimes is essential to promote a more integrated approach to protecting economic interests and promoting stability within the European Union.

4.2 FDI screening in the United States

The evolution of CFIUS: From a "paper tiger" to a "strategic gatekeeper"

The Committee on Foreign Investment in the United States is an interagency body of the US Government that is authorised by law to review and address national security risks arising from certain transactions involving foreign investment in the United States.[20] Nevertheless, a definition of what constitutes national security is absent in the US FDI review system, making the CFIUS assessment of the impact of FDI on national security the determining factor at every stage of the review process.

CFIUS was established by President Gerald Ford (1974-77) with Executive Order No. 11858/75,[21] as a committee with "primary continuing responsibility within the Executive Branch for monitoring the impact of foreign investment in the United States".[22] Although CFIUS did not have

[20] CFIUS operates pursuant to section 721 of the Defense Production Act of 1950 (DPA of 1950, Public Law No. 81-774, 50 U.S.C. §§ 4501 ss), as amended (Section 721), and as implemented by Executive Order 11858, as amended, and the regulations at chapter VIII of title 31 of the Code of Federal Regulations (C.F.R.).

[21] David Bailey, "U.S. Policy towards Inward FDI: CFIUS and Extension of the Concept of 'National Security'", in *The Journal of World Investment & Trade*, Vol. 4, No. 5 (2003), p. 867-891 at p. 869, DOI 10.1163/221190003X00291; Edna Aparecida da Silva, "The United States Foreign Investment Policy: Conflict of Principles in CFIUS Reform", in *The Perspective of the World Review*, Vol. 3, No. 1 (April 2011), p. 29-64 at p. 45, https://www.ipea.gov.br/revistas/index.php/rtm/article/view/104.

[22] US Presidency, Executive Order No. 11858 of 7 May 1975, https://www.archives.gov/federal-register/codification/executive-order/11858.html. See also Colin Stapleton, "The Global Colony: A Comparative Analysis of National Security-based Foreign Investment Regimes in the Western Hemisphere", in *Washington University Law Review*, Vol. 92, No. 6 (2015), p. 1647-1681 at p. 1650, https://journals.library.wustl.edu/lawre

the power to block or modify an investment at this stage, it was believed that the diplomatic pressure resulting from its decisions would be sufficient to prompt foreign investors to desist from finalising particular transactions.[23] As pointed out by several scholars, at this stage CFIUS was a "paper tiger with little to no enforcement power of its own".[24]

In 1988, significant novelties were introduced by the so-called "Exon-Florio amendment",[25] mainly in response to concerns about new technologies, closely linked to several attempts by Japanese investors to acquire American industries. Congress explicitly gave the president the power to review and decide on FDI. The Executive Order 1266/88 by President Ronald Reagan (1981–89) delegated the president's authority in the FDI review process to CFIUS. As a result, CFIUS became a committee with duties and powers to review investment transactions and make recommendations to the president in cases where it deemed it necessary to block the transaction. The Exon-Florio amendment marked the transition from the original configuration of CFIUS as a "reporting body" to what has effectively been described as a "strategic gatekeeper" of US interests.[26]

On 23 October 1992 President George H.W. Bush (1989–93) signed into law the National Defence Authorisation Act for Fiscal Year 1993,[27]

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view/article/id/5075; and Amy Deen Westbrook, "Securing the Nation or Entrenching the Board? The Evolution of CFIUS Review of Corporate Acquisitions", in *Marquette Law Review*, Vol. 102, No. 3 (Spring 2019), p. 643-699, https://scholarship.law.marquette.edu/mulr/vol102/iss3/3.

[23] David Bailey, "U.S. Policy towards Inward FDI", cit.

[24] Souvik Saha, "CFIUS Now Made in China: Dueling National Security Review Frameworks as a Countermeasure to Economic Espionage in the Age of Globalization", in *Northwestern Journal of International Law & Business*, Vol. 33, No. 1 (Fall 2012), p. 199-235 at p. 209, https://scholarlycommons.law.northwestern.edu/njilb/vol33/iss1/4.

[25] It was part of the so-called Omnibus Trade and Competitive Act. See George Georgiev, "The Reformed CFIUS Regulatory Framework: Mediating between Continued Openness to Foreign Investment and National Security", in *Yale Journal on Regulation*, Vol. 25, No. 1 (Winter 2008), p. 125-134, http://hdl.handle.net/20.500.13051/8088; Timothy Webster, "Why Does the United States Oppose Asian Investment?", in *Northwestern Journal of International Law & Business*, Vol. 37, No. 2 (Spring 2017), p. 213-274, https://scholarlycommons.law.northwestern.edu/njilb/vol37/iss2/2.

[26] Amy Deen Westbrook, "Securing the Nation or Entrenching the Board?", cit., p. 665.

[27] National Defense Authorization Act for Fiscal Year 1993, Public Law No. 102-484, §§

which included the so-called "Byrd amendment". The amendment introduced mandatory criteria for CFIUS to review foreign direct investment,[28] and contributed to a greater institutionalisation of the role of CFIUS and to a clearer definition of the steps and requirements of the entire process of FDI screening.

CFIUS and Congress have since repeatedly come into conflict over the interpretation of the scope of the new obligations imposed on CFIUS. These divergences arose in particular in relation to two transactions: (i) in 2005, the attempted acquisition of Unocal Corporation, one of the major US energy producers, by China National Offshore Oil Corporation, which has been described as "one of the most politically charged merger battles in U.S. history";[29] (ii) in 2005, the attempted acquisition of six US commercial ports operated by the British-owned Peninsular and Oriental Steam Navigation Company by Dubai Ports World (a company largely owned by the government of the United Arab Emirates).[30]

To address these issues and better define the role and powers of CFIUS, on 24 October 2007 Congress adopted the Foreign Investment and National Security Act (FINSA).[31] FINSA placed a strong emphasis on national security, keeping the concept vague and undefined in order to provide the necessary flexibility to ensure the most adequate protection of US interests.[32] This led to the expansion of the list of transactions that could pose a risk to national security by explicitly including broad areas such as critical infrastructure and homeland

837(a)-(b), https://www.govinfo.gov/content/pkg/COMPS-10665/pdf/COMPS-10665.pdf.

[28] Edward M. Graham and David M. Marchick, *US National Security and Foreign Direct Investment*, Washington, Peterson Institute for International Economics, October 2006, https://www.piie.com/bookstore/us-national-security-and-foreign-direct-investment.

[29] Christopher Palmeri, "Unocal Goes Out With a Bang", in *Bloomberg*, 10 October 2005.

[30] Deborah M. Mostaghel, "Dubai Ports World Under Exon-Florio: A Threat to National Security or a Tempest in a Seaport?", in *Albany Law Review*, Vol. 70 (2007), p. 583-623, https://digitalcommons.law.ggu.edu/pubs/121.

[31] Foreign Investment and National Security Act of 2007, Public Law No. 110-49, 121 Stat. 246 (codified as amended in scattered sections of 50 U.S.C.), https://www.govinfo.gov/app/details/PLAW-110publ49.

[32] Foreign Investment and National Security Act of 2007, H.R. 556, § 2(a)(6), 110th Congress, 2007.

security. In this way, CFIUS's review of foreign investment moved beyond the narrow defence focus of its first three decades, adding a range of more economic considerations.[33] It should be borne in mind that this intervention took place after the terrorist attacks of 11 September 2001 and at a time when China was asserting itself strongly on the international market.[34]

The role and power of CFIUS under the Trump and Biden administrations

With the Trump presidency there was extensive recourse[35] to national security to justify the adoption of a multiplicity of measures against threats related to FDI from China. The Foreign Investment Risk Review Modernization Act (FIRRMA), signed into law by President Trump on 13 August 2018, resulted in a comprehensive overhaul of the organisation, function and duties of CFIUS. FIRRMA has expanded the scope and duration of reviews conducted by CFIUS, encompassing various types of transactions with implications for national security. These include real estate deals near military installations or government facility or property of national security sensitivities; investments in critical technology or infrastructure, and acquisitions involving sensitive personal data of US citizens. Additionally, FIRRMA allows CFIUS to scrutinize transactions in which a foreign government has a direct or indirect substantial interest and any transaction or arrangement designed to evade CFIUS.

While FIRRMA refrains from explicitly naming specific countries, it grants CFIUS the authority to potentially differentiate among foreign investors based on their country of origin, subject to predefined reg-

[33] Amy Deen Westbrook, "Securing the Nation or Entrenching the Board?", cit., p. 671.

[34] James K. Jackson, "The Exon-Florio National Security Test for Foreign Investment", in *CRS Reports for Congress*, No. RL33312 (29 March 2013), https://sgp.fas.org/crs/natsec/RL33312.pdf.

[35] Irene Yu, "Foreign Investment and National Security Challenges in the Data Age: An Assessment of the Current Regime and Recommendations", in *Hastings Law Journal*, Vol. 74, No. 3 (2023), p. 959-986 at p. 973, https://repository.uclawsf.edu/hastings_law_journal/vol74/iss3/9.

ulatory criteria. Furthermore, FIRRMA mandates foreign firms to file for review in certain circumstances, transitioning from a voluntary to a compulsory filing requirement.[36]

The stated objective was to update the tool to respond as effectively and efficiently as possible to national security threats posed by emerging risks, in particular with regard to critical infrastructure and technologies, including personal data. In a sign that personal data was at the heart of Trump's national security strategy, CFIUS stepped in on several occasions to oversee related transactions. For example, it reviewed investment transactions involving the StayNTouch software, online forum PatientsLikeMe, dating app Grindr,[37] and social media app TikTok.[38]

In September 2022, President Biden issued Executive Order 14083, "Ensuring Robust Consideration of Evolving National Security Risks by the Committee on Foreign Investment in the United States". While this Executive Order did not change CFIUS's authority, it sought to ensure that the Committee's review of "transactions within its jurisdiction (covered transactions) […] remains responsive to evolving national security risks".[39] The order urged CFIUS not to review transactions in isolation, but to consider them in the context of broader trends, with a particular focus on strengthening supply chain resilience, maintaining US technological leadership, protecting overall industry investment trends, cybersecurity and sensitive personal data. Thus, an approach

[36] Cathleen D. Cimino-Isaacs, "CFIUS Reform Under FIRRMA", in *CRS In Focus*, No. IF10952 (21 February 2020), https://crsreports.congress.gov/product/details?prodcode=IF10952.

[37] Georgia Wells and Kate O'Keeffe, "U.S. Orders Chinese Firm to Sell Dating App Grindr over Blackmail Risk", in *The Wall Street Journal*, 27 March 2019, https://www.wsj.com/articles/u-s-orders-chinese-company-to-sell-grindr-app-11553717942; Julian Gewirtz and Moira Weigel, "Grindr and the 'New Cold War': Why US Concerns over the App Are Dangerous", in *The Guardian*, 18 May 2019, https://www.theguardian.com/p/bfgbe.

[38] US District Court for the District of Columbia, *TikTok Inc. v. Trump*, 2020, https://www.courtlistener.com/docket/18455532/tiktok-inc-v-trump.

[39] US Presidency, Executive Order No. 14083 of 15 September 2022, https://www.federalregister.gov/documents/2022/09/20/2022-20450/ensuring-robust-consideration-of-evolving-national-security-risks-by-the-committee-on-foreign.

has been adopted that considers the cumulative risk of the FDI under review, with a long-term approach to the analyses to be conducted by CFIUS. In 2023, a new amendment to the National Defense Authorization Act expanded CFIUS's jurisdiction to cover agricultural land of a certain size and value and investments in US companies engaged in agriculture or related biotechnology, adding the Department of Agriculture as a CFIUS member.

An overview of the CFIUS activities

Since the enactment of FIRRMA, there has been a steady increase in the number of transactions reviewed, largely driven by the broadening scope of transactions falling under CFIUS jurisdiction. Between 2020 and 2021, the number of written notices submitted by parties involved requesting CFIUS intervention to revise operations covered under its scope significantly increased from 187 to 272. In 2022, CFIUS reviewed 440 filings, consisting of 154 declarations and 286 notices.[40] Nearly sixty per cent of total notices proceeded to an investigation, with 162 investigations conducted by CFIUS in 2022 (130 in 2021, 88 in 2020).[41]

Since 2008, the US President has used his veto authority over foreign transactions only six times, all of which involved Chinese acquisitions. These instances underscore the increased scrutiny and regulatory actions applied to deals involving critical assets, indicative of the growing apprehensions regarding national security and economic welfare, especially towards China. Table 4.2 offers additional insights

[40] The notice requires detailed information on all parties involved and has a minimum review period of 45 days. At the end of the review, parties may receive a safe harbour decision, which allows them to finalise the acquisition. Conversely, the declaration requires less detailed information and could undergo review within 30 days. However, it may result in either a request for a full filing (notice) or a determination of CFIUS's inability to take action. In these cases, parties would not receive a safe harbour decision unless they subsequently submit a notice, prompting CFIUS to conduct a more extensive evaluation of the transaction.

[41] Cathleen D. Cimino-Isaacs and Karen M. Sutter, "The Committee of Foreign Investment in the United States", in *CRS In Focus*, No. IF10177 (3 August 2023), https://crsreports.congress.gov/product/pdf/IF/IF10177.

into these decisions.

Table 4.1 | FDI notices from 2008 (financial crisis) to 2022 (pandemic and energy crisis)

Year	No. notices	No. investigations	No. mitigation measures	No. US President's decisions
2008	155	23	2	0
2009	65	25	5	0
2010	93	35	8	0
2011	111	40	8	0
2012	114	45	5	1
2013	97	49	9	0
2014	147	52	9	0
2015	143	67	12	0
2016	172	79	17	1
2017	237	172	30	1
2018	229	158	37	1
2019	231	113	28	1
2020	187	88	16	1
2021	272	130	26	0
2022	286	162	52	0

Source: US Department of the Treasury, *Covered Transactions, Withdrawals and Presidential Decisions, 2008-2022*; and CFIUS, *Annual Report to Congress for CY 2022*, https://home.treasury.gov/policy-issues/international/the-committee-on-foreign-investment-in-the-united-states-cfius/cfius-reports-and-tables.
Note: Highlighted in grey are the cases in which the US President decided to exercise the veto power.

It is worth noting that although only a small percentage of the total number of notifications were vetoed by the US President, a significant number of waivers were registered during the investment review process, as shown in Table 4.3.

This suggests that many companies prefer either to withdraw the notification and resubmit it in a form that meets the CFIUS requirements, or to abandon the investment transaction altogether rather than face the President's decision to block the transaction. In the latter case, the decision is made public and companies prefer to avoid being labelled as a threat to US security because of the obvious reputational and economic consequences.

Table 4.2 | Presidential prohibitions of foreign transactions on the ground of national security concerns

Date	President	Case	Notes
2 February 1990	Bush	Mamco case (Aerospace)	The state-owned China National Aero-Technology Import & Export Corporation was requested to withdraw from Mamco Manufacturing Company, a Seattle-based manufacturer of aerospace parts.
28 September 2012	Obama	Ralls Corporation case (Renewables)	Obligation on Ralls Corporation, a US company owned by Chinese citizens, to divest its interests in four wind farm projects in Oregon located near restricted airspace.
2 December 2016	Obama	Fujian Grand Chip Investment Fund case (Semiconductor)	Prohibition of the sale of the US assets of a German semiconductor manufacturer, Aixtron SE, to a Chinese investor, Fujian Grand Chip Investment Fund.
13 September 2017	Trump	Lattice Semiconductor case (Semiconductor)	Prohibition of the sale of Lattice Semiconductor to Canyon Bridge Capital Partners, a private equity firm run by US citizens but backed by funds from several Chinese state-owned entities.
12 March 2018	Trump	Broadcom case (Semiconductor)	Ban on Broadcom, a semiconductor manufacturer based in Singapore and the US, from acquiring Qualcomm, a leading US manufacturer of semiconductors and telecommunications equipment.
7 March 2019	Trump	Grindr case (Software)	Prohibition the acquisition of dating app Grindr by Chinese conglomerate Beijing Kunlun Tech Co.
6 August 2020	Trump	TikTok case (Digital platform)	Prohibition of the acquisition of the video app Musical.ly (later merged into TikTok) by the Chinese Beijing ByteDance Tech Co. (peculiar case: CFIUS investigation/ US President's decision + use of IEEPA powers).

Source: Cathleen D. Cimino-Isaacs and Karen M. Sutter, "The Committee of Foreign Investment in the United States", cit.

4.3 FDI screening in the European Union

A single FDI screening mechanism along the lines of the US model?

Ever since the debate on the dangers of FDI and the advisability and/or necessity of introducing common rules for its control at European level began, the United States has often been held up as a model for the establishment of a single FDI control mechanism.

Already in 2011, in a letter addressed to the then President of the European Commission José Manuel Barroso, Vice-President Antonio Tajani and Internal Market Commissioner Michel Barnier proposed the

Table 4.3 | Notices withdrawn

Year	No. notices	No. notices withdrawn	No. notices withdrawn				
			During the review	During the investigation	Withdrawn and refiled	Notices withdrawn and transactions abandoned in light of CFIUS-related national security concerns	Notices withdrawn for any other reasons
2008	155	23	18	5	38	2	1
2009	65	25	5	2	7	1	2
2010	93	35	6	6	12	2	3
2011	111	40	1	5	10	0	0
2012	114	45	2	20	22	8	3
2013	97	49	3	5	2	6	1
2014	147	52	3	9	13	2	3
2015	143	67	3	10	16	3	1
2016	172	79	6	21	26	5	7
2017	237	172	4	70	79	24	6
2018	229	158	2	64	76	18	6
2019	231	113	0	30	33	8	4
2020	187	88	1	28	36	7	1
2021	272	130	2	72	115	9	2
2022	286	162	1	87	68	12	8

Source: US Department of the Treasury, *Covered Transactions, Withdrawals and Presidential Decisions, 2008-2022*; and CFIUS, *Annual Report to Congress for CY 2022*, https://home.treasury.gov/policy-issues/international/the-committee-on-foreign-investment-in-the-united-states-cfius/cfius-reports-and-tables.

creation of an FDI review mechanism at the EU level that would replicate the US model.[42] The initiative was blocked due to fears that it would be perceived as protectionist and, as such, have negative effects on European investments in the Chinese market. The following year, a European Parliament's resolution to set up a body responsible for the ex-ante evaluation of FDI, along the lines of the US Inter-Agency Committee, and to report to the Parliament on a regional basis, went no farther.[43] In 2012, then Trade Commissioner Karel de Gucht said that a European-level security control of FDI was neither desirable nor feasible.[44]

The debate on the creation of such an instrument was revived only in 2017, with a proposal presented in the European Parliament by the European People's Party. However, Germany, France and Italy opposed the proposal for a common FDI screening mechanism, opting for the adoption of a common framework that would not as such affect member states' prerogatives in the area of FDI control. The three countries were concerned about the structural challenges posed by the emergence of China as a major source of FDI in Europe.[45] The initial surge of Chinese FDI in European infrastructure began during the global financial crisis and was further boosted by the launch of the Belt and Road Initiative and the economic reforms adopted at the Third Plenum of the Chinese Communist Party in 2013.[46] Their apprehensions stemmed from several

[42] Ian Wishart and Jennifer Rankin, "Call to Investigate Foreign Investment in EU Market", in *Politico*, 23 February 2011, https://www.politico.eu/?p=46166.

[43] Marielle De Sarnez, *Report on EU and China: Unbalanced Trade?* (2010/2301(INI), 20 April 2012, https://www.europarl.europa.eu/doceo/document/A-7-2012-0141_EN.html.

[44] Karel De Gucht, *EU-China Investment: A Partnership of Equals*, Speech at the Bruegel Debate: China Invests in Europe Patterns Impacts and Policy Issues, Brussels, 7 June 2012, https://ec.europa.eu/commission/presscorner/api/files/document/print/en/speech_12_421/SPEECH_12_421_EN.pdf.

