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SUPPLY CHAINS BETWEEN NEW GLOBALIZATION AND STRATEGIC AUTONOMY

REPORT 2023



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EXECUTIVE SUMMARY

Alessandro Fontana
Chief Economist of Confindustria

Global and Regional Production Networks

- The hyperglobalization era of the early 2000s has given way to a phase of slowbalization. However, globalization remains a complex and profound phenomenon, displaying heterogeneous dynamics across its various dimensions.
- Global trade in goods has gained strength relative to industrial production, but its growth compared to GDP is held back by the increasing importance of the service sector in emerging economies and it depends on fluctuations in commodity prices. Overall, goods trade has rebounded to 25% of global GDP in 2022, reaching pre-2008 financial crisis levels.
- The significance of international trade in services, including professional services for businesses, has seen a substantial rise due to digital advances and the growing skills available in emerging economies. In 2022, global trade in services exceeded 7% of GDP, doubling the level of the early 1990s.
- Foreign direct investment (FDI) flows, however, have been weak, primarily due to centrifugal forces and heightened uncertainty resulting from geopolitical tensions and repeated global shocks. FDI flows fell by 17% during the last three-year period (2020-2022).
- In terms of the geographical structure of trade in goods, the emergence of China and the expanding influence of Asia have played a significant role in fostering globalization, thereby reducing intercontinental trade barriers. The Confindustria Research Center has developed two indicators of trade regionalization, both indicating a stabilization of the global dimension of trade without a clear trend towards regionalization.
- Macro regions exhibit considerable heterogeneity. While China continues to solidify its position as the world's leading exporter, it has simultaneously reduced its reliance on foreign markets. Meanwhile, Asian trade is becoming increasingly integrated into the global economy. While the internationalization of the European industry has strengthened, there has been a distinct increase in the regional component of trade.
- Global value chains (GVCs) have proven to be very resilient and persistent. Trade in intermediate goods (used in production processes abroad) returned to pre-2008 financial crisis levels in most advanced and emerging economies, excluding China.
- The geographical distribution of trade in investment goods and specific intermediates, which are deeply integrated within GVCs (such as parts and components), remains globalized and stable over time. Supply chains in the agri-food and construction sectors tend to be more regionally focused, whereas those in the health and textile industries are more globally connected.
- The adoption of trade agreements between geographically distant nations, particularly by the EU, has contributed to the globalization of trade. However, protectionist measures have been on the rise in recent years, and the World Trade Organization (WTO) is currently facing a crisis. Intergovernmental bodies like the G7 and G20, lacking stable institutions and the ability to enforce binding decisions, cannot fulfill the role played by the WTO. Therefore, a thorough reform of the WTO is essential to guarantee the future of the rules-based international trading system.
- The Russian crisis has deepened the political divide between the United States and emerging Asian powers such as China and India, leading to selective globalization among friendly nations. This global context aligns with EU policies aimed at achieving strategic autonomy of the European industry.

- Evident signs of decoupling can be observed in technological trajectories associated with the green and digital transitions taking place in the United States and China. Since 2018, China's market share in the US has declined by four percentage points.
- This decline can be attributed to distinct patterns in US imports of specific Chinese products, including a significant reduction in electronic components and a corresponding surge in the demand for lithium batteries.
- It is worth noting that a decoupling between the US and China can only materialize under specific conditions, such as the presence of readily expandable domestic production capacity in the short term or the availability of alternative "friendly" suppliers specializing in the same type of products.
- Industrial policies pursued by major world economies are influenced by, and contribute to shaping, the impact of external shocks and the ongoing technological transitions.
- The policy of the European Union focuses on identifying and reducing dependencies in strategically deemed technological and industrial sectors. Its objective is to strengthen the resilience of the single market, which serves as a fundamental prerequisite for the successful implementation of the EU Green Deal and the Digital Strategy. However, the current regulatory approach outlined in the 2020 Industrial Strategy lacks adequate support from EU resources and tools, which are essential for activating the substantial public and private investments necessary for the twin green and digital transition of the European industry.
- The policy measures undertaken by the United States Administration between 2021 and 2022 represent a significant advancement compared to the European approach. These measures directly enhance the productive capacity of the United States and strengthen it at the macroregional level, leading to a reconfiguration of supply chains based on political affinities.
- The global rise of the Chinese industry has been favored by the Made in China 2025 plan, which aims to establish China as a global technological power by 2049.
- Alongside the remarkable technological and industrial advancements in China, however, certain limitations emerge highlighted in two significant initiatives. The Belt & Road Initiative has positioned China as the primary international creditor for many emerging countries, some of which face challenges in repaying their debts. Additionally, the Regional Comprehensive Economic Partnership, despite being the world's largest trade agreement, reveals limited depth as it focuses primarily on tariff reduction.