[45] Over the past twenty years, an estimated cumulative total of 120 billion euros in Chinese FDI has flowed into the EU. See European Commission, *Key Elements of the EU-China Press Release: Comprehensive Agreement on Investment*, 30 December 2020, https://ec.europa.eu/commission/presscorner/detail/en/ip_20_2542.

[46] Decision of the Central Committee of the Communist Party of China on Some Major Issues Concerning Comprehensively Deepening the Reform, 16 January 2014, http://www.china.org.cn/china/third_plenary_session/2014-01/16/content_31212602.htm.

factors, but one of the foremost concerns was the perceived "lack of reciprocity and about a possible sell-out of European expertise".[47]

The introduction of an FDI Regulation was not only seen as a coordinated framework to enhance the EU's collective response to these challenges but also symbolised a political declaration, demonstrating EU unity in tackling this crucial issue.[48]

The economic and strategic significance of moving towards a unified EU approach to FDI screening was evident, as acknowledged by then Commission President Jean-Claude Juncker: "Europe must always defend its strategic interests. That is why today we are proposing a new EU framework for investment screening".[49] As a result, EU Regulation 2019/452 was adopted on 19 March 2019, entering into force on 10 April 2019 and becoming binding and directly applicable on 11 October 2020.

The FDI Regulation: A common framework for national FDI screening mechanisms

The FDI Regulation identifies security and public order as the key interests that can justify the use of special powers and the implementation of restrictive measures in the context of the control of FDI.[50] However, it does not define the meaning of "security and public order", leaving to the member states to define it.[51]

Nevertheless, a list is provided – by way of example and not exhaustively – encompassing a wide range of sectors and areas that could potentially impact security and public order and that might be relevant in the

[47] "France, Germany, Italy Urge Rethink of Foreign Investment in EU", in *Reuters*, 14 February 2017, https://www.reuters.com/article/idUSKBN15T1NC.

[48] Loïc Carcy, "The New EU Screening Mechanism for Foreign Direct Investments. When the EU Takes Back Control", in *Bruges Political Research Papers*, No. 84/2021, http://aei.pitt.edu/103426.

[49] European Commission, *State of the Union Address 2017*, 13 September 2017, https://ec.europa.eu/commission/presscorner/detail/en/SPEECH_17_3165.

[50] Recital nos. 3 and 4 of the FDI Regulation.

[51] Elvire Fabry and Micol Bertolini, "Covid-19: The Urgent Need for Stricter Foreign Investment Controls", in *Institut Jacques Delors Policy Papers*, No. 253 (April 2020), https://institutdelors.eu/en/publications/covid-19-lurgence-dun-controle-renforce-des-investissements-etrangers.

assessment conducted by each member state. The list includes: (i) critical infrastructures (whether physical or virtual), such as energy, transport, water, health, communications, media, data processing or storage, aerospace, defence, electoral or financial infrastructures, and sensitive facilities, as well as investments in land and buildings critical to the use of such infrastructures; (ii) critical technologies and dual-use items, including artificial intelligence, robotics, semiconductors, cybersecurity, aerospace, defence, energy storage, quantum and nuclear technologies, as well as nanotechnology and biotechnology; (iii) security of supply of critical production factors, including energy and raw materials, as well as food security; (iv) access to, or the ability to control, sensitive information, including personal data; (v) media freedom and their pluralism.

The FDI Regulation has been an improvement in at least three respects. Firstly, it has introduced common principles for national FDI control's procedures (Article 3). Secondly, it has institutionalised cooperation mechanisms (Articles 6-8). Lastly, it has facilitated the homogenisation of criteria for FDI screening based on security and public order (Article 4).

Under the cooperation mechanism, the FDI Regulation strengthens the European Commission's role and sets distinct provisions for FDI currently undergoing screening (Article 6) and FDI not undergoing screening (Article 7) in the recipient member state, as well as for FDI that is anticipated to impact projects or programs of EU interest. Moreover, the FDI regulation encourages member states and the Commission to cooperate with the responsible authorities of like-minded third countries on issues relating to FDI threatening national security and public order.

With regards to screening foreign direct investments based on security and public order, the regulation recommends that member states and the Commission work together with responsible authorities in similar third countries.

Recently, the European Commission called upon member states to set up fully-fledged screening mechanisms in order to respond to the shock and economic vulnerability caused by the pandemic[52] and address

[52] European Commission, *Guidance to the Member States Concerning Foreign Direct Investment and Free Movement of Capital from Third Countries, and the Protection of*

concerns arising from war contingencies by targeting Russian and Belarusian FDI.[53] Member states were urged either to strengthen control mechanisms already in place or to establish new ones. Alternatively, the Commission advised the use of all available options to deal with possible hostile takeovers in domestic markets.

As a result, the number of EU member states with a screening mechanism has increased from 11 to 21 since the EU's FDI screening regulation came into force, with more to come.

An overview FDI screening in the EU

Although investment control mechanisms have been in place in many member states for decades, it was only in 2020 that the Regulation became operational. As a result, member states have started fulfilling their reporting obligations under the European Cooperation Mechanism. According to the first three annual reports on FDI screening, the use of the screening mechanism has continued to increase since 2020.[54]

In 2022, on the basis of aggregated data received from member states, a total of 1,444 requests for acquisition authorisations from foreign investors together with review cases initiated *ex officio* by national governments were managed. 55 per cent of the cases were formally reviewed, compared to only 29 per cent in 2021, indicating an increase in the percentage of formally reviewed cases. Of the cases that were formally screened and for which member states reported a decision, the majority (86 per cent) were approved without conditions. Only 9 per cent of decisions resulted in authorisation with conditions or mitigating

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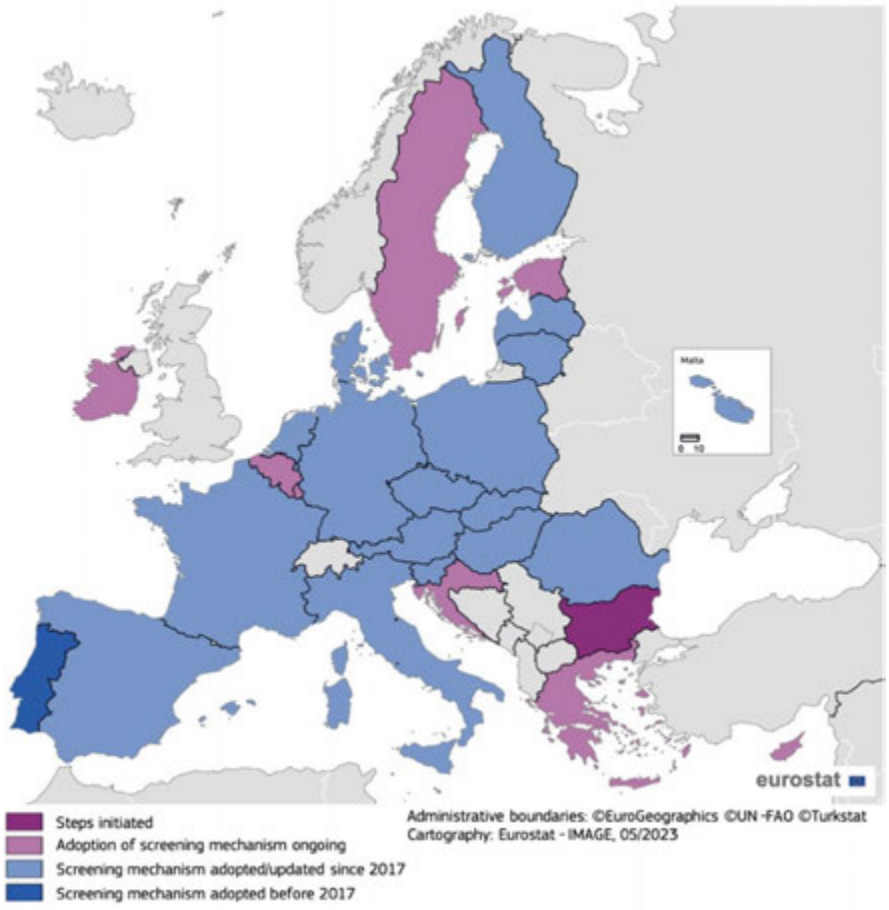
Europe's Strategic Assets, ahead of the application of Regulation (EU) 2019/452 (FDI Screening Regulation), 26 March 2020, https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52020XC0326(03).

[53] European Commission, *Guidance to the Member States Concerning Foreign Direct Investment from Russia and Belarus in View of the Military Aggression against Ukraine and the Restrictive Measures Laid Down in Recent Council Regulations on Sanctions*..., 6 April 2022, https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52022XC0406(08).

[54] European Commission, *EU Foreign Investment Screening and Export Controls Help Underpin European Security*, 19 October 2023, https://ec.europa.eu/commission/presscorner/detail/eN/ip_23_5125.

measures, compared to 23 per cent in 2021. National authorities blocked transactions in only 1 per cent of all cases decided, while in a further 4 per cent of cases the transaction was withdrawn by the parties.

Figure 4.4 | State of the implementation of FDI mechanisms at national level



Source: European Commission DG Trade, *Third Annual Report on the Screening of Foreign Direct Investments into the Union (2022) and Statistical Update on Export Controls (2021)*, Publications Office of the European Union, 2022, p. 14, https://data.europa.eu/doi/10.2781/289185

In 2022, 17 member states submitted 423 notifications under the cooperation mechanism for foreign direct investments under review (Article 6 of the FDI Screening Regulation), of which six member states – Austria, Denmark, France, Germany, Italy and Spain – accounted for more than 90 per cent. In 2021, 13 member states submitted 414 notifications,

compared to 11 member states in the previous reporting period. Five member states – Austria, France, Germany, Italy and Spain – accounted for more than 85 per cent of these notifications.

The transactions varied widely in terms of sectors, investor origins, and transaction values. The following table provides an overview of the sectors with the highest number of transactions from 2020 to 2022.

Table 4.4 | Distribution of requests for acquisition authorisations made by foreign investors and ex officio by Sector in 2022

Sector	Percentage of transactions		
	2020	2021	2022
Manufacturing	50	25	27
ICT	17	36	24
Professional activities	-	-	12
Wholesale and retail	-	8.5	9
Financial activities	8	9.5	8
Constructions	-	4	-
Transport	-	-	7
Other activities	25	17	13

Source: European Commission's first, second and third Annual Report on the Screening of Foreign Direct Investments into the Union (2021, 2022, 2023).

In 2022, manufacturing accounted for the highest share of transactions at 27 per cent, which is particularly relevant given the importance of SMEs in Europe as the backbone of its economy. Other notable sectors include ICT (24 per cent), professional activities (12 per cent), wholesale and retail (9 per cent), and financial activities (8 per cent).

4.4 Conclusions

Both the national security strategies of the Trump and Biden Administrations highlight a common belief in the United States' enduring involvement in long-term political, economic and technological competition, particularly with global powers like China. This acknowledgment has led to a significant expansion in identifying sensitive sectors where foreign investments could potentially pose a threat to national security. This shift in national security priorities is reflected in the transformation of the role and scope of the CFIUS in recent years. However, this

expansion has raised significant questions and concerns regarding the balance between safeguarding national security interests and facilitating legitimate foreign investment activities. As CFIUS's role continues to grow, stakeholders are increasingly scrutinising its actions to ensure that national security concerns are addressed effectively without unduly hindering investment flows.

In contrast, the European Union employs a decentralised approach to address similar concerns about foreign investment due to the varying regulatory frameworks among member states. While the EU has made efforts to enhance coordination through the FDI Regulation, the division of competences between the EU and its member states complicates efforts to establish a unified strategy akin to CFIUS.

The already mentioned Communication "Advancing European Economic Security" of January 2024 provides for a proposal to revise the FDI Regulation, which aims to repeal and replace the current one. It would require all member states to establish a national mechanism for monitoring FDI and introduce measures to harmonise them as far as possible. To this aim, it will identify specific sectors where all member states must review foreign investments and expand EU screening to include investments by EU investors that are ultimately controlled by non-EU entities or individuals. The proposal also seeks to address shortcomings identified in the initial years of the European cooperation mechanism and promote increased efficiency and effectiveness. It is important to note that the proposal will undergo the ordinary legislative procedure, potentially resulting in significant changes during negotiations between the European Parliament, the Council and the Commission.

Since 2021, efforts to foster collaboration on investment screening have been underway between the US and the EU within the Trade and Technology Council (TTC). Despite disparities in respective approaches to investment screening, initiatives like the ones under Working Group 8 of the EU-US TTC aim to streamline transatlantic cooperation on this front, especially concerning critical technology issues. This working group seeks to share insights on investment patterns affecting security, including strategic trends, with a focus on identifying best practices for analysing risks and implementing mitigation measures, particularly in

sensitive technology and data domains. However, its effectiveness thus far has fallen short of initial expectations.

At present, beyond the inevitable legal differences in the way FDI is reviewed, the US and the EU share many concerns about national and economic security, which will undoubtedly lead to further debates in the future. It will be interesting to follow these debates, especially after the US elections and the appointment of the new President of the European Commission following the European Parliament elections.

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5.

A Tale of Two Systems: Alignment, Divergence and Coordination in EU and US Dual-use Export Controls

Mark Bromley and Kolja Brockmann

This chapter compares the content of the regulatory systems that the European Union and United States maintain for controlling international transfers of dual-use items, i.e. goods, materials and technologies that may be used for both civilian and military purposes, and examines US-EU coordination efforts. The regulatory systems that states maintain, hereafter referred to as "export controls", consist of several elements. These include (i) *policy objectives* (i.e. the overarching goals that the system is intended to achieve), (ii) a *control list* (i.e. a list of items that are subject to control), (iii) a *licensing system* (i.e. a set of procedures administering licensing applications for certain activities, typically including export, brokering and transit/transhipment), (iv) *assessment processes* (i.e. criteria and decision-making mechanisms for determining which licences are approved), and (v) *enforcement mechanisms* (i.e. systems for ensuring that companies comply with export control provisions). Aspects of these elements – particularly the control list – are based on broader multilateral obligations to which the EU and United States both subscribe. Other elements – particularly the enforcement mechanisms – are not subject to detailed multilateral standards and are shaped more by domestic factors.

For the purposes of this chapter, export controls are viewed as connected to, but distinct from, sanctions measures. Sanctions measures can include banking restrictions, travel bans, asset freezes and prohibitions on transfers of dual-use items to or from a particular destination. Aspects of these transfer prohibitions are often implemented via a states' export

control system. However, while export controls are usually unlimited, applicable to all recipients and in pursuit of general policy objectives and norms, sanctions are targeted and seek to achieve specific behavioural changes by the sanctioned party. Maintaining this distinction is challenging. Since February 2022 the main focus for US and EU export controls has been implementing the prohibitions on transfers of dual-use items to Russia included in the sanctions measures they have imposed. In addition, the way the United States is using export controls to restrict transfers of advanced technologies to China looks increasingly indistinguishable from sanctions measures.

Any attempt to compare the US and EU systems of export controls is constrained by differences in the structure of their political and legal systems and the ways export controls are managed within those systems. In particular, the way power is allocated and exercised at the institutional and member state levels in the EU and the federal government and state levels in the US, and how responsibility for export controls is distributed between those levels, differs significantly. These differences both inform and constrain EU-US coordination on export controls. This coordination has deepened significantly in recent years, particularly via the Trade and Technology Council (TTC), which was established in June 2021. However, the complexity and the differences in US and EU export controls means that coordination involves multiple US agencies and EU institutions and takes place not only at the US-EU level but also bilaterally between the US and individual EU member states.

Sections II and III outline the legal basis and administrative frameworks of the US and EU systems of export controls. Section IV compares three key aspects of their export controls: their policy objectives, control lists and enforcement mechanisms. Section V focuses on five areas that have been a focus of EU-US coordination on export controls, mapping efforts at both the US-EU and US-EU member state levels. Section VI presents the main conclusions and assesses the potential for deeper alignment and coordination between the EU and United States on export controls.

5.1 US export controls

Under the US Constitution, Congress is authorised to regulate all aspects of commerce with foreign states. Congress has, in turn, regularly del-

egated authority to the president to "regulate exports for a variety of national security, foreign policy, and economic purposes".[1] In 2018 the US Congress adopted the Export Control Reform Act (ECRA) after a prolonged process of review and consultation. The ECRA was the first piece of US legislation that allocates authority to the executive branch of the US government to regulate dual-use exports on a permanent basis. Previous legislation had been adopted on a time limited or emergency basis. The ECRA authorises the president to control exports of dual-use items to protect US national security and further its foreign policy interests.[2] The main set of tools which are used to administer these controls are outlined in the Export Administration Regulations (EAR). The EAR control both exports of dual-use items from the United States and the re-export of US origin items and transfers to non-US citizens that take place within the United States.[3] The EAR are administered by the US Bureau of Industry and Security (BIS) within the US Department of Commerce. Other US regulations impose controls on exports of certain specific types of dual-use items. For example, the US Departments of Energy has a role in administering certain nuclear-related exports and the US Department of Treasury administers certain aspects of the prohibitions on transfers of dual-use items adopted under US sanctions measures.[4]

5.2 EU export controls

The EU has established a common legal framework for controls on the export, brokering, transit and trans-shipment of dual-use items. Its cen-

[1] Christopher A. Casey, "Export Controls – International Coordination: Issues for Congress", in *CRS Reports*, No. R47684 (8 September 2023), p. 1, https://crsreports.congress.gov/product/details?prodcode=R47684.

[2] Oliver Bräuner, Mark Bromley and Mathieu Duchâtel, "Western Arms Exports to China", in *SIPRI Policy Papers*, No. 43 (January 2015), p. 5, https://www.sipri.org/node/1877.

[3] David Addis and Peter Lichtenbaum, *Microsoft Office 365 and U.S. Export Controls*, Covington, 1 December 2016, https://query.prod.cms.rt.microsoft.com/cms/api/am/binary/RE1s5kI.

[4] US Department of State, *Overview of U.S. Export Control System,* 8 March 2011, https://2009-2017.state.gov/strategictrade/overview/index.htm.

tral element is the EU Dual-use Regulation which is directly applicable law in all member states and was most recently recast as Regulation (EU) 2021/821 which entered into force in 2021.[5] The EU Anti-torture Regulation is another EU regulation creating export controls, but only for dual-use items which may be used in torture and capital punishment.[6] Until 2009 the process of assessing and updating the EU's export controls was the joint responsibility of the Commission and the Council. However, with the entry into force of the Lisbon Treaty the European Parliament became co-legislator (together with the Council) with a shared responsibility for discussing proposed amendments and ultimately adopting EU legislation following an initial proposal by the Commission.[7] The Dual-use Regulation is part of the EU's Common Commercial Policy (CCP), an area of "exclusive" EU competence, meaning power has been devolved to the supranational level. However, the Dual-use Regulation includes specific provisions that delegate responsibility to the member states. This means that implementation – i.e. operating the licensing system and taking individual decisions to grant or deny licenses – and enforcement – i.e. the detection, investigation and prosecution of violations – is a national prerogative of the member states.[8] This also means that within the constraints of EU and national laws, there is variation in the interpretation and application of certain provisions and member states may go beyond certain provisions in their national legislation.[9] The Commission can

[5] European Parliament and Council of the EU, *Regulation (EU) 2021/821 of 20 May 2021 Setting up a Union Regime for the Control of Exports, Brokering, Technical Assistance, Transit and Transfer of Dual-use Items (Recast)*, https://eur-lex.europa.eu/eli/reg/2021/821/oj.

[6] European Parliament and Council of the EU, *Regulation (EU) 2019/125 of 16 January 2019 Concerning Trade in Certain Goods which Could Be Used for Capital Punishment, Torture or Other Cruel, Inhuman or Degrading Treatment or Punishment*, https://eur-lex.europa.eu/eli/reg/2019/125/oj.

[7] European Parliament website: *Ordinary Legislative Procedure*, https://www.europarl.europa.eu/olp/en/ordinary-legislative-procedure/overview.

[8] European Commission DG Trade website: *Exporting Dual-use Items*, https://policy.trade.ec.europa.eu/node/1021_en.

[9] European Commission, *Information Note: Regulation (EU) 2021/821 of the European Parliament and of the Council of 20 May 2021 Setting up a Union Regime for the Control of Exports, Brokering, Technical Assistance, Transit and Transfer of Dual-use Items: Information on Measures Adopted by Member States in Conformity with Articles 4, 5, 6, 7, 8, 9, 11,*

create guidance documents on the implementation of certain aspects of the EU's export control system and it has increasingly administered public consultations open to stakeholders from across the EU to provide input and feedback to certain policy or guidance proposals.

5.3 Comparison of key aspects

Policy objectives

According to the US government, the underlying objectives of its export controls are "to advance national security, foreign policy, and economic objectives by ensuring an effective export control and treaty compliance system, and promoting continued U.S. strategic technology leadership".[10] The inclusion of economic considerations – and the extent to which they guide US export controls – has been a source of tension and debate. Since the late 2010s the United States has used its export controls to block transfers of advanced technologies to China and specific Chinese entities – e.g. ZTE Corporation and Huawei – and employed diplomatic and legal measures to persuade or require foreign companies and states to adopt similar measures.[11] While the United States has argued that the controls are aimed at preventing the unauthorised re-export of US technology or limiting transfers of dual-use technologies that might benefit China's military, Beijing has maintained that they are focused on ensuring US economic and technological superiority.[12] This period has also

12, 22 and 23, 15 June 2023, https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52023XC0615(03).

[10] US International Trade Administration website: *US Export Controls*, https://www.trade.gov/us-export-controls.

[11] US Bureau of Industry and Security, "Addition of Entities to the Entity List", in *Federal Register*, 3 August 2016, https://www.federalregister.gov/d/2016-05104; US Bureau of Industry and Security, "Addition of Entities to the Entity List", in *Federal Register*, 21 May 2019, https://www.federalregister.gov/d/2019-10616; and US Department of Commerce, *Commerce Implements New Export Controls on Advanced Computing and Semiconductor Manufacturing Items to the People's Republic of China (PRC)*, 7 October 2022, https://www.bis.doc.gov/index.php/component/docman/?task=doc_download&gid=3158.

[12] See Mark Bromley, Selma Mustafić and Jingdong Yuan, "China Takes Aim at the Export Control Regimes: Targeted Critique or Misguided Attack?", in *WorldECR*, No. 123 (October 2023).

seen an expansion in the United States' long-standing use of export controls to address human rights concerns, with a particular emphasis on regulating the trade in cyber-surveillance tools and targeting Chinese companies and individuals involved in the oppression of the Uighur people, the Turkic and Muslim minority of the Xinjiang region.[13]

When it was established in the 1990s, the main goal of the EU's system of export controls was implementing internationally agreed obligations in the field of weapons of mass destruction (WMD) non-proliferation.[14] The adoption and evolution of EU export controls was also shaped by the application of single market principles to the trade in dual-use items by aligning EU member states' export controls and reducing intra-community trade barriers. During the 2021 recast, these goals were expanded to include a more explicit focus on controlling transfers of emerging technologies.[15] Due mainly to the influence of the European Parliament, the recast also led to the inclusion of a focus on regulating the trade in cyber-surveillance tools.[16] In June 2023 the Commission published a draft version of a European Economic Security Strategy which called for the EU to strengthen the oversight of transfers of emerging technologies and create more harmonised export controls.[17] Although it was not mentioned directly, the initiative was largely driven by concerns about China's influence over key areas of the EU's economy and its ability to access military-relevant dual-use technologies.[18] In January 2024 the Commission proposed five new initiatives to strengthen economic secu-

[13] Christopher A. Casey, "Export Controls – International Coordination", cit.

[14] See Anna Giulia Micara, "Current Features of the European Union Regime for Export Control of Dual-use Goods", in *Journal of Common Market Studies*, Vol. 50, No. 4 (July 2012), p. 578-593, DOI 10.1111/j.1468-5965.2012.02249.x.

[15] Mark Bromley and Kolja Brockmann, "Implementing the 2021 Recast of the EU Dual-Use Regulation: Challenges and Opportunities", in *EU Non-Proliferation and Disarmament Papers*, No. 77 (September 2021), https://www.sipri.org/node/5521.

[16] Ibid.

[17] European Commission, *European Economic Security Strategy* (JOIN/2023/20), 20 June 2023, https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52023JC0020.

[18] Alexandra Brzozowski and Luca Bertuzzi, "Leak: EU Eyes Trade Defence Tools to Protect Industrial, Defence Sectors from China", in *Euractiv*, 20 June 2023, https://www.euractiv.com/?p=1941864.

rity, including a white paper on export controls which proposed the creation of an EU "forum" for political coordination on export controls.[19]

Control lists

Most of the dual-use items covered by US export controls are outlined in the Commerce Control List (CCL). The CCL is updated annually and the main source for its contents are the control lists of the multilateral export control regimes – i.e. the Australia Group (AG), the Missile Technology Control Regime (MTCR), the Nuclear Suppliers Group (NSG), and the Wassenaar Arrangement on Export Controls on Dual-use Goods and Technologies (WA). The regimes are informal groups of states that agree common guidelines and control lists for items to which export controls should apply.[20] The United States is a founding member of the four regimes and a key focus of US export controls is ensuring that items are only added to the CCL if they have also been adopted by other states at the multilateral level through the regimes. At the same time, the United States is also willing to adopt unilateral national controls if its security or economic interests are at stake or there are specific normative concerns. For example, the United States includes certain crime control and detection items on the CCL that are not controlled by the regimes.[21] The United States has also been increasingly willing to utilise or establish new mechanisms to create list-based controls in cases where agreement at the regime level is not possible. Russia is a member of all of the regimes

[19] European Commission, *White Paper on Export Controls* (COM/2024/25), 24 January 2024, p. 13, https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52024DC0025.

[20] Australia Group website: *Australia Group Common Control Lists*, https://www.dfat.gov.au/publications/minisite/theaustraliagroupnet/site/en/controllists.html; Missile Technology Control Regime (MTCR) website: *MTCR Guidelines and the Equipment, Software and Technology Annex*, https://www.mtcr.info/en/mtcr-guidelines; NSG, *Guidelines for Nuclear Transfers (NSG Part 1 Guidelines)*, July 2023, https://www.nsg-online.org/images/Files/Updated_control_lists/Argentina_2023/NSG_Part_1_Rev._July_2023_Clean.pdf; Wassenaar Arrangement website: *Control Lists*, https://www.wassenaar.org/control-lists.

[21] US Bureau of Industry and Security, "Control Policy – CCL Based Controls", in *Code of Federal Regulations*, Title 15, Part 742, https://www.ecfr.gov/current/title-15/part-742.

besides the AG and reportedly vetoed the adoption of new control list categories at the WA in 2023.[22] Unilateral US efforts have resulted in the adoption of national controls on transfers of advanced semi-conductors and related manufacturing equipment to China (see below).[23] Most recently, national controls on software associated with advanced AI applications have been proposed in the US Congress.[24]

Most of the dual-use items covered by EU export controls are outlined in Annex I of the Dual-use Regulation (the "EU Dual-use list"). The EU Dual-use list is updated annually and is based exclusively on the regimes' control lists.[25] Most EU member states participate in all of the regimes and the Commission is a full member of the AG and a permanent observer to the NSG.[26] EU member states are able to adopt national controls on items that do not appear in the EU Dual-use list based on public security, human rights and, following the 2021 recast, terrorism concerns. The 2021 recast also introduced a system of "transmissible controls" meaning that a national control adopted by one member state can be used by another member state to impose licensing requirements and potentially restrict exports of those items. During 2023 and 2024 several member states have used the new mechanism to adopt controls on strategic or emerging technologies such as quantum computers, additive manufacturing equipment and semi-conductor production equipment (see below).[27] During the 2021 recast and in the January 2024 white

[22] Jasper Helder et al., "International Unilateral Export Controls – An Increased Focus on Advanced Technologies", in *Akin Insights*, 5 April 2024, https://www.akingump.com/en/insights/alerts/international-unilateral-export-controls-an-increased-focus-on-advanced-technologies.

[23] Christopher A. Casey, "Export Controls – International Coordination", cit.

[24] US Foreign Affairs Committee, *Bipartisan Coalition Introduces Monumental Bill Giving Admin Authority to Export Control Advanced AI Systems*, 10 May 2024, https://foreignaffairs.house.gov/?p=47210.

[25] European Parliament and Council of the EU, *Regulation (EU) 2021/821*, cit.

[26] Aside from Cyprus (which is not a member of the WA) and Estonia, Latvia, Lithuania, Malta, Romania, Slovenia and Slovakia (which are not members of the MTCR) all EU member states participate in all four regimes.

[27] European Commission, *Compilation of National Control Lists under Article 9(4) of Regulation (EU) 2021/821 of the European Parliament and of the Council of 20 May 2021 Setting up a Union Regime for the Control of Exports, Brokering, Technical Assis-*

paper the Commission indicated support for creating an "autonomous" EU control list and giving itself a more direct role in determining which items to include. This would allow for EU-wide controls on items that are not captured by the regimes' lists and avoid the current patchwork of national controls.[28] However, many member states have indicated that they wish to keep the regimes as the basis for the EU Dual-use list and oppose giving the Commission a bigger role in this area.[29]

Enforcement mechanisms

The United States has multiple programmes in place aimed at ensuring that its export controls are enforced and frequently uses legal measures such as fines, prison sentences and debarments to penalise violations.[30] Depending on the specific laws and regulations and where the offences take place, these enforcement efforts are undertaken by multiple US government agencies, including the Department for Homeland Security (DHS), the Federal Bureau of Investigations (FBI) and the Department of Commerce. These efforts have expanded in recent years, particularly in relation to the implementation of the trade restrictions imposed under the Russia sanctions. In early 2023 the United States stated that it was expanding the resources it devotes to the enforcement of sanctions and export controls, including through the establishment of the Disruptive Technology Strike Force and the addition of 25 new prosecutors working

tance, Transit and Transfer of Dual-use Items, 20 October 2023, http://data.europa.eu/eli/C/2023/441/oj.

[28] European Commission, *White Paper on Export Controls*, cit., p. 12-13.

[29] See Swedish Ministry of Foreign Affairs, *Vitbok om exportkontroll av produkter med dubbla användningsområden* [White paper on export control of dual-use products], 27 February 2024, https://www.riksdagen.se/sv/dokument-och-lagar/dokument/_hb06fpm39; and Netherlands Government, *Kabinetsappreciatie witboek over exportcontrole* [Cabinet appreciation white paper on export controls], 1 March 2024, https://www.rijksoverheid.nl/documenten/publicaties/2024/03/01/appreciatie-witboek-over-exportcontrole.

[30] See Paul K. Kerr and Christopher A Casey, "The U.S. Export Control System and the Export Control Reform Act of 2018", in *CRS Reports*, No. R46814 (7 June 2021), p. 15-16, https://crsreports.congress.gov/product/details?prodcode=R46814.

in this area.[31] Another key aspect of the US enforcement mechanisms is that the United States asserts that its export controls, along with its sanctions and many other US laws, apply extraterritorially. This means that the re-export of items of US origin on the CCL are subject to control under the EAR.[32] In addition, the foreign-produced direct product rule (FDPR) allows BIS to prohibit foreign manufacturers from exporting foreign-made goods that are produced using controlled US technology.[33]

In the EU, all matters relating to the detection, investigation and prosecution of export control violations are the responsibility of individual member states and national efforts in these areas are far more limited and fragmented than in the United States. While there have been prosecutions for export control violations, many member states have limited experience with the investigation and prosecution of export control offences.[34] There have been efforts to expand the level of coordination among EU member states in export control enforcement and align national penalties. Under the 2021 recast the EU established an "Enforcement Coordination Mechanism" to bring together member state officials to exchange information on "the detection and prosecution of unauthorised exports of dual use items". In April 2024 the EU adopted a new directive aimed at aligning penalties for violations of EU sanctions measures, including those related to exports of dual-use items.[35] In contrast to the United States, the EU has always

[31] US Department of Justice, *Deputy Attorney General Lisa Monaco Delivers Remarks at American Bar Association National Institute on White Collar Crime*, 2 March 2023, https://www.justice.gov/opa/speech/deputy-attorney-general-lisa-monaco-delivers-remarks-american-bar-association-national.

[32] Meredith Rathbone and Hena Schommer, "Export Controls in the United States", in Global Investigations Review, *The Guide to Sanctions*, 3rd ed., 8 July 2022, https://globalinvestigationsreview.com/guide/the-guide-sanctions/third-edition/article/export-controls-in-the-united-states.

[33] Joop Voetelink, "The Extraterritorial Reach of US Export Control Law: The Foreign Direct Product Rules", in *Journal of Strategic Trade Control*, Vol. 1, No. 1 (2023), https://doi.org/10.25518/2952-7597.57.

[34] Sibylle Bauer and Mark Bromley, *Detecting, Investigating and Prosecuting Export Control Violations: European Perspectives on Key Challenges and Good Practices*, Stockholm, SIPRI, 2019, https://www.sipri.org/node/4971.

[35] European Parliament and Council of the EU, *Directive (EU) 2024/1226 of 24 April*

been sceptical towards the extraterritorial application of export controls. The only aspects of the Dual-use Regulation that apply outside the EU are controls on "technical assistance" provided in connection with a WMD programme, a military end-use in an embargoed destination, or an illegally exported military item.[36]

5.4 Transatlantic cooperation

Coordination prior to regime meetings

The multilateral export control regimes are the main forums for deliberations on which dual-use items to include in the export control lists adopted by many states. Coordination between EU member states and the United States prior to regime meetings is therefore particularly important. EU member states coordinate regularly through the Council Working Party on Dual-use Goods.[37] The EU and the United States meet regularly to coordinate on export controls. The TTC created a new forum in which coordination can take place. One of the TTC's ten working groups focuses on export controls and it is tasked specifically with "[t]echnical consultations on current and upcoming legislative and regulatory developments to promote the global convergence of controls".[38] However, in many cases coordination on specific topics takes place among smaller groups of states. There is no dedicated coordination between the United States and the EU collectively prior to regime meetings. Even though several of the controls adopted through national controls by the United States or EU member states have also been proposed in the regimes, there is currently no coordination that could enable the EU and the United States to speak in

2024 on the Definition of Criminal Offences and Penalties for the Violation of Union Restrictive Measures, http://data.europa.eu/eli/dir/2024/1226/oj.

[36] Covington, "An Overview of the Recast EU Dual Use Regulation", in *Covington Alerts*, 21 September 2021, https://www.cov.com/en/news-and-insights/insights/2021/09/an-overview-of-the-recast-eu-dual-use-regulation.

[37] Council of the EU website: *Working Party on Dual-Use Goods*, https://www.consilium.europa.eu/en/council-eu/preparatory-bodies/working-party-dual-use-goods.

[38] Trade and Technology Council, *EU-US Trade and Technology Council Inaugural Joint Statement*, Pittsburgh, 29 September 2021, https://ec.europa.eu/commission/presscorner/detail/en/statement_21_4951.

the regime meetings with a more unified voice. Even among EU member states such coordination is sometimes lacking, as is noted in the Commission white paper on export controls.[39]

Trade restrictions on Russia

In response to Russia's full-scale invasion of Ukraine in 2022, the United States, the EU, EU member states and other like-minded states have adopted trade restrictions on the export of a wide range of dual-use items to Russia and Belarus. Coordination on the coverage of these controls has been a key focus of the TTC, along with efforts to address "enforcement and circumvention risks".[40] However, the primary vehicle for coordinating these efforts is the Global Export Control Coalition (GECC), which consists of 39 states that have agreed to "similarly stringent export controls" on Russia and Belarus.[41] The group includes all 27 EU member states but not the EU itself. Coordination efforts are also taking place via the G7 Enforcement Coordination Mechanism.[42] France, Germany and Italy are members of the G7 and the EU is a "non-enumerated member". Since 2023, detailed information exchange and enforcement coordination with regards to the trade restrictions on Russia have also been taking place via the Export Enforcement Five or "E5" which includes Australia, Canada, New Zealand, the United Kingdom and the United States.[43] No EU member state or the EU take part in these meetings.

[39] European Commission, *White Paper on Export Controls*, cit., p. 10-11.

[40] Trade and Technology Council, *Joint Statement EU-US Trade and Technology Council of 31 May 2023 in Lulea, Sweden*, https://ec.europa.eu/commission/presscorner/detail/en/statement_23_2992.

[41] These are the 27 EU member states, Australia, Canada, Iceland, Japan, Liechtenstein, New Zealand, Norway, South Korea, Switzerland, Taiwan, the United Kingdom and the United States.

[42] US Department of the Treasury, *G7 Enforcement Coordination Mechanism Deputies Meeting*, 27 April 2023, https://home.treasury.gov/node/971361.

[43] US Bureau of Industry and Security, *Five Eyes Partners Agree to Formalize Cooperation on Export Control Enforcement*, 28 June 2023, https://www.bis.doc.gov/index.php/component/docman/?task=doc_download&gid=3294.

Transfers of advanced technologies to China

There have also been attempts to use the TTC to coordinate controls on transfers of advanced technologies to China. The outcome document of the first TTC meeting in 2021 contained thinly veiled references to the need to identify and, if necessary, restrict transfers of certain advanced technologies to China.[44] However, these concerns have been less visible at subsequent TTC meetings and the outcome document of the 2023 TTC focused more on addressing concerns that Beijing has been raising about the use of export controls to pursue national economic objectives than on increasing restrictions on technology transfers to China.[45] More substantive coordination on this issue has been occurring at the US-EU member state level. In early 2023 the United States, the Netherlands and Japan agreed to adopt new controls on exports of production equipment for advanced semi-conductors.[46] The Netherlands has used Article 9 of the Dual-use Regulation when adopting these controls, which means that other EU member states can restrict exports of the same items (see above).[47]

[44] The outcome document of the 2021 TTC meeting noted that the EU and US "share concerns that technology acquisition strategies, including economic coercive measures, and civil-military fusion policies of certain actors undermine security interests, and challenge the objective assessment of risks by the competent authorities and the effective implementation of rules-based controls in line with internationally-agreed standards." Trade and Technology Council, *EU-US Trade and Technology Council Inaugural Joint Statement*, cit.

[45] The outcome document of the 2023 TTC meeting committed the EU and US to the promotion of "an environment in which science, technology and legitimate research collaboration can flourish". Trade and Technology Council, *Joint Statement EU-US Trade and Technology Council of 31 May 2023*, cit.

[46] Alexandra Alper and David Shepardson, "U.S. Official Acknowledges Japan, Netherlands Deal to Curb Chipmaking Exports to China", in *Reuters*, 1 February 2023, https://www.reuters.com/technology/us-official-acknowledges-japan-netherlands-deal-curb-chipmaking-exports-china-2023-02-01.

[47] Netherlands House of Representatives, *Wapenexportbeleid, Brief van de Minister voor Buitenlandse Handel en Ontwikkelingssamenwerking* [Arms export policy, Letter from the Minister for Foreign Trade and Development Cooperation], 8 March 2023, https://www.tweedekamer.nl/downloads/document?id=2023D09406.