Critical Foreign Dependencies in Europe and Italy

- The tension between trade openness and national autonomy has been a constant factor in the economic relations among nations. The European Union was established to ensure free access to strategic goods, as exemplified by the European Coal and Steel Community. Italy's development model has historically relied on its manufacturing sector, encompassing the transformation of both domestic and imported raw materials and semi-finished goods.
- Global value chains (GVCs) amplify the effects of shocks between production nodes, even those not directly connected to foreign markets. More than one-third of Italian manufacturing is involved in GVCs.
- In a world of multiple crises and political fragmentation, there is a need to strengthen supply chains, especially in strategic productions that drive the green and digital transition.

- Within the framework of the Open Strategic Autonomy objective, the European Commission has initiated a study of supply chain vulnerabilities to develop targeted industrial policies.
- Expanding on the Commission's analysis, the Confindustria Research Center has identified critical dependencies, or vulnerabilities, of EU countries to foreign sources in great detail, comparing them with those of the United States and China. The selection criteria for critical products involve the geographic diversification of imports, substitutability with exports, and, for European countries, substitutability within intra-area trade.
- Over the past decade, approximately 8% of European imports (from non-EU markets) in terms of value have been classified as critical. This concerns around 380 products, accounting for just under 8% of all imported goods. Specifically, the European Union is particularly vulnerable in the ICT sector (Information and Communication Technology) and, to a lesser extent, in the agri-food and textile industries.
- European dependencies are fewer in number and value compared to those of the United States and China. Moreover, EU critical imports have remained relatively stable over the past two decades, while China and the US have experienced an increase in their critical imports. Significant changes have occurred, however, in terms of the main supply countries. China has increasingly become the main source of vulnerabilities for both the United States and, in particular, the European Union.
- Overall, therefore, European critical dependencies are the result of long-term choices involving specialization and reallocation of international production chains, closely tied to the growth of emerging countries, with China at the forefront.
- In the case of the Italian economy, vulnerabilities in supplies account for 16% of the import value and 7% of product varieties. These percentages are in line with those recorded for Germany and France.
- Italian critical imports are relatively diversified in terms of product origin, unlike Germany and France (and the EU as a whole), which exhibit a clear predominance of China as the main supplier. Italian vulnerabilities mainly lie in the commodity, chemical, and energy sectors in terms of value. For Germany and France (and the EU), vulnerabilities primarily affect the ICT, media, and computer sectors.
- Focusing on industrial supplies (intermediate inputs and capital goods), 333 critical products have been identified, for which the Italian industry has remained consistently vulnerable in recent years. These products represent approximately 9% of the value of Italian imports (around 17 billion euros).
- The most affected industrial sectors in Italy are confirmed to be commodities, chemicals, and energy, followed by transportation. In terms of product varieties, textiles and metals are also vulnerable. China is by far the largest supplier of critical products for the industry, accounting for 25% in value (mainly ICT) and 22.5% in varieties (especially in textiles). The United States, Turkey, and India follow in terms of varieties, while Switzerland ranks second in value, particularly given its major role in pharmaceuticals and chemicals.
- Finally, two additional selection criteria have been considered: the strategic importance of products (based on various institutional sources) and the geopolitical and climatic risks in supplying countries (according to SACE indicators).
- Of the critical products for the Italian industry, just under half can be classified as strategic, amounting to 148 products and accounting for over 10 billion

euros of imports (61% of critical imports in value). These primarily include minerals, metals, other raw materials, pharmaceuticals, and active ingredients, along the commodity-chemical-energy, health, and ICT supply chains.

- In particular, 28 minerals, metals and other raw materials (out of 67 critical ones) are considered strategic due to their involvement in the green transition. They are mainly used in the production of iron and steel and account for 32% of all strategic imports.
- Almost half of the critical supplies for the Italian industry are classified at high geopolitical or climatic risk (49% in value and 46% in terms of variety). Notably, around a hundred products exhibit a high level of sourcing from non-EU countries with a medium to high political risk. These mainly include minerals and metal products, with transportation, textile, and agri-food sectors standing out among the supply chains. When considering the dimension of climatic risk, the textile sector continues to present significant criticalities alongside ICT, media, and computer industries.
- By intersecting the selection criteria for strategic importance and risk, we obtain a final list of 62 products that are highly critical for the Italian industry. Although these products are relatively few in number, they account for approximately 5 billion euros of Italian imports (38.5% of critical imports). They primarily affect the ICT and transportation sectors.
- In defining European policies, it is necessary to identify the vulnerabilities of the industrial system, distinguishing between raw materials and intermediate goods, in order to promote strategic objectives (including extraction and circularity).
- In particular, it is important to: encourage European integration in market segments that are already covered (extraction, primary and secondary processing, finished products); set "technologically" achievable objectives, with adequate European resources allocated; identify and strengthen priority supply chains, including through industrial collaboration agreements with third countries.