Transfers of technologies that threaten human rights

The use of exports controls to restrict transfers of technologies that might be used to commit human rights abuses was also one of the initial areas of focus for the TTC. One of its ten working groups focused on the "misuse of technology threatening security and human rights".[48] However, this issue dropped off the agenda during later TTC meetings. The more substantive US efforts to establish a multilateral agreement in this area have taken place through alternative channels. On the final day of the inaugural Summit for Democracy in 2021 Australia, Denmark, Norway and the United State launched the Export Controls and Human Rights Initiative (ECHI).[49] At the time, there were reports that EU-wide cooperation with the Summit for Democracy had been blocked by Hungary which had not been invited to participate.[50] The ECHI led to the adoption in March 2023 of a voluntary "Code of Conduct" signed by 25 states – twelve EU member states and thirteen non-EU member states.[51]

US re-export controls

The extraterritorial application of US export controls has often been a source of tension between the US and EU member states, particularly when the US has used these controls to block sales by European manufac-

[48] European Commission, *EU-US Launch Trade and Technology Council to Lead Values-based Global Digital Transformation*, 15 June 2021, https://ec.europa.eu/commission/presscorner/detail/en/ip_21_2990.

[49] Australia et al., *Joint Statement on the Export Controls and Human Rights Initiative*, 10 December 2021, https://www.whitehouse.gov/briefing-room/statements-releases/2021/12/10/joint-statement-on-the-export-controls-and-human-rights-initiative.

[50] Vlad Makszimov, "Hungary: US Has Bigger Problems with Democracy, Blocks EU Position at Summit", in *Euractiv*, 3 December 2021, https://www.euractiv.com/?p=1683311.

[51] US Department of State, *Export Controls and Human Rights Initiative Code of Conduct Released at the Summit for Democracy*, 30 March 2023, https://www.state.gov/export-controls-and-human-rights-initiative-code-of-conduct-released-at-the-summit-for-democracy. The states that have endorsed the Code are Albania, Australia, Bulgaria, Canada, Costa Rica, Croatia, Czechia, Denmark, Ecuador, Estonia, Finland, France, Germany, Japan, Kosovo, Latvia, The Netherlands, New Zealand, North Macedonia, Norway, Republic of Korea, Slovakia, Spain, the United States and the United Kingdom.

turers that it deems contrary to its security interests. These cases have led some European companies to minimise the presence of US-made components in military and security equipment that they produce.[52] US re-export controls have been discussed in the context of the TTC.[53] In July 2023 the US and EU held a joint online event under the auspices of the TTC on "transatlantic trade facilitation in relation to dual-use item, in particular their re-export and relevant license requirement and exceptions".[54] The event built on a stakeholder consultation process and involved participation from governments, industry and academia. However, this is also an area where substantive cooperation continues to take place at the US-EU member state level. In 2022 France and the United States launched the Defense Trade Strategic Dialogue, a bilateral agreement aimed at "smoothing out defense market access and export controls, addressing the U.S. International Traffic in Arms Regulations (ITAR), Export Administration Regulations (EAR), and French export regulations".[55]

5.5 Conclusions

Dual-use export controls look set to become an ever more prominent aspect of both the US and the EU's security and economic policies, making alignment and cooperation increasingly important. When it was launched in 2021, the TTC looked set to be the primary forum for the US and EU to coordinate on a range of export control issues. However, either due to the number of other issues that the TTC has sought to address or the complexities of EU-US coordination on export controls, some of the export control topics that were on the agenda of early TTC meetings have not featured

[52] US Embassy in Paris, *Airbus: Fears of Defense Trade Controls Hurt U.S. Exports* (Cable to US Secretary of State, 08PARIS1078_a), 5 June 2008, http://wikileaks.org/cable/2008/06/08PARIS1078.html.

[53] Trade and Technology Council, *Joint Statement EU-US Trade and Technology Council of 31 May 2023*, cit.

[54] European Commission DG Trade, *4th Joint EU-US Stakeholders Outreach Event Re-Export of Dual-use Items*, 19 July 2023, https://policy.trade.ec.europa.eu/node/1453_en.

[55] Pierre Tran, "French Arms Exports Set Record €27 Billion in 2022", in *Defense Aerospace* , 4 December 2023, https://www.defense-aerospace.com/french-arms-exports-set-record-e27-billion-in-2022.

at subsequent meetings.[56] There are also concerns about the future of the TTC after the November 2024 elections if President Trump returns to the White House or there are significant changes in the national security council under a second Biden administration.[57] Substantive coordination on export controls is taking place but it is occurring across multiple forums and through exchanges that involve different EU agencies and various departments of the US government as well as bilateral exchanges between the United States and individual EU member states.

The complexity of EU-US coordination on export controls is a product of the way in which responsibility for export controls is spread across multiple agencies within both the United States and EU. It is also a reflection of how responsibility for export controls in the EU – along with economic, defence and foreign policy issues more broadly – is located at both the community and member state level. However, it is also a reflection of the Biden administration's embrace of what has been termed "minilateral cooperation", understood as "informal, non-binding, purpose-built partnerships and coalitions of the interested, willing, and capable".[58]

Minilateral cooperation has enabled the United States to advance its goals along multiple fronts and allowed discussions to progress on control list additions and enforcement measures at a faster pace than would have been possible in existing multilateral bodies such as the WA. However, the overlaps in the membership and focus of these different groupings creates challenges, particular for smaller states with less capacity to track and manage coordination processes across multiple forums. A deeper concern with minilateralism, noted in 2015 when the US embrace of this approach was still in its infancy, is that it threatens "to replace the provision of international public goods with club goods benefiting a nar-

[56] European Commission, *EU and US Take Stock of Trade and Technology Cooperation*, 30 January 2024, https://ec.europa.eu/commission/presscorner/detail/en/IP_24_575.

[57] Alexandra Brzozowski et al., "EU Officials Scramble to Prove Trade and Technology Council Will Survive Trump", in *Euractiv*, 4 April 2024, https://www.euractiv.com/?p=2071454.

[58] Stewart Patrick, "New 'New Multilateralism': Minilateral Cooperation, but at What Cost?", in *Global Summitry*, Vol. 1, No. 2 (Winter 2015), p. 115-134 at p. 115, https://doi.org/10.1093/global/guv008.

rower range of countries" which could discredit or side-line established multilateral arrangements like the regimes.[59]

Greater alignment in the content and implementation of member states' export controls would presumably make US-EU coordination easier to achieve, since the positions taken by the EU in those conversations would reflect the views and positions of all member states. The new "forum" for political coordination on export controls which the Commission proposed in its January white paper is intended to help address the lack of alignment in key areas of member states' systems.[60] While member states clearly wish to maintain sovereignty in this policy area they have also indicated that they see the value of greater coordination.[61] A new forum, if properly configured, could enable an alignment of positions on more sensitive issues by elevating discussions to a more senior political level.[62] Balancing these different perceptions and objectives will be key to improving strategic coordination between the EU and the United States on export controls in the future.

[59] Ibid., p. 117.

[60] European Commission, *White Paper on Export Controls*, cit., p. 10-11.

[61] See Netherlands, *Kabinetsappreciatie witboek over exportcontrole*, cit.

[62] See Mark Bromley, Lucie Béraud-Sudreau and Giovanna Maletta, "A New Political Forum Could Help Make the EU's Strategic Trade Controls More Strategic – If It Is Allowed to", in *SIPRI Commentaries*, 10 April 2024, https://www.sipri.org/node/6844.

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6.

How Targeted Measures Are Changing the Global Economy: Three Scenarios for the Future

Francesco Giumelli

The invasion of Ukraine has sparked a strong reaction from Western countries. The United States, the European Union, Japan and other allies have adopted a long list of sanctions that some have defined as "unprecedented".[1] Irrespective of whether the claim is accurate, these two years of restrictive measures have brought the focus back onto how certain states weaponize economic interdependence to address security concerns. The notion of weaponization of economic interdependence became popular a few years ago to depict how the United States relies on the central role of the dollar for political purposes.[2] Thus, the case of Russia has reignited a debate that, in fact, has been ongoing for years now and bears severe implications for international trade and the global economy.

This chapter discusses how sanctions have evolved in the last two decades and what the main obstacles to their implementation/effectiveness are. The main objective is to provide a reflection on how the global context of trade and investment, especially with a view to transatlantic

[1] Peter Rutland, "How Putin Has Shrugged off Unprecedented Economic Sanctions over Russia's War in Ukraine – for Now", in *The Conversation*, 21 February 2023, https://theconversation.com/how-putin-has-shrugged-off-unprecedented-economic-sanctions-over-russias-war-in-ukraine-for-now-199718.

[2] Henry Farrell and Abraham L. Newman, "Weaponized Interdependence: How Global Economic Networks Shape State Coercion", in *International Security*, Vol. 44, No. 1 (Summer 2019), p. 42-79, https://doi.org/10.1162/isec_a_00351.

cooperation, can be affected by the evolving practice of sanctions. This chapter explains how the growing role of non-state actors, the increasing legal challenges surrounding the adoption and implementation of sanctions and the ever more visible problem of sanction circumvention contribute to the fragmentation of the global political economy. I have identified three scenarios for the future of sanctions that may affect the choices of the United States and Europe. The three scenarios consider how sanctions can be used in the future in view of the fragmented global economy and envision that more cooperation and awareness building across the Atlantic is advisable.

The chapter is divided into four sections. First, I describe what sanctions are and who can adopt them. Second, I present the various reasons that have triggered the utilisation of sanctions, with a few examples from the experience of the United Nations, the United States, the EU and others. Third, I outline three challenges for the adoption of sanctions. Finally, I summarise my main argument and reflect on three scenarios in which the evolving governance of sanctions may affect the future of trade relations in the United States and Europe.

6.1 Sanctions in contemporary perspective

Sanctions are measures that aim at limiting access to benefits to certain targets. The restriction can regard resources that cannot be replaced at all, that would be costly to replace, that would be easy to replace as well as resources that do not need to be replaced because they can be considered irrelevant to a political process.[3] Such resources can be economic, but also political, reputational and they can also target personal freedoms, such as the possibility to travel to European cities for shopping.[4]

[3] Margaret P. Doxey, *International Sanctions in Contemporary Perspective*, London, Macmillan, 1987; Thomas J. Biersteker, Sue E. Eckert and Marcos Tourinho (eds), *Targeted Sanctions. The Impacts and Effectiveness of United Nations Action*, Cambridge, Cambridge University Press, 2016; Francesco Giumelli, *Coercing, Constraining and Signalling. Explaining UN and EU Sanctions after the Cold War*, Colchester, ECPR Press, 2011.

[4] David Cortright and George A. Lopez (eds), *Smart Sanctions. Targeting Economic Statecraft*, Lanham, Rowman & Littlefield, 2002.

The most well-known sanctions are economic and financial restrictions, but there are also travel limitations, arms embargoes and other diplomatic measures. Economic boycotts target the exchange of specific goods that cannot be sold and/or transferred to targets. They can be total prohibitions, but they can also take the form of enhanced export checks, as in the case of dual-use technologies. Indeed, one of the most common forms of sanctions is to require that certain products added to a dual-use item list cannot be exported without authorisation (export license) from a national competent authority. The provision of services, which is a central element in knowledge economies, should be added to the list of 'needs' that can be denied. Financial restrictions encompass a wide range of policy options, from the freezing of assets owned or controlled by listed individuals to the prohibition to transfer funds, provide loans and make/receive investments. Arms embargoes are limited to weapons, spare parts and services that are directly used for military use. Travel bans deny benefits that originate from traveling across countries, which could be either for political reasons (i.e., plan a terrorist attack) or personal ones (i.e., doing shopping in Paris).

Sanctions can be adopted by a wide range of actors that populate the international system.[5] The most well-known cases are international organisations that have responsibility for peace and security, such as the United Nations Security Council, and states, among them certainly the United States and, recently, also Russia and China. Regional organisations are also very active in resorting to sanctions either against their own members, such as the African Union (AU), or against third parties, such as the EU.[6] The war in Ukraine has reminded us also of the role that the private sector can play, as over one thousand companies have decided to leave Russia even though they were not forced to do so.[7] Sim-

[5] Peter A.G. van Bergeijk (ed.), *Research Handbook on Economic Sanctions*, Cheltenham, Edward Elgar, 2021.

[6] Elin Hellquist and Stefano Palestini, "Regional Sanctions and the Struggle for Democracy: Introduction to the Special Issue", in *International Political Science Review*, Vol. 42, No. 4 (September 2021), p. 437-450, https://doi.org/10.1177/0192512120968109.

[7] Jeffrey Sonnenfeld, "Over 1,000 Companies Have Curtailed Operations in Russia-But Some Remain", in *Yale School of Management Stories*, 28 January 2024, https://som.yale.edu/node/263692.

ilarly, private boycotts are in place against companies that have shown support for Israel.[8]

The targets of sanctions are predominantly individuals, companies and specific economic sectors and not Nations.[9] Whereas most would remember the case of the full UN embargo on Iraq in the 1990s following the latter's invasion of Kuwait, the situation in which an entire economy is placed under a comprehensive embargo is very rare. Targets today tend to be the actors directly responsible for policies that are deemed to be problematic, such as members of governments, mayors, police members as well as individuals who benefit from the existence of a particular regime, such as the Russian oligarchs. While the autocratic leader of Iraq and the former Yugoslavia, Saddam Hussein and Slobodan Milošević, were placed individually under sanctions only after they were no longer in office, blacklisting heads of states and governments is now an accepted practice: North Korea's Kim Jong-un, Syria's Bashar al-Assad, Sudan's Omar al-Bashir, Iran's Ali Khamenei, and, more recently, Russia's Vladimir Putin. Companies that deal with commodities that are key to the legitimacy of an elite in power as well as goods or technologies that are relevant to the state capacities are often also the object of international sanctions. Financial institutions can also be targeted as facilitators of trade and activities benefiting specific individuals and strategic economic sectors. Sanctions can still have an impact on individuals and groups not targeted, but this should have been minimised in the designing phase or unintentional.

6.2 The triggering causes of sanctions

International sanctions are political tools adopted in a state of exception, therefore they are intended to allow states to take decisions in derogation to the set of norms, conventions and regulations that they would have to normally follow. Whereas the definition of state of

[8] "The App Helping People Boycott Brands Supporting Israel", in *Al Jazeera*, 9 April 2024, https://aje.io/n70j6g.

[9] Francesco Giumelli, "Understanding United Nations Targeted Sanctions: An Empirical Analysis", in *International Affairs*, Vol. 91, No. 6 (November 2015), p. 1351-1368, DOI 10.1111/1468-2346.12448.

exception was limited to high security issues, such as war and terrorism, sanctions are today used to address a wide range of crises and global issues,[10] such as human rights violations, democracy promotion, institutional consolidation, cyber threats and organised crime just to name a few.[11] This overview demonstrates the various types of crises for which international sanctions have been adopted, showcasing their flexibility and their application in increasingly broad and diversified contexts.

One of the most common contexts in which sanctions are used is during armed conflicts. Traditionally, sanctions have been associated with military campaigns, involving the interruption of trade to weaken the economies of countries in conflict. The recent wars in Ukraine, Yemen and elsewhere have led a number of international actors to adopt various restrictions with a view to halting the violence. The G7+ countries have targeted over two-thousand actors in Russia in response to the unlawful invasion of Ukraine. Notably, the G7+ have also authorised an 'oil price cap' to reduce the profits that Russia generates from the sale of oil to international markets.

Unconstitutional changes of government or state failures have also been addressed with sanctions. The AU is resorting to sanctions primarily to tackle government takeovers or coups d'état, such as in the cases of Guinea-Bissau and Comoros, with the latter also supported by the EU.[12] The Economic Cooperation Organisation of West African States (ECOWAS) has also resorted to heavy sanctions resembling total embargoes, at least in principle, with the suspension of trade and the closure of borders, against its own members Burkina Faso, Mali and Niger. Marking a resumption of cooperation at the Security Council, which had not seen new sanctions imposed since 2016, sanctions have been used to address

[10] Francesco Giumelli, *Le sanzioni internazionali. Storia, obiettivi ed efficacia*, Bologna, Il mulino, 2023.

[11] Bruce W. Jentleson, Sanctions: What Everyone Needs to Know, Oxford, Oxford University Press, 2022.

[12] Mikael Eriksson, "Supporting Democracy in Africa. African Union's Use of Targeted Sanctions to Deal with Unconstitutional Changes of Government", in *FOI Reports*, No. FOI-R--3000--SE (2010).

the institutional collapse of formally recognised institutions in Haiti and the takeover arranged by a group of criminal organisations.[13]

Sanctions can be used to support the consolidation of emerging institutions after a conflict or to enforce peace agreements and ceasefires. We have seen, for instance, restrictive measures imposed by the UN to support international judicial proceedings, such as in the cases of the International Tribunal in Lebanon and Sierra Leone, and by the EU in democratic transitions such as Egypt, Tunisia and Ukraine.[14] Restrictive measures impose asset freezes and travel bans on members of the previous ruling parties to ensure that they neither undermine the new governments nor embezzle public resources.

Another type of crisis that has seen the adoption of international sanctions concerns human rights violations and international crimes. Although this has been a triggering cause for sanctions and interventions in the past, such as in Rwanda and the former Yugoslavia, an interesting recent development is the so-called "Magnitsky list", after the name of a Russian human rights lawyer who died while in police custody in Russia.[15] This is an example of what it became to be known a 'horizontal regime', namely a permanent sanctions regulation that delegates authority to the government to list individuals who are deemed in violation of the main theme that inspired the creation of the regime, in this case it would be human rights violations. After the decision made in the US to establish a "Magnitsky list", others actors such as the EU and Canada followed suit and adopted standing regulations that impose a travel ban and an asset freeze on whoever is accused of certain human rights violations across the world.

The non-proliferation of nuclear and chemical weapons is another area where sanctions are widely used.[16] Various rounds of US, UN and

[13] UN Security Council, *Resolution 2653 (2022)*, https://undocs.org/S/RES/2653(2022).

[14] Thomas J. Biersteker, Sue E. Eckert and Marcos Tourinho (eds), *Targeted Sanctions*, cit.

[15] Charlotte Beaucillon (ed.), *Research Handbook on Unilateral and Extraterritorial Sanctions*, Chelthenam/Northampton, Edward Elgar, 2021.

[16] Michael Brzoska, "The Role of Sanctions in Non-Proliferation", in Oliver Meier and Christopher Daase (eds), *Arms Control in the 21st Century. Between Coercion and Cooperation*, London/New York, Routledge, 2013, p. 123-145.

EU sanctions have been imposed on Iran to prevent it from diverting its nuclear programme to military use and on North Korea to punish its decision to withdraw from the Nuclear Non-Proliferation Treaty and build an atomic arsenal. The complexity of the sanctions architecture – which involves dozens of economic sectors and hundreds of actors combined with the extraterritorial application of US measures – has made it extremely difficult to distinguish targeted and comprehensive measures for companies and firms embedded in the global financial system. Economic restrictions have reached a very detailed level. At the same time, the range of sanctions in place has kept financial institutions away from authorising any transactions with the targeted countries. Chemical weapons have also been the subject of a new horizontal regime imposed by the EU after the assassination attempt on Alexei Navalny in 2020.

Sanctions are also adopted to counter transnational threats such as international terrorism, cyber threats, illicit drug and human trafficking and other criminal activities. The United States, along with the UN, the EU, and the United Kingdom, has resorted to sanctions to address lower intensity security threats, as transnational criminal organisations and terrorist groups often rely on the illicit trade of natural resources such as oil to finance their activities. Therefore, sanctions can be used to disrupt such financial flows and weaken these organisations. Measures of this sort typically include travel bans and asset freezes for the specific individuals/organisations involved.

Finally, sanctions are foreign policy instruments imposed to achieve objectives of national interest. The recent US-China confrontation on semiconductors and 'disruptive' technologies took a sanction turn when the United States decided to limit the sale of advanced chips to China to maintain a strategic advantage for as long as possible.[17] The EU is considering doing the same, but in the meantime China has already responded adopting an export ban on rare metals,[18] which are crucial for defence

[17] Chris Miller, *Chip War. The Fight for the World's Most Critical Technology*, New York, Scribner, 2022.

[18] Siyi Liu and Dominique Patton, "China Bans Export of Rare Earths Processing Tech over National Security", in *Reuters*, 22 December 2023, https://www.reuters.com/markets/commodities/china-bans-export-rare-earths-processing-technologies-2023-12-21.

and high-end technological products. The EU has also resorted to 'EU interests' to justify the imposition of sanctions in cases such as Turkey.[19] The dispute with Turkey has been over unauthorised drilling activity of hydrocarbons off the coast of Cyprus that would affect EU interests.

In conclusion, international sanctions are used to address a wide range of crises and global challenges, from political and military instability to human rights violations and the proliferation of weapons of mass destruction. While their use may be controversial and their success debatable, sanctions remain an important tool in foreign policy and the management of international crises.

6.3 Emerging challenges from the imposition of sanctions

As the world becomes increasingly interconnected and complex, the landscape of international sanctions has evolved, presenting a host of new challenges. This section delves into the current obstacles facing international sanctions, focusing on the growing role of non-state actors, legal challenges stemming from public-private overlaps and the necessity of large coalitions to offset circumvention.

Growing role of non-state actors

Targeted sanctions require a deep understanding and knowledge of both the society where the targets are located and their whereabouts.[20] This information is not always in the hands of the governments that need to compile the lists, and therefore competent authorities seek

[19] Francesco Giumelli, Fabian Hoffmann and Anna Książczaková, "The When, What, Where and Why of European Union Sanctions", in *European Security*, Vol. 30, No. 1 (2021), p. 1-23, https://doi.org/10.1080/09662839.2020.1797685.

[20] Francesco Giumelli and Michal Onderco, "States, Firms, and Security: How Private Actors Implement Sanctions, Lessons Learned from the Netherlands", in *European Journal of International Security*, Vol. 6, No. 2 (May 2021), p. 190-209, https://doi.org/10.1017/eis.2020.21; Anja P. Jakobi, "Non-State Actors and Global Crime Governance: Explaining the Variance of Public-Private Interaction", in *The British Journal of Politics and International Relations*, Vol. 18, No. 1 (February 2016), p. 72-89, DOI 10.1111/1467-856X.12064; Oldrich Bures and Helena Carrapico (eds), *Security Privatization. How Non-Security-Related Private Businesses Shape Security Governance*, Cham, Springer, 2018.

collaboration with actors who have more information. Intermediaries such as financial institutions, shipping companies, as well as experts such as accountants and lawyers consequently gain a prominent role in sanctions implementation.[21] Financial institutions could have the necessary information to identify (and hopefully timely block) transactions aimed at purchasing material to plan terrorist attacks. Shipping companies and insurance firms may have a clearer view of the network(s) that could serve the purposes of targeted individuals and companies. And individual experts provide technical expertise and advice.

There has been a *de facto* delegation of authority from state to non-state actors in the implementation of sanctions that deserves further investigation.[22] Firms and companies have the responsibility of assessing the risks associated with certain transactions. They do not have full and perfect information about the whereabouts of the targets and targeted sectors they deal with and need to engage in constant due diligence. For instance, the ultimate beneficial owner of a payment is not always evident from the information provided in a payment request, therefore it is up to a bank to assess whether the transaction is likely to be hiding an attempt at circumvention. The provision of a service or dual-use equipment, once again, could end up supporting the development of a nuclear programme or boosting the repressive capacity of a military regime. The service/equipment provider is therefore responsible for investigating the nature and intentions of the buyer.

In today's interconnected world, non-state actors such as terrorist organisations, transnational criminal networks and rogue entities operate across borders, exploiting legal loopholes and utilising sophisticated financial networks to evade sanctions. One prominent example is the case of terrorist financing, where organisations like the Islamic State (ISIS) and Al-Qaeda have exploited global financial systems to fund their operations. Despite concerted efforts by the

[21] Michael Levi, "Lawyers as Money Laundering Enablers? An Evolving and Contentious Relationship", in *Global Crime*, Vol. 23, No. 2 (2022), p. 126-147, https://doi.org/10.1080/17440572.2022.2089122.

[22] Francesco Giumelli and Michal Onderco, "States, Firms, and Security", cit.

international community to disrupt their funding, these groups have continued to adapt, utilising cryptocurrency, money laundering and illicit trade to evade detection. Similarly, transnational criminal networks engaged in drug trafficking, human trafficking and arms smuggling pose significant challenges to the effectiveness of international sanctions, especially because their services are offered to targets to circumvent the sanctions themselves. These criminal enterprises operate with agility, leveraging technology and exploiting regulatory gaps to circumvent sanctions regimes. Furthermore, the proliferation of alternative financial channels, including cryptocurrency, offshore banking and informal trade networks has enabled sanctioned entities to bypass traditional banking channels and evade detection. These illicit channels provide avenues for money laundering, terrorist financing, and procurement of prohibited goods, undermining the effectiveness of sanctions regimes.

In sum, non-state actors affect not only sanctions outcomes, but also the shape of supply chains and investment flows if they plan to avoid risks for sanctions compliance requirements in the future.

The extension of sovereignty through sanctions

One of the key emerging trends in sanctions governance is the increasing attempts by governments to extend the effect of domestic legislations beyond their own borders. This is driven by multiple causes, but one of the main ones is certainly the frustration of governments to see sanctions circumvention flourishing thanks to the differences of legal frameworks in place in various countries. In order to counter that, governments have increasingly decided to punish violators of their own laws even when actions are committed outside of their own territory. The central, and ever more present, role of firms and companies in implementing sanctions has been an easy way for national authorities to enhance sanctions effectiveness, *de facto* extending the long harm of their bureaucratic reach well beyond their boundaries. This novelty fundamentally changes the way international markets work. While firms could count on the geographical location of one operation to predict what to expect, they could be now caught between opposite requests from competing national authorities. In many cases, businesses may be subject to con-

flicting legal requirements, with one jurisdiction imposing sanctions while another mandates compliance with commercial contracts or data protection laws. Firms and companies will have, then, decide 'which side to pick' in a sanctions context. This reduces the efficiency of international institutions and it increases the uncertainty over the impact that sanctions can have on targets and on the outcome of international crises.

The extraterritorial reach of certain sanctions regimes, particularly those imposed by powerful states such as the United States, has raised concerns about sovereignty and jurisdictional overreach.[23] The imposition of secondary sanctions targeting foreign entities engaged in business with sanctioned countries has elicited objections from allies and trading partners, further complicating the legal landscape.

The United States started to implement and enforce sanctions violations beyond their own territory in the 1990s, but this approach has been also mimicked by other sanctioning actors. Recently, the EU seems to have embarked on a similar path with regard to sanctions circumvention in the case of Russia. This is even more telling given the EU's strong criticisms of US extraterritorial sanctions over time as demonstrated by the sanctions imposed on the United States in 1996 for the cases of Libya and Cuba and the attempt to safeguard the Joint Comprehensive Plan of Action (JCPOA) with the creation of the Instrument in Support of Trade Exchanges (INSTEX) after the Trump Administration decided to leave the agreement. Russia and, especially, China may decide to follow the same path contributing to the uncertainties under which firms and companies operate in international markets.

This context further exacerbates the risks perceived by private stakeholders in determining and deciding their business strategies.

Large coalitions to offset circumvention

The effectiveness of international sanctions hinges on the ability of the enforcing coalition to maintain cohesion and prevent circumvention by

[23] Arnold Aaron and Daniel Salisbury, "Going It Alone: The Causes and Consequences of U.S. Extraterritorial Counterproliferation Enforcement", in *Contemporary Security Policy*, Vol. 40, No. 4 (2019), p. 435-458, DOI 10.1080/13523260.2019.1595882.

targeted entities.[24] The recent media coverage of increased export flows towards, for instance, Turkey or central Asian countries have caught the attention of many to the point that sanctions are deemed useless. However, whereas many would consider sanctions ineffective because it is easy to circumvent,[25] the 'original sin' is not to be found in sanctions, but in the failed diplomatic attempt to create a large coalition that would make sanctions more impactful. In other words, as sanctions regimes become more complex and multilayered, being able to rely on large coalitions willing to collaborate is an essential component of a sanctions' strategy.

One of the primary challenges lies in the formation of a large coalition of states willing to enforce sanctions consistently and robustly. Divergent national interests, economic dependencies, and geopolitical rivalries often impede the formation of such coalitions, allowing targeted entities to exploit gaps and inconsistencies in enforcement efforts.[26] However, the growing uncertainties felt by the private sector combined with the widening gaps between states' interest contribute to collective action problem that is not only affecting the security landscape, but it is slowly trickling down to the economic one as discussed in the scenarios below.

6.4 Conclusions: Three scenarios emerging from the fragmentation of the global economy

The proliferation of sanctions has been a visible phenomenon in the past two decades. This has been made possible by the evolving nature of the instrument, both in terms of who could be targeted and when it would be appropriate to use sanctions. On one hand, targeting individuals, firms, and economic sectors has made sanctions usable towards a much longer list of targets. On the other hand, targeted sanctions are no longer perceived as a radical foreign policy measure, which has facilitated their

[24] Lisa L. Martin, *Coercive Cooperation. Explaining Multilateral Economic Sanctions*, Princeton, Princeton University Press, 1992.

[25] Brian R. Early, *Busted Sanctions. Explaining Why Economic Sanctions Fail*, Stanford, Stanford University Press, 2015.

[26] Brian R. Early, "Unmasking the Black Knights: Sanctions Busters and Their Effects on the Success of Economic Sanctions", in *Foreign Policy Analysis*, Vol. 7, No. 4 (October 2011), p. 381-402, DOI 10.1111/j.1743-8594.2011.00143.x.

adoption to address crises of lower security profiles such as human rights, democracy promotion, and organised crime.

The extensive use of sanctions, also known as the weaponization of interdependence, can play an important role in shaping the future of globalisation. We can envision three scenarios.

The first scenario is that the proliferation of sanctions could contribute, if not determine, the fragmentation of the global economy. The extensive use of extraterritorial sanctions, possibly by several actors of the international system, can contribute to a business climate that is dependent on politically sensitive risk assessments. Given the depth of sanctions policies seen in the last two decades, offshoring decisions are now being replaced with decisions to relocate to nearby areas (nearshoring) or to friendly countries (friendshoring). This means that businesses decide to invest primarily in those countries that would have a low chance of being concerned with sanctions compliance requirements. This process started with the US extraterritorial application of sanctions, but the decisions of the EU and China, among others, to pursue similar sanctions strategies are likely to make the situation even more complicated. The fragmentation would be a consequence of increased confrontation across major political actors; therefore, more coordination would be likely between the United States and Europe, and trade relations would occur mostly within blocs with chokepoints across them.

The second scenario is one where sanctions may continue as they are now, but the fragmentation process would either not take place or be a very slow transition that would not critically affect the risk assessment of trade and investment relations. The United States would continue to play a central role in the sanctions landscape, which would be met with pockets of resistance from other major actors of the international system, including but not limited to the European Union. In this scenario, for instance, we could also see more attempts to explore alternative financial payment systems, such as digital currencies and credit card payment systems, but diverging interests would fail to produce a coherent front and provide an alternative to the existing financial and economic architecture of the global economy.

Finally, a third, more optimistic scenario would be one where the major actors of the international system, namely the United States, Europe, and

China, would find a new agreement over the key principles upon which the international system would be based (i.e., non-intervention, fundamental rights, etc.). The 'new world order' would certainly affect sanctions, and a shared understanding of when it would be possible to use them. Investment decisions would consequently incorporate it, and it would be expected that sanctions should not play a key role in assessing the risk of engaging in trade relations with other parties elsewhere.

In any scenario, national competent authorities need to enhance coordination and build more capacities to reduce the delegation of authority towards the private sector. At a political level, like-minded governments should be able to overcome their differences and agree on timing and listing decisions about sanctions. For instance, even the lists of Russian individuals targeted by US, UK, and EU authorities do not overlap, which creates opportunities for sanctions circumvention.[27] A coordinated effort should also occur on the monitoring and enforcement side of the story. The vast adoption of sanctions against Russia brought the circumvention problem back on the table of public regulators and we have seen unprecedented moves also from European Institutions. For instance, the notable examples are the EU Freeze and Seize Task Force set up by Eurojust[28] and some coordinated initiatives to investigate sanctions evasion jointly at the international level.[29] However, circumvention techniques are still known and too little has been done to tackle the problem.

Additionally, there is a strong collective action problem that is caused by excessive delegation of authority from governments to the private sector. Non-state actors need to make substantive decisions about targets, but they lack the necessary information, which needs to be collected inde-

[27] Stephanie Baker and Tom Maloney, "Half of Russia's 20 Richest Billionaires Are Not Sanctioned", in *Bloomberg*, 30 March 2022, https://www.bloomberg.com/graphics/2022-russian-billionaires-sanctioned-ukraine-war.

[28] Eurojust website: *EU Freeze and Seize Task Force*, https://www.eurojust.europa.eu/eu-freeze-and-seize-task-force.

[29] "Netherlands Arrests Three for Illegal Exports to Russia", in *Reuters*, 23 January 2024, https://www.reuters.com/world/europe/netherlands-arrests-three-illegal-exports-russia-2024-01-23.

pendently from both state authorities and other private actors. Thus, for instance, a bank has to perform the same due diligence than other banks over a customer that is approaching them at the same time. This duplication of tasks is structural and very inefficient, so public authorities should investigate ways to address this issue. Additionally, non-state actors also lament the lack of transparency of the public decision-making process, which further increases the uncertainties in making export-oriented decisions, whether they are related to trading or investing.

The extensive utilisation of targeted sanctions has affected the landscape of the global political economy and is likely to be a realm where major global powers confront each other. At the same time, the frequent adoption of restrictive measures requires further coordination among governments and poses serious legal challenges to the way in which international markets function every day. We ought to continue monitoring the situation to assess whether sanctions could become a driver of cooperation or conflict in the next decade.

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7.

Transatlantic Cooperation on Data Governance and Digital Infrastructures

Francesca Maremonti

Digitalisation – the so-called fourth industrial revolution – is changing how wars are fought, services are provided, money is transferred, and business is conducted between different countries.[1] The digital infrastructure that enables these transformations has become a battleground for geopolitical competition, with powers striving to secure leadership in a vast range of technologies, from data centres and clouds to 5G and 6G.

Digital infrastructure relies on the flow of data, much of which is dictated by national legislation, with governments seeking to establish sovereignty over data through a range of regulatory policies. Competing digital powers striving for leadership hold vastly different models for data governance, leaving the global architecture severely underdeveloped. In order to work together on the digital infrastructure required to keep pace in today's world, countries therefore need to improve their cooperation on the highly sensitive matter of data governance.

The European Union and the United States exchange more data than any other bilateral partnership in the world. This flow of data forms the backbone of the transatlantic digital economy, enabling 7.1 trillion US dollars of the EU-US economic partnership, and serves to protect per-

[1] Sharinee Jagtiani, "The Global Cloudscape: The Geopolitics of Data Governance and Digital Power Play", in *Georgetown Journal of International Affairs*, 10 August 2023, https://gjia.georgetown.edu/?p=10241.

sonal privacy, human rights and national security interests.[2] And yet, there are stark differences in their data governance models, which are rooted in different values. This divergence could easily disrupt EU-US data flows, posing challenges to cooperation on digital infrastructure and therefore EU-US economic and security relations.

This chapter explores the obstacles inhibiting cooperation on the data governance that underpins cutting-edge digital infrastructure. It begins by exploring the trajectory of EU-US cooperation on data governance, showing how the trust deficit between the transatlantic partners hampers cooperation, before considering the need to restore this trust in order to work together on cloud technology and the infrastructure required to enable it.

7.1 The trajectory of transatlantic data governance

Over the past decades, the EU and the US have undertaken several attempts to bridge the gap between their systems and promote cooperation on data governance. However, divergences over principles and various incidents that have eroded mutual trust have left them with a long way to go before achieving greater cooperation.

Divergences on principles

Approaches to data governance differ greatly across the Atlantic according to the respective conceptualisations of individual rights and the level of government involvement in data regulation.

The EU's model for data governance places significant weight on individual rights and data privacy, which is inscribed in the EU's Charter of Fundamental Rights (Article 7 and 8).[3] The EU's comprehensive data protection framework is primarily governed by the General Data Protection Regulation (GDPR), which imposes stringent measures on data

[2] US Department of Commerce, *Data Privacy Framework Program Launches New Website Enabling U.S. Companies to Participate in Cross-Border Data Transfers*, 17 July 2023, https://www.commerce.gov/node/5386.

[3] European Union, *Charter of Fundamental Rights of the European Union*, 7 December 2000, http://data.europa.eu/eli/treaty/char_2012/oj.

holders and processors.[4] These principles extend beyond borders and also apply to cross-country data flows.[5] In the political guidelines for the 2019–2024 Commission, President of the European Commission Ursula von der Leyen stressed the need to "balanc[e] the flow and wide use of data while preserving high privacy, security, safety and ethical standards".[6] Over the past decades, the EU has adopted a cautious approach towards free data flow, trying to integrate its high data protection standards into bilateral trade agreements. The first one was sealed under the 2019 Economic Partnership Agreement (EPA) with Japan, which included a commitment from the two parties to introduce cross-border data flow clauses under the EPA, within three years of the agreement's entry into force.[7]

The United States' stance on data governance reflects a market-driven approach, which sees data as a trade commodity used by business actors.[8] Despite being on the Congressional to-do list for years,[9] the United States has yet to establish a comprehensive federal law for data protection.[10] The US "techno-positivist" approach – linking data-driven technical innovation to economic growth – has resulted in limited government interventions in data flow regulation.[11] Privacy and data pro-

[4] European Commission website: *Data Protection in the EU*, https://commission.europa.eu/node/2305_en.

[5] The EU has adopted a conditional approach to governing data flows between EU and non-EU countries. This means that only when such countries meet the EU's data protection requirements are cross-border data flows allowed.

[6] Ursula von der Leyen, *Political Guidelines for the Next European Commission 2019-2024*, Luxembourg, Publications Office of the European Union, 2020, p. 13, https://doi.org/10.2775/101756.

[7] European Commission DG Trade website: *EU-Japan Economic Partnership Agreement*, https://policy.trade.ec.europa.eu/node/668_en.

[8] Anu Bradford, *Digital Empires. The Global Battle to Regulate Technology*, Oxford, Oxford University Press, 2023.

[9] Several states have passed their own laws (California, Virginia, Colorado, Utah and Connecticut), setting a trend likely to be followed by many others.

[10] Hung Tran, "Competing Data Governance Models Threaten the Free Flow of Information and Hamper World Trade", in *Atlantic Council Issue Briefs*, November 2021, https://www.atlanticcouncil.org/?p=460660.

[11] Julia Pohle, *Digital Sovereignty. A New Key Concept of Digital Policy in Germany and*

tection regulations vary across industries and are enforced by different agencies, resulting in a diverse and fragmented privacy landscape.[12]

The transatlantic trust deficit

Despite divergences over the principles that regulate their data governance, in recent years the EU and the United States have doubled down on their efforts to increase convergence.

The EU and the United States began to regulate governance of transatlantic data flows with the adoption of the Safe Harbour agreement in 2000. Over the fifteen years during which Safe Harbour served as a framework for cross-country data flow, the EU became increasingly preoccupied with the adequacy of data privacy protection.[13] Importantly, the Safe Harbour framework did not address the normative differences on data governance between the partners.

In 2013 this fragile institutional balance on data governance experienced a shock. The Edward Snowden whistleblowing case unveiled a mass surveillance scandal involving the US intelligence collecting, storing and analysing citizens' data.[14] This was found to be in violation of the EU's data protection laws and the fundamental rights of EU citizens.[15] Two years later, the data activist Max Schrems challenged the Safe Harbour framework before the Court of Justice of the European Union (CJEU) for breaching EU law under the EU-US data sharing arrangement.[16] In 2015 the court ruled that US public authorities had failed to provide ade-

Europe, Berlin, Konrad-Adenauer-Stiftung, 2020, p. 7, https://www.kas.de/en/web/guest/single-title/-/content/digitale-souveraenitaet.