The international strategies of Italian firms

- Companies that are most active in international markets have responded to various episodes of crises (particularly in 2008-2009 and 2011-2013) by engaging in complex forms of international market participation within global value chains (GVCs). On average, these firms have achieved positive outcomes in terms of employment, productivity, and value-added.
- Being integrated into GVCs brings several advantages for firms, including greater specialization in core activities, leveraging comparative advantage derived from international division of labor, increased market share through economies of scale, productivity spillovers from supply linkages with innovative and advanced multinational companies, and reduced transaction costs (such as lower opportunistic behavior, improved selection of trading partners, and technological innovation development).
- In the past three years, managing global production and supply interdependencies has become problematic, especially for firms with tightly interconnected international supply chains and limited supplier diversification. It has become increasingly important to consider the trade-off between exploiting competitive cost advantages and vulnerability of the supply chain, that is no stronger than its weakest link.
- Therefore, it is becoming more crucial for firms to enhance the resilience of global value chains, which refers to their ability to respond to unforeseen and unpredictable events while preserving efficiency.

- Various strategies can be pursued, including relocation of activities (production and/or sourcing) to a different country, expanding redundancy or diversification of suppliers.
- Production reshoring is generally a more complex strategy compared to sourcing reshoring, due to the high sunk costs associated with investments in the destination country. One necessary condition is the presence of well-structured supply networks, that can benefit from strong positive externalities, in the country where production activities are relocated.
- The repatriation of production activities to EU countries would support European reindustrialization, but it requires labor availability and, above all, specific skills that may not always be readily available. The reshoring of production may also lead to price increases if technological innovation doesn't make in-house production more competitive compared to offshoring. Thus, it is desirable primarily in strategic sectors.
- The data collected in the survey by Confindustria Research Center and Reshoring for Italy (CSC&RE4IT) on the offshoring and reshoring strategies of manufacturing companies in 2021 confirms a limited use of production reshoring choices (total or partial). The main reasons that drove companies to bring production activities back home relate to the increases in cost (also associated with rapid growth in offshoring countries) and delivery time in global production chains.
- Reshoring of the supply chain is a less costly choice from an economic perspective, as it does not involve difficult-to-recover costs. It can only be implemented when suitable suppliers are available in the country where the company wants to relocate. According to a survey by The Economist, the share of companies adopting nearshoring (relocating their supplies to geographically closer countries) or backshoring (in the country of origin) as their primary strategy has increased in 2022.
- The results of the CSC&RE4IT survey and the recent survey by Tagliacarne-Unioncamere Research Center (April 2023) confirm the presence of supply chain backshoring among Italian manufacturing companies, identifying increased resilience, reduced distance, and improved product quality as the main factors influencing this choice.
- Approximately 75% of respondents in the CSC&RE4IT survey reported purchasing supplies partially or entirely from foreign companies and 21% of them implemented total or partial backshoring of supplies. According to the survey conducted by Tagliacarne-Unioncamere Research Center a significant percentage of companies report an increase in Italian suppliers, ranging from 15% (if they are local, i.e., located in the same region) to 20% (Italian suppliers outside the region).
- The choice of supply chain backshoring is fully compatible with production offshoring since relocating the supply chain does not necessarily involve moving any production activities performed abroad and, in some cases, it strengthens the global value chain.
- A focus group on a strategic pharmaceutical supply chain has highlighted specific critical dependencies on foreign sources. These dependencies have been partially mitigated through calibrated backshoring, aimed at enhancing domestic production capacity, and the duplication of suppliers, mainly national ones. However, maintaining commercial and production ties with foreign countries, particularly China and India, as the main global suppliers of active pharmaceutical ingredients, remains essential. Selective reshoring within the European Union should be considered where possible.

- Back/nearshoring should be incentivized not through ad hoc policies but through policies that promote the attractiveness of the country and the competitiveness of companies, leveraging synergies with existing policies supporting the Green New Deal, digitalization, and skill upgrading. With regard to the Green New Deal, shortening and regionalizing value chains is one of the main paths to promote sustainability as it allows for emission reduction and greater ethical and social control over production.
- The shortening of global supply chains could accompany the adoption of alternative paradigms to the linear production model, such as the circular economy. This is more feasible in a national or European context with common regulations and lower transaction costs.