[12] Federica Marconi, "The EU–US Data Protection Framework: Balancing Economic, Security and Privacy Considerations", in *IAI Commentaries*, No. 23|46 (September 2023), https://www.iai.it/en/node/17505.

[13] Xinchuchu Gao and Xuechen Chen, "Understanding the Evolution of Transatlantic Data Privacy Regimes: Ideas, Interests, and Institutions", in *EICC '24: Proceedings of the 2024 European Interdisciplinary Cybersecurity Conference*, 2024, p. 50-56, https://doi.org/10.1145/3655693.3655720.

[14] Sergio Carrera, *EU-US Data Transfers and their Impacts on Trust, Rule of Law and Privacy. CEPS Task Force Outline*, 7 December 2023, https://www.ceps.eu/?p=41623.

[15] Ibid.

[16] Ibid.

quate levels of protection for data privacy as required by EU law, invalidating the Safe Harbour agreement.[17]

The legal uncertainty and mistrust that followed was offset by the urgency to provide an EU-US data transfer agreement for the 4,500 businesses left without a legal framework for their activities.[18] In February 2016, the European Commission and the US' Department of Commerce jointly announced the adoption of the Privacy Shield principles to regulate transatlantic data governance.[19] In July 2020, in the second episode of what became known as the "Schrems saga", Schrems again challenged Privacy Shield before the CJEU. The court then invalidated the Privacy Shield principles, ruling that it did not offer the necessary level of protection to comply with EU standards for personal data transfer, by then enshrined in the 2016 GDPR.[20] These episodes cemented the EU's persistent concerns over the United States' lack of data protection, generating a trust deficit which breached transatlantic cooperation on data governance.

Towards greater cooperation

Following the CJEU's decision, the EU and United States again engaged in intensive negotiations. These efforts culminated in the adoption of the EU-US Data Privacy Framework of July 2023.[21] This new framework

[17] Shara Monteleone and Laura Puccio, "From Safe Harbour to Privacy Shield. Advances and Shortcomings of the New EU-US Data Transfer Rules", in *EPRS In-depth Analysis*, January 2017, https://doi.org/10.2861/09488.

[18] Joshua P. Meltzer, *Examining the EU Safe Harbor Decision and Impacts for Transatlantic Data Flows*, Testimony before the US House of Representatives Subcommittee on Commerce, Manufacturing, and Trade and Subcommittee on Communications and Technology, Hearing on "Examining the EU Safe Harbor Decision and Impacts for Transatlantic Data Flows", 3 November 2015, https://www.brookings.edu/?p=81397.

[19] European Commission, *Implementing Decision (EU) 2016/1250 of 12 July 2016 pursuant to Directive 95/46/EC of the European Parliament and of the Council on the Adequacy of the Protection Provided by the EU-U.S. Privacy Shield*, http://data.europa.eu/eli/dec_impl/2016/1250/oj.

[20] Nigel Cory, Daniel Castro and Ellysse Dick, *'Schrems II': What Invalidating the EU-U.S. Privacy Shield Means for Transatlantic Trade and Innovation*, Washington, Information Technology & Innovation Foundation, December 2020, https://itif.org/publications/2020/12/03/schrems-ii-what-invalidating-eu-us-privacy-shield-means-transatlantic.

[21] European Commission, *Data Protection: European Commission Adopts New Ade-*

seeks to address the concerns raised in the Schrems II ruling by introducing measures such as limiting US surveillance activities to what is necessary and proportionate for national security and establishing a two-tier redress mechanism for individuals.

In recent years, noteworthy developments have also unfolded on the American side of the Atlantic, most notably the proposal for an American Data Privacy Protection Act (ADPPA).[22] Introduced in June 2022, this bipartisan bill aimed to create a comprehensive federal privacy framework, reflecting several principles similar to the EU's GDPR concerning data privacy. The ADPPA would have represented a significant shift in the United States' approach to data privacy, influenced by the EU's regulatory standards, often referred to as the "Brussels effect", but was never passed.[23] In April 2024, the American Privacy Rights Act (APRA) bill was then proposed on similar principles to the original ADPPA.[24] The draft of the APRA is currently at the introductory level and still needs to undergo bicameral voting, before being passed into law.[25] If approved, APRA would constitute the first comprehensive federal consumer privacy framework.[26]

In conclusion, there are still significant divergences between the EU and US legal frameworks and a degree of distrust between the parties. It is therefore necessary for the two partners to continue to work towards further alignment of data governance.

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quacy Decision for Safe and Trusted EU-US Data Flows, 10 July 2023, https://ec.europa.eu/commission/presscorner/detail/en/ip_23_3721.

[22] Consumer Privacy Act website: *American Data Privacy and Protection Act (ADPPA)*, https://www.consumerprivacyact.com/?p=342.

[23] Xinchuchu Gao and Xuechen Chen, "Understanding the Evolution of Transatlantic Data Privacy Regimes", cit.

[24] Perla Khattar, "The American Privacy Rights Act of 2024 Explained: What Does the Proposed Legislation Say, and What Will it Do?", in *Tech Policy Press*, 9 April 2024, https://www.techpolicy.press/the-american-privacy-rights-act-of-2024-explained-what-does-the-proposed-legislation-say-and-what-will-it-do.

[25] US Congress, *H.R.8818 - American Privacy Rights Act of 2024*, 25 June 2024, https://www.congress.gov/bill/118th-congress/house-bill/8818.

[26] Chris D. Linebaugh et al., "The American Privacy Rights Act", in *CRS Legal Sidebar*, No. LSB11161 (updated 31 May 2024), https://crsreports.congress.gov/product/details?prodcode=LSB11161.

7.2 From data governance to digital infrastructures

A lack of alignment on data governance to regulate the flow of data can easily hamper cooperation between the EU and the United States on cutting-edge digital infrastructure, with severe economic and national security ramifications. In today's interconnected world, digital infrastructure often unfolds on a global scale, which is at odds with nationally determined regulations. The cloud is an illustrative example of this tension and the ensuing consequences.

The cloud

The cloud is a vast network of remote servers around the globe that operate as a single ecosystem. It provides the infrastructure to store and manage data needed to run applications and deliver content or services, like emails and social media.[27] Over the past decade, cloud technology has emerged as a crucial enabler for business digitalisation, the delivery of public services and conflict management.[28] More than 80 per cent of organisations globally are either using or planning to adopt cloud technology by 2025[29] and the cloud market is expected to grow in the coming years, reaching an estimated value of 2,321 billion US dollars by 2032.[30] The growing potential of the cloud has made this digital infrastructure a battleground for geopolitical competition between actors striving for leadership. For example, China and the United States are racing for their respective cloud service providers to move ahead of

[27] Microsoft Azure website: *What Is the Cloud?*, https://azure.microsoft.com/en-us/resources/cloud-computing-dictionary/what-is-the-cloud.

[28] Sharinee Jagtiani, "The Global Cloudscape", cit.

[29] Max Peterson, "How AWS Can Help You Navigate the Complexity of Digital Sovereignty", in *AWS Security Blog*, 7 February 2024, https://aws.amazon.com/blogs/security/how-aws-can-help-you-navigate-the-complexity-of-digital-sovereignty.

[30] Market.Us, "Cloud Computing Market to Reach USD 2,321.1 Billion by 2032: Exploring the Diverse Applications of Cloud Computing", in *GlobeNewswire*, 17 March 2023, https://www.globenewswire.com/en/news-release/2023/03/17/2629610/0/en/Cloud-Computing-Market-to-Reach-USD-2-321-1-Billion-by-2032-Exploring-the-Diverse-Applications-of-Cloud-Computing.html.

each other in the international cloud services market.[31] But given that cloud technology raises issues concerning digital sovereignty and data governance as well, EU and US regulators are faced once again with their unresolved trust deficit.

The cloud market is currently dominated by a handful of American cloud providers – called hyperscalers – such as Microsoft Azure, Amazon Web Services, Google Cloud and IBM Cloud.[32] These hyperscalers store and process the data of European governments – including critical data on health and defence. In 2018, the United States introduced the Cloud Act, which grants authorities the power to access data held on servers of American tech companies, regardless of whether the data is stored outside US borders.[33] The cloud as a transnational business, delivered by companies operating a globally distributed digital infrastructure, challenges the EU's drive to pursue digital sovereignty, as hyperscalers are subject to extra-territorial legislation.[34]

American cloud providers have designed measures tailored to the EU's concerns over data sovereignty. For example, in 2023 Microsoft set up the EU Data Boundary to address issues concerning EU data localisation.[35] Under the EU Data Boundary, European commercial and public sector data are stored by the cloud provider within the borders of the EU.[36] Hyperscalers are seeking to bridge the trust deficit and comply with the EU's quest for sovereignty over its data providing technical solutions.

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[31] Leading Chinese Cloud providers: Tencent and Alibaba.

[32] Filippo Gualtiero Blancato and Madeline Carr, "The Trust Deficit. EU Bargaining for Access and Control over Cloud Infrastructures", in *SSRN*, 27 May 2024, https://ssrn.com/abstract=4843466.

[33] US Department of Justice Criminal Division, *CLOUD Act Resources*, updated on 14 October 2023, https://www.justice.gov/criminal/cloud-act-resources.

[34] Cloud service providers store data in multiple data centres, sometimes in different countries. Such data flows across servers to be accessed by users from any location. Furthermore, data is generally copied and held in various locations to avoid potential disruptions.

[35] Microsoft website: *EU Data Boundary*, https://www.microsoft.com/en-us/trust-center/privacy/european-data-boundary-eudb.

[36] Ibid.

The trust issue which underpins data governance for the cloud cannot be bridged with technical solutions. Several European governments have started to turn to European-designed cloud solutions.[37] In 2019 the EU launched the Gaia-X project, an initiative to develop a federal cloud complying with European values and data protection regulation. Gaia-X was envisioned as an interconnected network of data centres and cloud services distributed across different member states. Despite the initial optimism, Gaia-X struggled to get off the ground and has not delivered a European data cloud to this day.[38]

Mistrust and diverging data governance approaches are likely to result in a lower uptake of cloud technology from the European side, potentially harming the region's economic growth.[39] While US cloud providers have offered ad-hoc solutions for the EU's concerns over data management in the cloud, US policymakers', with their "hands-off" approach towards technology regulation, have not provided policy responses and measures to comply with the EU's data protection standards for cloud services.

ICT cables

The physical infrastructure that enables the cloud illustrates the need for international cooperation between partners when it comes to data governance. Data flow to and from the cloud relies on cables, which run over land or under the sea. It is estimated that 99 per cent of internet traffic passes through fibre-optic submarine cables.[40]

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[37] Tambiama Madiega, "Digital Sovereignty for Europe", in *EPRS Briefings*, July 2020, https://www.europarl.europa.eu/thinktank/en/document/EPRS_BRI(2020)651992.

[38] Clothilde Goujard and Laurens Cerulus, "Inside Gaia-X: How Chaos and Infighting Are Killing Europe's Grand Cloud Project", in *Politico*, 26 October 2021, https://www.politico.eu/?p=1855905.

[39] Filippo Gualtiero Blancato and Madeline Carr, "The Trust Deficit", cit.; Matthias Bauer and Philipp Lamprecht, "The Economic Impacts of the Proposed EUCS Exclusionary Requirements: Estimates for EU Member States", in *ECIPE Occasional Papers*, No. 4/2023 (October 2023), https://ecipe.org/?p=89730.

[40] Julia Tréhu and Megan Roberts, "Transatlantic Tech Bridge: Digital Infrastructure and Subsea Cables, a US Perspective", in *IAI Papers*, No. 24|04 (February 2024), https://www.iai.it/en/node/18148.

As the world we live in gets increasingly digitised, countries have doubled down on their efforts to gain a share of the submarine ICT cable market. China, with its Digital Silk Road global project, has made connectivity a pillar of its international engagements. The Peace ICT cable is its flagship project in this regard. The EU has also scaled up investments to expand its footprint on global connectivity projects, including submarine cables, under the Global Gateway, the EU's strategy for global infrastructural and development investments launched in 2021. Subsea ICT cables feature prominently even within projects promoted by USAID, the US international development agency.

Today the major submarine cable companies are the US SubCom, the Japanese NEC Corporation, France's Alcatel Submarine Networks and Chinese HMN Tech.[41] In recent years, American hyperscalers – Google, Meta, Amazon and Microsoft – have substituted the traditionally state-backed companies responsible for the laying of the cables. US hyperscalers are now involved in nearly every cable laid as providers.[42]

ICT cables, laying at the bottom of the sea, are exposed to a range of deliberate or accidental damage. Over the years, incidents have spanned from fishing ships' anchors accidentally cutting the cables to malicious attacks aimed at severely disrupting the services of a targeted country or region or to tap into the cables and eavesdrop. These incidents expose a number of vulnerabilities involving the "naked infrastructure", the cable, as well as the "soft layer", the data flowing within.[43] Concerning the maintenance of the damaged cables, international law is still underdeveloped and there is a degree of unclarity on responsibility and accountability of actors when incidents occur in international waters.[44] Additionally, only a handful of countries own vessels designed

[41] Ibid.

[42] Alan Mauldin, "A (Refreshed) List of Content Providers' Submarine Cable Holdings", in *TeleGeography Blog*, 27 June 2024, https://blog.telegeography.com/telegeography-content-providers-submarine-cable-holdings-list-new.

[43] Anselm Küsters, André Wolf and Eleonora Poli, "Challenges to Transatlantic Digital Infrastructure: An EU Perspective", in *IAI Papers*, No. 24|03 (February 2024), https://www.iai.it/en/node/18132.

[44] Amy Paik and Jennifer Counter, "International Law Doesn't Adequately Protect

for cable maintenance, due to the high costs. Chinese's Jiaolong and Russian Losharik are among these.[45] There are mounting concerns over maintenance companies' potential to tap into the cables and over data protection within ICT cables. Given the massive economic, political and security ramifications of ICT submarine cables, countries have acknowledged the need to cooperate and ensure resilient and secure networks of infrastructures.

The EU and the United States are cooperating on a number of ICT cable projects. The Sea-Me-We-6 submarine cable is currently the most important element of transatlantic cooperation in the provision of digital infrastructure and has the potential to provide an alternative to China's Peace cable. However, on the "soft layer" side of cooperation, Brussels has shown growing apprehension over the risk of surveillance of data by the companies involved in the laying and in the maintenance of cables, including American ones.[46] The EU's Cyber Resilience Act, approved in March 2024, requires the manufacturers of connectable hardware and software products to protect the confidentiality and integrity of data.[47] Moreover, in January 2024, under the EU's Digital Networks Act (DNA), the Commission introduced possible actions to foster the innovation, security and resilience of digital infrastructures, many addressing ICT cables.[48] These measures predominantly push for further coordination at the EU level, but they also encourage cooperation among stakeholders, member states and like-minded partners.[49] To build a stronger ecosystem for digital infrastructures, cooperation on the "naked infrastructure" is not sufficient. A comprehensive approach encompassing deep-

Undersea Cables. That Must Change", in *Hybrid Conflict Project Commentaries*, 25 January 2024, https://www.atlanticcouncil.org/?p=727834.

[45] Ibid.

[46] Anselm Küsters, André Wolf and Eleonora Poli, "Challenges to Transatlantic Digital Infrastructure", cit.

[47] Cyber Risk GmbH, *The Digital Networks Act (DNA)*, https://www.digital-networks-act.com.

[48] Ibid.

[49] European Commission, *Commission Presents New Initiatives for Digital Infrastructures of Tomorrow*, 21 February 2024, https://ec.europa.eu/commission/presscorner/detail/en/IP_24_941.

ened alignment on the protection of the data flowing within the infrastructure could set the ground for stronger transatlantic cooperation.

7.3 Avenues for cooperation

In recent years, efforts to enhance cooperation on data governance have been scaled up at the bilateral, regional and international level. This is a positive premise for building a higher degree of normative convergence between the EU and the United States and strengthen cooperation on digital infrastructures. However, significant challenges remain.

In 2021, the US–EU Trade and Technology Council (TTC) was established as a new transatlantic platform to facilitate cooperation and coordinate action on issues ranging from technology standards and global trade to security of supply chains.[50] One of the ten thematic working groups of the TTC is dedicated to "data governance and technology platforms". Many observers have pointed out that the TTC, as a non-binding framework, has not addressed regulatory divergences and provided mixed results in tackling data policy issues.[51] But the TTC has emerged as an avenue to address challenges concerning emerging technologies and digital infrastructures. For example, one working group of the TTC is designed for "ICTS security and competitiveness". And while a tangible outcome on the matter has yet to materialise, the working group has flagged its commitment to address transatlantic subsea cables' connectivity and security as a future priority.[52] The cloud does not feature as a priority among the TTC deliverables and transatlantic cooperation in this sector remains uncharted. The future of the TTC is evidently uncertain at a time of increased political volatility. A potential change of administration across the Atlantic could be a disrupting factor for the continuity of the TTC's outputs.

[50] US Department of State website: *U.S.-EU Trade and Technology Council (TTC)*, https://www.state.gov/u-s-eu-trade-and-technology-council-ttc.

[51] Frances Burwell and Andrea G. Rodríguez, "The US-EU Trade and Technology Council: Assessing the Record on Data and Technology Issues", in *Atlantic Council Issue Briefs*, April 2023, https://www.atlanticcouncil.org/?p=620980.

[52] Trade and Technology Council, *EU-US Joint Statement of the Trade and Technology Council*, 5 December 2022, https://ec.europa.eu/commission/presscorner/detail/en/statement_22_7516.

The trust deficit impairing transatlantic cooperation on data governance has thus not been fully restored. The EU and the United States should build on their respective cooperative ties with third actors and draw from existing models and best practices for data governance. For example, the commitment made in the aforementioned 2019 EU-Japan Economic Partnership Agreement was cemented in 2023, when the EU and Japan concluded an agreement on cross-border data flow.[53] This landmark agreement can serve as a model to integrate data regulation standards under bilateral trade agreements, a model which could be adopted by countries beyond the EU-Japan when designing future economic partnerships.

Multilateral fora can also be suitable avenues for sharing best practices among key actors trying to address the challenges of the digital landscape. The concept of Data Free Flow with Trust (DFFT) was introduced within the G20 framework in 2019, to promote the free flow of data while ensuring trust in privacy, security and intellectual property rights. The DFFT was further developed at the Japanese G7 summit in Hiroshima in 2023, with the establishment of the Institutional Arrangement for Partnership to operationalise it. The G20, bringing together different models of data governance, can serve as a platform to exchange best practices. India, for example, has promoted a model of data governance for its digital public infrastructure, aimed at boosting economic growth, which is worth considering. For the cloud, India has adopted a model which invites domestic and foreign companies to apply to be providers, which has resulted in the Indian cloud market outpacing the global average.[54] While the EU and the United States US double down on their effort to restore their trust deficit at the bilateral level, their partnership could be strengthened within broader cooperation frameworks, and benefit from the exchange of best practices with other key actors.

[53] European Commission, *EU and Japan Conclude Landmark Deal on Cross-Border Data Flows at High-Level Economic Dialogue*, 28 October 2023, https://ec.europa.eu/commission/presscorner/detail/en/ip_23_5378.

[54] Sharinee Jagtiani, "The Global Cloudscape", cit.

7.4 Policy recommendations

Reinvigorate and reshape the TTC. – While it is essential to preserve an avenue for transatlantic bilateral cooperation on data governance and digital infrastructures, it is paramount that such an avenue addresses the main challenges involved in the partnership. Data governance remains a core challenge, partially unresolved at the TTC level. Data governance underpins transatlantic cooperation on a number of critical sectors, including digital infrastructures such as cloud services and ICT cables. The structure of the TTC should therefore integrate data governance as a cross-cutting theme, rather than narrowing the purpose of cooperation on data governance to one distinct working group.

Design a code of conduct for cloud developers. – Transatlantic cooperation on the cloud has a long way to go. Mistrust and concerns over sovereignty of data remain an obstacle to EU-US cooperation in the cloudscape. The EU and the United States should draw from existing practices of standard setting, such as the Code of Conduct for AI developers, released under Japan's G7 presidency in 2023. A code of conduct for cloud developers, setting standards for data protection in the cloud, should merge a normative effort with technical measures, bringing together the various stakeholders involved – from the private sector to policymakers – from both sides of the Atlantic. A code of conduct for cloud developers could be a building block to overcome the transatlantic trust deficit and increase cooperation in this sector.

Promote a multi-layer approach to subsea ICT cable cooperation. – The EU and the United States have flagged their commitment to enhance the resilience of submarine ICT cables and to expand their footprint on global connectivity projects. However, cooperation efforts have predominantly centred around the physical infrastructure, overlooking the "soft layer" involving data security. The EU and the United States should carve multi-stakeholder working groups within existing ICT cooperation platforms – whether within the TTC or beyond - to promote data governance for submarine ICT cables. Their efforts should address: risk assessment; monitor incidents to cable-laying and management and identify vulnerabilities for data security; establishing protocols for incident response to comply with existing data regulation frameworks; working towards international standard-setting.

Enhance transatlantic cooperation through broader fora. – The challenges involved in transatlantic cooperation in the field of data governance and digital infrastructures are not unique to this partnership. The global dimension of the digital economy, cyber security and digital infrastructures requires a global approach. While restoring the transatlantic trust deficit is crucial, the EU and the United States should draw from models advanced by third actors. The transatlantic partnership should leverage the strengths of each model of data governance, increasing the share of best practices among key actors pioneering the digital landscape.

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8.

Potential for EU-US Coordination on Diversification and Resilience of Supply Chains

Manuela Moschella

Global supply chains are production networks that span multiple countries. These chains entail various stages of production, from raw material extraction to manufacturing, assembly and distribution. Especially from 1990 to 2007, global supply chains grew swiftly, powering global trade growth.[1]

Global supply chains offer significant opportunities as well as risks. On the one hand, by allowing companies to source materials, labour and services from regions where they are cheaper and where specialised skills and resources are available, global supply chains offer opportunities for cost savings, efficiency and market expansion while also favouring the conditions for boosting growth.[2]

On the other hand, global supply chains come with challenges that require careful management and risk mitigation measures. These challenges include the disruptions of the global production networks and the over-reliance on a limited number of suppliers. Both sets of challenges have become particularly visible since the start of the 2020 Covid-19 pandemic and the ever-rising geopolitical tensions following

[1] World Bank, *World Development Report 2020. Trading for Development in the Age of Global Value Chains*, Washington, World Bank, 2020, https://www.worldbank.org/en/publication/wdr2020.

[2] Ibid.

Russia's invasion of Ukraine in 2022, which have led several countries to adopt measures to secure their supply chains by redirecting trade and investment flows.

As discussed below, the measures used to secure supply chains are varied. They range from subsidies to trade controls to new international fora and alliances. The impact of these measures on global economic integration has yet to fully materialise. However, the widespread adoption of measures directed at securing supply chains has elicited concerns about the future of globalisation.[3] Although "there are no signs of significant changes in the extent of globalization, crudely defined as the ratio of global trade to GDP",[4] there is increasing evidence that, beneath these stable aggregate trends, economic fragmentation is indeed taking place,[5] especially across country blocs. For instance, according to the International Monetary Fund (IMF), the average weighted quarter-on-quarter trade growth between US-leaning countries and China-leaning countries during 2022–2023 was almost five percentage points lower than the average quarterly trade growth during 2017–2022.[6] Global supply chains and, especially, the measures countries adopt to secure them,

[3] Economist, "The Destructive New Logic that Threatens Globalisation", in *The Economist*, 12 January 2023, https://www.economist.com/leaders/2023/01/12/the-destructive-new-logic-that-threatens-globalisation.

[4] Gita Gopinath et al., "Changing Global Linkages: A New Cold War?", in *IMF Working Papers*, No. WP/24/76 (April 2024), p. 1, https://doi.org/10.5089/9798400272745.001.

[5] Shekhar Aiyar et al., "Geoeconomic Fragmentation and the Future of Multilateralism", in *IMF Staff Discussion Notes*, No. 2023/001 (January 2023), https://doi.org/10.5089/9798400229046.006; World Trade Organization (WTO), *World Trade Report 2023. Re-globalization for a Secure, Inclusive and Sustainable Future*, Geneva, WTO, 2023, https://www.wto.org/english/res_e/publications_e/wtr23_e.htm.

[6] Gita Gopinath, "Geopolitics and its Impact on Global Trade and the Dollar", in *Speacker Series on the Future of the International Monetary System (IMS)*, Stanford Institute for Economic Policy Research, 7 May 2024, https://www.imf.org/en/News/Articles/2024/05/07/sp-geopolitics-impact-global-trade-and-dollar-gita-gopinath. In order to distinguish among country blocs, the IMF uses the similarity of countries' voting patterns at the UN General Assembly to capture countries' bilateral political attitudes towards one another. In particular, the US-leaning bloc includes countries in the top quartile in their political proximity to the US, whereas the China-leaning bloc includes countries in the top quartile in their political proximity to China.

thereby provide for a sharp lens through which patterns of conflict and coordination among countries can be explored.

This chapter speaks to the debate on the implications of the measures that countries adopt to secure their global supply chains. In particular, it examines the potential for coordination between the United States and the European Union that stems from the policies on diversification and resilience of supply chains.

To address this question, the chapter is organised as follows. First, the chapter advances a typology to identify the major clusters of policies that countries can adopt to secure their supply chains. Second, it examines the EU and US approaches to managing risks associated with global supply chains. In particular, the chapter analyses the main measures adopted in each jurisdiction to diversify and strengthen supply chains. Finally, it discusses how these measures create the potential for coordination but also conflict.

8.1 Securing global supply chains

Over the past few years, the stability of global economic integration has been called into question. Two events have been particularly consequential in this process: the 2020 Covid crisis and Russia's unjustified war against Ukraine with the attendant rise in geopolitical risks. In both cases, several countries experienced severe disruptions in their production networks that exposed the vulnerabilities of depending on one or a handful of suppliers. For instance, when the pandemic hit, the shutdowns in the most affected countries, like China, led to severe global supply disruptions across sectors like pharmaceuticals, electronics, and automotive, among others. Furthermore, many countries imposed export restrictions on critical goods like medical supplies and food, prioritising domestic concerns over international trade commitments. This highlighted the risks of relying on global trade for essential items. Increased geopolitical tensions have exacerbated the risks of relying on a single or few suppliers, especially for critical resources. Russia's invasion of Ukraine is instructive in this respect. It caused immediate disruptions to global energy markets, especially in Europe, which, at the time, depended heavily on Russian natural gas. Furthermore, the conflict significantly impacted global food supplies, especially in regions dependent on Ukrainian grain exports.

The past few years' events have thus clearly showcased the importance of building more diversified and resilient supply chains that can better withstand future shocks, whether from pandemics, natural disasters, military conflicts or geopolitical tensions. To face the potential shocks, several countries have adopted measures aimed at securing their supply chains.

There are a number of measures that countries can adopt to do so. While there are different ways in which these measures can be categorised, a country can rely on at least two major sets of policies to pursue its the main objectives of *reducing reliance on global supply chains* and *strengthening the resilience and stability of global supply chains*. Of course, this is an analytical distinction. In practice, the same policy can be used to address both objectives, albeit with different emphases. It is also important to stress that these policies are not mutually exclusive. Actually, countries often use a combination of them.

The first set of policies includes those aimed at *reducing reliance on global supply chains* via strengthening domestic production – a process also described as *reshoring*. These measures include incentives for domestic manufacturers to produce certain goods and services as well as support for critical industries. Tax breaks, subsidies or grants to domestic businesses that produce critical goods, as well as regulatory requirements and import controls to shield domestic producers from global competition, are measures that fall into this category.

Table 8.1 | Measures to secure supply chains

Objective	Main affected dimension	Instruments	Examples
Reduce reliance	Domestic	Incentives to domestic production	Tax breaks and incentives, grants, subsidies
		Protection of critical industries	Import controls and regulatory requirements
Increase resilience and stability	International	Building favourable and reliable connections	Export controls and tariffs
		Diversifying	Trade agreements and networks

The second set of policies includes those primarily aimed at *increasing the resilience and stability of global supply chains*. These measures include trade agreements and ad hoc alliances with friends and allies, as well as export controls. The overall aim is to diversify global supplies by redi-

recting trade and investment flows to 'trustable' countries and securing favourable terms and access to critical goods and materials. This overall strategy is also known as *friend-shoring*, meaning the relocation of production networks in countries considered political and economic allies.

8.2 The EU and US approaches to securing global supply chains

The EU and the United States have adopted measures to secure their supply chains in recent years that can be broadly mapped into the two sets of policies discussed above. As already anticipated, the dividing line between the two is often blurred in operational practice as the same measure can be directed at reducing dependencies and strengthening resilience, albeit with different emphases. It is also important to stress that the overview of the measures adopted in the two jurisdictions is not meant to be exhaustive. Since 2020, the EU and the United States have adopted a large variety of policies to protect domestic economies under a changed geopolitical context. *These policies, including industrial competition and climate policies, do not necessarily aim at securing supply chains but can nonetheless have important implications for the diversification and resilience of production networks*. Hence, the measures singled out below are to be considered part of a broader economic security agenda that both the EU and the United States continue to refine and implement.

The EU approach

The European Union has adopted a multifaceted approach to securing its global supply chains, as outlined, among other documents, in the Economic Security Strategy of June 2023.[7] In line with what was discussed in the previous section, the EU approach entails 'domestic' measures (i.e., measures aimed at strengthening domestic production capacity to reduce dependencies) and 'global' measures (i.e., measures aimed at building

[7] European Commission, *European Economic Security Strategy* (JOIN/2023/20), 26 June 2023, https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52023JC0020.

international alliances to diversify and enhance global supply chains). The key features of the EU's approach can be summarised as follows.

a) Domestic dimension: Reducing dependencies by strengthening domestic manufacturing

In 2020 and 2021, the EU updated its Industrial Strategy by emphasising the importance of bolstering domestic capabilities in key sectors, including green, energy, digital technologies and advanced manufacturing.[8] To achieve these goals, the EU supports, amongst others, Important Projects of Common European Interest (IPCEIs), which encourage cross-border cooperation on strategic projects in areas like batteries, hydrogen and microelectronics. The EU has also adopted the European Chips Act to secure essential resources and key technologies. In particular, under this legislation, the EU aims to mobilise more than 43 billion euros of public and private investments to enhance production capacities in semiconductor manufacturing. The aim is to double Europe's share of global semiconductor production from 10 per cent to 20 per cent by 2030.

In 2024, the EU has adopted the Net Zero Industry Act (NZIA). It aims to escalate the manufacturing of clean technologies in the EU. Under the legislation, manufacturing capacity of designated 'net-zero' technologies should reach 40 per cent of domestic demand by 2030. Alongside the Net Zero Industry Act, the EU has also negotiated the Critical Raw Material Act.[9] This Act is particularly important for the prospect of securing the EU supply chains. In particular, the Act aims to reduce EU dependency on imports by increasing the EU's annual capacity for extraction, processing and recycling of critical minerals, as well as by limiting single third-country sourcing of the EU's annual consumption of each critical raw material. The Act also aims to simplify permitting procedures for

[8] European Commission, *A New Industrial Strategy for Europe* (COM/2020/102), 10 March 2020, https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52020DC0102; European Commission, *Updating the 2020 New Industrial Strategy: Building a stronger Single Market for Europe's Recovery* (COM/2021/350), 5 May 2021, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021DC0350.

[9] European Council, "An EU Critical Raw Materials Act for the Future of EU Supply Chains", in *Infographics*, last reviewed on 8 July 2024, https://europa.eu/!WgTCVv.

critical raw materials projects in the EU and enhance the coordination of strategic raw materials stocks among member states.

All these initiatives reflect the importance of strengthening domestic competitiveness by supporting the EU Single Market and investing in critical sectors like semiconductors, advanced technologies and clean energy. The EU's approach to securing supply chains also largely revolves around the combination of two concomitant goals: encouraging industrial capacity and innovation and meeting climate goals.

The combination of securing global supply chains and climate considerations is particularly evident in a critical sector like energy. Indeed, in response to the energy crisis exacerbated by Russia's war against Ukraine, the EU launched the REPowerEU Plan to diversify energy supplies, including by supporting the production of clean energy within the EU. While aimed at reducing dependency on Russian energy imports, the REPowerEU Plan is, at the same time, meant to accelerate the transition to renewable energy and improve energy efficiency.[10]

Finally, it is important to mention that the EU's Foreign Direct Investment (FDI) Regulation, which has fully applied since October 2020, further reinforces EU efforts at securing its supply chains. While the Regulation is mainly aimed at detecting the foreign investments' risks to security or public order in another member state, or in the whole Union, the legislation offers member states the possibility to justify their screening decisions in light of the risks to a strategic project or programme of interest to the whole EU, including those pertaining to the security of supply chains.

b) International dimension: Strengthening the resilience and stability of supply chains

In addition to strengthening domestic production, the EU's approach to securing global supply chains also revolves around the recognition of the importance of partnering with like-minded states and partners to diversify and make supply chains more resilient.[11] Yet, the EU has

[10] European Commission website: *REPowerEU*, https://commission.europa.eu/node/5661_en.

[11] European Commission, *European Economic Security Strategy*, cit., p. 3.

struggled to reconcile this stance with its long-standing approach to global trade and multilateralism. Indeed, as the European Economic Strategy put it, while the EU recognises the need to protect the European economy "from commonly identified economic security risks", it is firmly committed to promoting multilateral cooperation within international organisations like the WTO and G20 to maintain a rules-based global trade system.[12]

The difficulties in balancing the new geoeconomic imperatives with the EU's long-standing values are clearly visible in the adoption of the concept of 'open' strategic autonomy. Indeed, the addition of the adjective 'open' to the goal of achieving economic autonomy is meant to emphasise the EU's dual commitment to protecting its economy and the rule-based liberal international economic system. The compromise around the notion of 'open' strategic autonomy also reflects the political divisions among EU countries on the use of trade policy in a changed geopolitical context.[13] The measures the EU has adopted to secure supply chains with a global dimension thus need to be placed within the framework and the limitations of open strategic autonomy.

As identified in the Economic Security Strategy, the EU measures to secure its supply chains by global means include 'partnering' with other countries.[14] In this connection, the creation in 2021 of the EU-US Trade and Technology Council (TTC) to coordinate approaches to key global trade, economic and technology issues between the two jurisdictions is particularly important. Furthermore, the EU intends to leverage initiatives like Global Gateway, which ostensibly supports infrastructure projects abroad, to diversify supply chains and enhance partnerships with developing countries.

Overall, the EU's strategy is characterised by a comprehensive approach to secure its supply chains, which includes measures aimed

[12] Ibid., p. 2 and 13.

[13] Luuk Schmitz and Timo Seidl, "As Open as Possible, as Autonomous as Necessary: Understanding the Rise of Open Strategic Autonomy in EU Trade Policy", in *Journal of Common Market Studies*, Vol. 61, No. 3 (May 2023), p. 834-852, https://doi.org/10.1111/jcms.13428.

[14] European Commission, *European Economic Security Strategy*, cit., p. 3 and 11-14.

at both domestic production and global alliances. The EU approach is also strongly linked to the attainment of the objective of meeting climate change mitigation and accelerating the transition to a green economy. Finally, although the EU has recognised the need to engage in global partnerships to protect itself against economic coercion and dependencies, its commitment to multilateralism and free trade has made the EU more cautious in this dimension.

The United States' approach

Similarly to the EU, the United States has adopted a comprehensive approach to securing its global supply chains. The rising tensions with China have been a crucial factor in shaping the US response to the potential risks of disruptions of global supply chains, creating quite stable bipartisan support to several of the initiatives discussed below. Indeed, one of the premises of the US economic security strategy under the Joe Biden Administration, as articulated by National Security Advisor Jake Sullivan, is the recognition of "a new environment defined by geopolitical and security competition".[15] In particular, whereas "Much of the international economic policy of the last few decades had relied upon the premise that economic integration would make nations more responsible and open, and that the global order would be more peaceful and cooperative", Sullivan noted in a seminal speech he gave at the Washington-based think tank Brookings, "[i]t didn't turn out that way. In some cases it did, and in lot of cases it did not".[16] The not-hidden target of Sullivan's words is China. The US approach to securing its supply chains thereby needs to be placed against this background. Here are the key features of the US approach.

[15] White House, *Remarks by National Security Advisor Jake Sullivan on Renewing American Economic Leadership at the Brookings Institution*, 27 April 2023, https://www.whitehouse.gov/briefing-room/speeches-remarks/2023/04/27/remarks-by-national-security-advisor-jake-sullivan-on-renewing-american-economic-leadership-at-the-brookings-institution.

[16] Ibid.

a) Domestic dimension: Strengthening domestic manufacturing and innovation capacity

In the context of the increased competition with China, the United States has focussed on initiatives aimed at (re) strengthening the US industrial base, especially to preserve its global technological lead. From the US perspective, despite its integration in the multilateral trading system, the "People's Republic of China continued to subsidize at a massive scale both traditional industrial sectors, like steel, as well as key industries of the future, like clean energy, digital infrastructure, and advanced biotechnologies. America didn't just lose manufacturing – we eroded our competitiveness in critical technologies that would define the future."[17]

The US government has thus actively encouraged the reshoring of critical industries, most notably semiconductors. Policies like the CHIPS and Science Act of 2022 offer the most glaring example of US government efforts in this area. It directs more than 200 billion US dollars in spending throughout five years for companies to manufacture semiconductors in the United States, including via tax credits for investments in equipment or the construction of manufacturing facilities. The legislation also allocates 11 billion US dollars over five years to the Department of Commerce to spur research and development in advanced semiconductor manufacturing.[18] This Act dovetails with the decision in June 2022 to use the Defense Production Act (DPA) to accelerate domestic production of clean energy technologies, including solar, transformers and electric grid components, heat pumps, electrolysers, fuel cells, and platinum group metals.

The same emphasis on incentives for domestic production can also be found in the Inflation Reduction Act (IRA), signed on August 2022, which has been rightly defined as America's "landmark climate law".[19] The IRA

[17] Ibid.

[18] Katie Lobosco, "Here's What's in the Bipartisan Semiconductor Chip Manufacturing Package", in *CNN*, 9 August 2022, https://edition.cnn.com/2022/08/09/politics/chips-semiconductor-manufacturing-science-act.

[19] James Temple, "Trump Wants to Unravel Biden's Landmark Climate Law. Here Is What's Most at Risk", in *MIT Technology Review*, 26 February 2024, https://www.technologyreview.com/2024/02/26/1088921/trump-wants-to-unravel-bidens-landmark-climate-law-here-is-whats-most-at-risk.

is supposed to deliver results through a combination of grants, loans, rebates, incentives and other investments for a total of around 400 billion US dollars. While primarily directed at facilitating the transition to a green economy, the legislation has important implications for the security of the supply chains. By incentivising the production of critical green technologies, the IRA is basically helping the United States reduce its dependencies from foreign sources.

b) International dimension: Enhancing the resilience and stability of supply chains

In addition to strengthening domestic production, the US approach to securing global supply chains revolves around leveraging its global economic and political power to diversify its supply chains by fostering trade and investment relationships with other countries, often departing from the traditional principle of reciprocal market access concessions at the core of the multilateral trade system. In particular, as has been noted, "The US economic security strategy [...] relies deeply on cooperation with democracies, favouring economic relationships with allies and trusted trade partners."[20] These include initiatives like the Quadrilateral Security Dialogue (Quad) between Australia, India, Japan and the United States and the Build Back Better World (B3W) initiative promoted within the G7. Other partnerships include the Indo-Pacific Economic Framework for Prosperity (IPEF), which aims at fostering cooperation in several sectors – including supply chains and resilience – with Australia, Brunei Darussalam, Fiji, India, Indonesia, Japan, the Republic of Korea, Malaysia, New Zealand, Philippines, Singapore, Thailand and Vietnam and the already mentioned US-EU Trade and Technology Council.

The US administration has also relied on the use of tariffs and export controls to prevent other countries from exploiting or weaponizing dependencies while fostering friendshoring dynamics. For instance, following the tariff increases imposed under the Trump Administration,

[20] François Chimits et al., "European Economic Security: Current Practices and Further Development", in *EPRS In-Depth Analysis*, April 2024, https://www.europarl.europa.eu/thinktank/en/document/EXPO_IDA(2024)754449.

President Biden has maintained tariffs and clearly indicated the intention to shift trade from China towards allies.[21] Relatedly, in January 2023, the US reached a deal with the Netherlands and Japan to curtail exports of advanced chip manufacturing equipment to China.[22] This approach was inaugurated in October 2022, when the Biden Administration barred American companies and individuals from exporting advanced semiconductors and chip-manufacturing machinery to China.[23]

Overall, similarly to the EU, the United States has adopted a comprehensive approach to secure its supply chains, including measures aimed at boosting domestic production, fostering global alliances and weaponizing its economic power. Similar to the EU, some of the flagship initiatives adopted by the United States over the past four years combine the objective of securing supply chains with the one of developing green technologies and so accelerating the transition to a green economy. However, the United States has been more assertive than the EU in leveraging its trade policy and tariffs to protect itself against economic coercion and reduce dependencies on foreign supplies.

8.3 Potential for coordination and conflict

As examined in Section 2, the EU and the United States have so far adopted a comprehensive approach to secure their global supply chains. Both jurisdictions have focussed on measures with a domestic dimension, that is, on measures aimed at strengthening domestic production capacity, especially in strategic sectors such as semiconductors and clean energy technologies. Both jurisdictions have also focussed, albeit

[21] White House, *Executive Order on America's Supply Chains*, 24 February 2021, https://www.whitehouse.gov/briefing-room/presidentialactions/2021/02/24/executive-order-on-americas-supply-chains.

[22] Gregory C. Allen and Emily Benson, "Clues to the U.S.-Dutch-Japanese Semiconductor Export Controls Deal Are Hiding in Plain Sight", in *CSIS Reports*, March 2023, https://www.csis.org/node/104205.

[23] US Department of Commerce Bureau of Industry and Security, *Commerce Implements New Export Controls on Advanced Computing and Semiconductor Manufacturing Items to the People's Republic of China (PRC)*, 7 October 2022, https://www.bis.doc.gov/index.php/component/docman/?task=doc_download&gid=3158.

with differing intensity, on global measures, such as the build-up of international alliances and trade restrictions to secure and make supply chains stable and resilient.

In addition to the domestic and global implications, the measures adopted by the EU and the United States also impact their own relationship. In particular, the policies adopted to secure the respective supply chains create the potential for coordination but also conflict. While the EU and the United States share many common goals and work together in several areas, they also have differing approaches and policy priorities that can lead to conflicts or disagreements.

Starting with the measures to reduce dependencies by boosting domestic production, for instance, the EU and US measures to enhance the production of critical technologies would certainly benefit from further coordination, including in the area of regulatory coordination and research exchanges. The TTC is a key forum in this respect.[24] Created in 2021, it facilitates collaboration on technology standards, regulatory alignment and supply chain security, particularly in sectors critical to both economies.

At the same time, the measures adopted to boost domestic production and so reduce global dependencies are a catalyst for tensions. This is especially the case when domestic measures include the use of subsidies, incentives or local content requirements that un-level the global (or transatlantic) playing field. Indeed, both jurisdictions have adopted legislation that creates competition for investment in critical industries. For instance, as discussed above, the United States and the EU both offer incentives to companies to build semiconductor manufacturing facilities within their borders, sometimes leading to competitive rather than cooperative behaviour. The US IRA has probably been the most visible example of the tensions that risk management policies can create in transatlantic coordination. Indeed, the IRA has been criticised by the EU for its "Buy American" provisions, which the EU views as protectionist and harmful to European industries. Such a criticism has been strongly

[24] Herman Quarles van Ufford, "A Stronger Partner: How Europeans Can Make the Most of the EU-US Trade and Technology Council", in *ECFR Policy Alerts*, 26 January 2024, https://ecfr.eu/?p=117203.

felt within the EU, with vocal criticism directed at the US strategy.[25] The adoption of the NZIA in the EU can be seen as a response to catch up and come to terms with the US approach.[26]

Furthermore, the different rooms of manoeuvre of the two countries in leveraging the fiscal purse, with the EU more constrained as compared to the United States mostly because of the institutional features of the EU and its decentralised fiscal capacity, creates reasons for tensions as the differing fiscal power risks putting the EU at a disadvantage.

Moving to the measures that mostly relate to enhancing the resilience of supply chains by leveraging global alliances and trade policies, a similar pattern of potential for coordination and conflict emerges. On the one hand, both jurisdictions are adopting measures that aim at redirecting trade and investment flows to friends and allies, and especially derisking from China. In doing so, the EU and the United States could mutually benefit from coordinating the emerging networks. On the other hand, the EU and US policy priorities towards other countries are not perfectly aligned, as is the case in the approach towards China. Indeed, while both the EU and the United States are concerned about dependencies on China for critical goods and technologies, their approaches differ. The United States has taken a more confrontational stance, while the EU has sought to maintain a more balanced relationship.[27] The cracks in the transatlantic relationship over China are unlikely to be fixed soon in light of the fact that the EU's biggest manufacturing country, Germany, fears retaliation from the government in Beijing and a further erosion of the position of its industries on the Chinese market.

[25] See, for instance, Guy Chazan, Sam Fleming and Kana Inagaki, "A Global Subsidy War? Keeping Up with the Americans", in *Financial Times*, 13 July 2023, https://www.ft.com/content/4bc03d4b-6984-4b24-935d-6181253ee1e0.

[26] See, for instance, Jones Hayden, "Von der Leyen Calls for EU to 'Adapt' State-Aid Rules in Answer to US Green Subsidy Scheme", in *Politico*, 4 December 2022, https://www.politico.eu/?p=2382375.

[27] For instance, Camille Gijs, Antonia Zimmermann and Pieter Haeck, "EU and US Vow to Team Up Against China, But Can't Hide the Cracks", in *Politico*, 5 April 2024, https://www.politico.eu/?p=4546893.

Furthermore, whereas the EU and the United States generally cooperate on trade, there have been disputes over tariffs and trade barriers in the past, especially under the Trump Administration. These disputes can complicate and undermine efforts at coordination in secure global supply chains by creating mistrust and reciprocal resentment. The uncertainty about the upcoming presidential elections, with the realistic prospect of a second term for Trump, is thus a cause for concern for the coordination in the area of securing supply chains.

To sum up:

- Global supply chains create both opportunities and risks. Since the 2020 pandemic and with the rise of geopolitical tensions, the balance has shifted towards greater risks, pushing several countries to adopt a variety of measures to secure global supply chains.
- There are several measures that countries can adopt to secure their supply chains. While there are different ways in which these measures can be categorised, analytically, there are at least two major sets of policies a country can rely on based on the main objective they pursue: *reducing reliance on global supply chains* and *strengthening the resilience and stability of global supply chains*.
- The EU and the United States have adopted a comprehensive approach to secure their supply chains. This approach entails both domestic measures (i.e., measures aimed at strengthening domestic production capacity to reduce dependencies) and global measures (i.e., measures aimed at building international alliances to diversify and enhance global supply chains).
- The measures adopted by the EU and the United States also impact the relationship between the two long-standing allies. In particular, the policies adopted to secure the respective supply chains create the potential for both coordination and conflict between the two countries. While the EU and the United States share many common goals and work together in several areas, they also have differing approaches and policy priorities that can lead to conflicts or disagreements.
- The uncertainty related to the outcome of the US presidential elections in the fall further adds to the ambiguous effects of the approaches to securing supply chains adopted thus far.

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9. Conclusions

Riccardo Alcaro

In recent years we have witnessed – first in the United States, then in Europe, and belatedly also in Italy – a paradigm shift in governments' approach to international relations. The boundaries between domestic policy and foreign policy, as well as that between economic and political-security relations between states, have largely disappeared. Foreign policy imperatives shape domestic economic policy choices more extensively than at any time since the Cold War, and domestic politics in turn influences foreign policy decisions more than it used to. Concepts long absent from the lexicon commonly used by Western political leaders, officials and experts, such as industrial policy, investment controls or tariffs have become commonplace.

This shift in paradigm is the result of three separate but mutually influencing macro-trends. The first is the global economic growth powered by globalisation, which has led to a greater distribution of resources amongst centres of power other than those established in the latter part of the 20th century, namely North America, West Europe and Northeast Asia. Today, all of East Asia and especially China, South Asia (India above all), the Persian Gulf, Latin America and parts of Africa enjoy greater financial resources and naturally demand greater say in the management of international issues that concern them.

Economic multipolarity has taken on an increasingly competitive turn where the clash of material resources has been accompanied by conflicting visions of order, at the global and regional level alike. Such antagonism between states and especially between great powers is the second trend that has contributed to the paradigm shift. The combination of economic multipolarity and geopolitical competition has exposed the vulnerabili-

ties of global value chains built during the 1990s and 2000s according to the sole criterion of efficiency. Several countries, including major powers, have found out that they are exposed to the political use of the interdependencies underlying hyper-efficient global value chains. This was clearly evident during the Covid crisis, when Western countries were short of basic medical equipment such as face masks, but also during the energy crisis that preceded and followed Russia's attempted conquest of Ukraine.

These vulnerabilities are all the more pronounced in that area that has contributed more than any other to globalisation (and has been greatly accelerated by it), namely technological innovation. This is the third trend underpinning the paradigm shift, because technologies are no longer seen just as a tool for innovation and wealth generation, but as a lever to be used in the increasingly zero-sum competition between states.

Thus, the paradigm dominating the 1990s and 2000s, according to which economics trumps geopolitics and the interdependencies created by globalisation would reduce contrasts with the United States – the guarantor of the order in which globalisation processes unfolded – has first cracked and then almost completely eroded. Today geopolitics dominates over economics, to the point that it is impossible to disentangle the latter from the former (at least in the most crucial areas, such as technological development). Geopolitics is thus accompanied by geoeconomics, two separate concepts linked by the common resolve of governments to intervene directly in domestic industrial development in order to secure an advantage over foreign competition and reduce vulnerabilities to rival (but also friendly) states.

This set of assumptions has informed the research included in this volume. The contributors have investigated several aspects that articulate this new geoeconomic paradigm: industrial policy for the development of semiconductors and related technologies; investment screening to prevent rival states from gaining political influence through greater penetration into national economies; export control as a tool to contain the technological development of rival countries; sanctions, which have become increasingly sophisticated and widespread in their use; data governance, an ever more critical issue given the exponential growth of the value of data; and supply chains.

The volume has looked into these aspects in the narrow Italian context before moving to the frameworks which shape Italian economic and industrial policy, namely the EU and, to a lesser extent, the transatlantic relationship. The EU and the United States are particularly interesting cases for investigating the opportunities but also the limits posed to collaboration between two partners linked by long-standing friendship by the application of a geoeconomic paradigm. Authors have engaged with such questions as the extent to which Italy has adjusted (or not) to the paradigmatic shift underway, the nature and ambitions of EU and US policy and regulatory geoeconomic frameworks, and the potential for transatlantic cooperation when governments act in line with a geoeconomic paradigm whose inner logic is inherently competitive.

Giuseppe Travaglini's overview of US-Italian economic relations paints a mixed picture. On the one hand, bilateral trade has boomed lately and investments (at least from Italy into the US) have grown. On the other hand, the overall relationship has lost in relevance. Having failed to participate in and capitalise on the ICT and digital revolution and struggling to grow its economy while abiding to the eurozone's strict fiscal rules, Italy has sought cheap energy and cash-infusion from wherever they came, including Russia and China. As multipolarity became increasingly competitive, however, Italy has had to embark on a difficult path of readjustment, shifting away from Russia's energy supplies and quitting China's Belt and Road, in order to remain compliant with its Atlantic orientation. Travaglini is not entirely negative in his outlook. He emphasises how EU funds delivered under the post-Covid NextGenerationEU recovery funds give Italy the chance to increase support for research and industrial development.

Nicola Bilotta addresses the latter point in his contribution on Italy's role in the quest for technological sovereignty by the EU (and the United States). He contends that public and private investments should be directed at fostering technological expertise in key areas such as artificial intelligence and semiconductors. He argues in favour of a multi-layered strategy that combines national and EU resources with transatlantic cooperation on technology development and regulations, while also promoting diversification of supply.

Italy will hardly be able to do anything of the sort if the EU as a whole does not move up a gear (or two) in promoting domestic production of advanced technology, including the semiconductors mentioned by Bilotta. However, the analysis by Fabio Bulfone, Donato Di Carlo, Filippo Bontadini and Valentina Meliciani of the EU's dependencies in the semiconductor value chain shows how far the Union is from delivering on its stated goals. Comparing the EU's policy and regulatory framework with the US one, the authors draw the conclusion that EU plans are not up to the task. Both the United States and EU have adopted major pieces of legislation to promote intermediate product capacity, the US CHIPS and Science Act and the EU Chips Act. The United States has created a centralised, federally funded approach that is theoretically capable of generating massive resources in a relatively short time span. On the contrary, the EU's framework is decentralised, i.e. member state-driven, and structurally incapable of mobilising enough resources to make a difference, if not for individual member states. The authors argue that the EU needs increased funding, better coordination and a completed banking union to mobilise private resources.

The same dichotomy between a federally centralised US system and a member state-driven decentralised EU model characterises another area of great geoeconomic relevance, investment screening. Federica Marconi points out that the US government has empowered the Committee on Foreign Investment in the United States with greater authority to scrutinise foreign investments for national security risks. By contrast, the EU has adopted a framework for investment screening which member states have great leeway in adopting and adapting to their national specificities. To their credit, most EU states have indeed approved some form of investment screening, with some producing quite powerful blocking tools (this is the case of Italy's so-called 'golden power', for instance). Efforts to enhance transatlantic cooperation on investment screening, particularly within the Trade and Technology Council (TTC), have yet to meet expectations.

While investment screening is mostly aimed at preventing foreign powers to get leverage 'from the inside', export controls are meant to keep foreign countries from acquiring key know-how and technology 'from outside', that is, by simply importing them. Mark Bromley and

Kolja Brockmann focus in particular on restrictions on exports of dual use goods. They examine the different mechanisms set up by US and EU authorities to identify objectives (for the most part, the goal has become to constrain China's technological development), create control lists (largely borrowed from ad hoc multilateral regimes, though both the United States and EU have shown willingness to go farther) and enforce restrictions (definitely stronger in the United States because of a lack of a centralised EU oversight mechanism of member states' compliance). Bromley and Brockmann notice that the TTC, expected to be the primary forum for EU-US coordination, has made very limited progress. Coordination occurs instead across multiple forums and involves various agencies from both sides. The Biden Administration's use of minilateral cooperation has enabled faster progress on export controls, but this approach risks sidelining broader multilateral efforts. The EU faces challenges due to the division of responsibilities between member states and EU institutions.

Francesco Giumelli's contribution delves into sanctions, the bluntest of all geoeconomic instruments – in fact, it is more accurate to describe them as a geopolitical or foreign and security policy tool, given that they are explicitly meant to achieve a change of a state's behaviour by inflicting damage on that same state. Giumelli reflects upon the increasing sophistication of sanctions, which now include various forms of restrictions on individuals, entities, specific sectors or whole economies. Their nature has also evolved: they include diplomatic measures, visa bans, the freezing of assets, trade bans and many more. The EU and especially the United States have been at the forefront in devising new ways to use sanctions – actually they have been by far the main 'dispensers' of sanctions. The United States has gone farther than anyone else in that it has expanded the extra-territorial reach of its own measures. Such 'secondary sanctions', Giumelli warns, have proven quite effective but also carry the significant risk of fragmenting the global economy, with businesses shifting investments toward politically stable or allied countries, a process known as 'friendshoring'.

The last two contributions focus exclusively on transatlantic cooperation. Francesca Maremonti addresses the critical area of data governance, which has created endless fissures across the Atlantic. She also

looks at the TTC as a primary instrument to foster transatlantic coordination, and draws a conclusion on the matter similar to that of other contributors: while the TTC has considerable potential, it has resulted in mixed outcomes, particularly in regulatory alignment. Challenges persist, including a significant trust deficit and uncertainty about the TTC's future. Maremonti argues that the United States and the EU should leverage existing partnerships with third countries, drawing lessons from successful agreements like the EU-Japan Economic Partnership. Additionally, multilateral platforms like the G20 can facilitate the exchange of best practices, exemplified by India's data governance model.

Finally, Manuela Moschella looks at the US and EU strategies to secure their global supply chains. She too points in particular to the semiconductor sector, although she also discusses the actions taken by the United States and the EU to promote green technologies, most notably the US Inflation Reduction Act (ISA) and the various measures falling into the European Green Deal. She notices how the geoeconomic logic underlying these strategies inevitably leads to conflict, especially regarding subsidies or local content requirements, resulting in an uneven playing field. Like other contributors, Moschella too underscores the unexpressed potential of the TTC. Additionally, just like Bulfone at al. and Bromley and Brockmann, she recalls how the EU's constrained fiscal capacity compared to the United States adds to tensions. She further contends that, while both jurisdictions aim to redirect trade away from China, the US approach is confrontational but the EU seeks balance due to concerns about potential retaliation. Moschella recalls how past tariff disputes complicate coordination efforts, and concludes that the uncertainty surrounding the future course of US foreign policy raises concerns about the stability of transatlantic cooperation in securing supply chains.

The following conclusions can be drawn from the overview of the contributions to this volume. Italy keeps suffering from long-standing structural flaws of its economy, such as the lack of private and public investment in advanced technology. Italy can still count on some residual areas of excellence, but it will need to mobilise more resources and accelerate regulatory processes favouring innovation if it wants to achieve a minimum degree of 'technological sovereignty'.

Such a measure of technological sovereignty will inevitably descend from the capacity of the EU to foster technological production while not stymieing economic progress, something that may happen given that foreign products are much cheaper. In addition, the wisdom of investing heavily in an industry where others – notably Taiwan, South Korea and China – have amassed such overwhelming advantage is doubtful. The EU had perhaps best to concentrate on the niche sectors in which it still excels. This said, the EU has taken significant steps to reduce the political influence that come with investment inflow and, admittedly to a much lesser extent, from the over-reliance on single source countries for critical supplies.

The United States is much better placed than the EU to re-enter the competition with the likes of Taiwan or China over semiconductor production given its much greater potential to raise money. However, catching up with competitors so much ahead will be a struggle for the United States too, so much so that not all are convinced that it actually makes sense to compete in production given that after all the United States enjoys significant advantages in chip design. The policy and regulatory framework adopted by the United States to contain China's technological development is widespread and draconian, yet it remains to be seen whether its short-term effect can be sustained over time; China can after all develop its own capacity sooner rather than later.

One element on which most if not all contributors agree is that transatlantic cooperation is punching way below its weight. This is in part the inevitable consequence of informing one's own industrial and economic policies with a geoeconomic rationale, whereby the goal is to secure one's own advantage and contain others' progress. While the US government has no declared intent to damage the EU, it has adopted overly protectionist measures – most notably the local content requirements of the ISA – that may well do exactly that. The TTC has failed to deliver on the political objective of bringing the EU and US geoeconomic frameworks more in alignment with one another. Thus far, the shift towards a geoeconomic paradigm has generated dialogue, exchanges and a certain convergence of views across the Atlantic, but no significant advantage to the transatlantic relationship itself.

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