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# **Deglobalization, Reconfiguration, or Business as Usual?**

**COVID-19 and the limits of reshoring  
of globalized production**

# Deglobalization, Reconfiguration, or Business as Usual?\*

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## Abstract

The COVID-19 pandemic has seemingly reinforced the need for geographic restructuring and a rehousing of production, as it has demonstrated the vulnerability of globalized production. This article provides an assessment of the impact of COVID-19 on the geographies of production, looking particularly at developments in the automotive, electronics, and clothing industries. Criticizing overly simplified prospects for deglobalization, we argue that the COVID-19 pandemic cannot be interpreted as a trigger for a general retreat from global manufacturing but rather as an event that is reinforcing long-standing shifts

toward more multipolar production and consumption. While the issue of global production network resilience has attracted great attention in corporate strategies and industrial policies, re- or nearshoring of production networks is only one of several strategies and it has hardly been implemented so far. Ongoing disruptions and, above all, geoeconomically/-politically and environmentally motivated policies could well lead to a shift in investment and sourcing patterns. Political efforts in this direction are, however, limited by pre-existing global economic development paths and the balance of power associated with them.

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# 1 Introduction

The economic disruptions in the wake of the COVID-19 pandemic raise questions about the sustainability of the current economic order. These particularly apply to its geographical structure. Already since the financial and economic crisis of 2008/09, there has been a perception that the globalization of production has passed its peak. In view of the slow-down in globalization trends, the *Economist* coined the term *slowbalization* (The Economist 2019), and expectations of a relocation of manufacturing capacities back to countries of the Global North – variously described as reshoring, backshoring, or nearshoring – have been formulated from various sides. The drivers of such trends are said to include the vulnerability to disruption of global production networks due to natural disasters and man-made shocks, shifts in wage-cost structures, the effects of digitalization, increasing tensions in trade policy due to geopolitical and geoeconomic shifts, and climate policy targets and goals. Geographic restructuring can thus have market- or policy-driven causes, although the literature assigns different weights to these causes (Javorcik 2020; Kinkel 2020; Lund et al. 2020; Raza et al. 2021; Shih 2020; UNCTAD 2021a).

The COVID-19 pandemic has seemingly reinforced the need for a geographic restructuring of production networks, as it has demonstrated the vulnerability of global just-in-time production (Haass 2020; Irwin 2020). The Chinese lockdown starting in January 2020 quickly led to supply shortages in key semi-finished and finished products for industrial production. Shortages in the supply of medical goods for the pandemic increased concerns about overdependence on global imports or an erosion of industrial capacity in the European Union or United States. Many supply chains – for instance, in the area of furniture, shoes, or electronic products – remained congested in 2021 as a result of further lockdowns and ongoing disruptions in ocean freight traffic as well as a simultaneous significant increase in demand. Consequently, a commonly held expectation was that these

experiences would necessarily lead to a rethinking in companies in order to achieve greater resilience; this would involve reducing dependence on global and, above all, Chinese suppliers and strengthening regional production networks.

This article provides an assessment of the impact of COVID-19 on the geography of global production networks. We especially focus on whether the pandemic can be seen as a trigger for backshoring and a deglobalization of global production structures, paying particular attention to recent developments in the automotive, electronics, and clothing industries. The starting point is the criticism of the theoretically simplistic debate about reshoring and deglobalization. In contrast to a reductionist comparison of offshoring and re/nearshoring, we highlight that economic globalization and global production networks are multiscalar and dynamic phenomena in which global outsourcing, regional production clusters, and locally concentrated operations are closely interrelated. The current design of global and regional production networks is based on the rationalization paradigm of flexible manufacturing aimed at achieving short-term efficiency. Lead firms thus minimize the costs of warehousing and redundancies and maximize flexibility and the acceleration of supply chains, which puts pressure on supplier firms and their workers. At the same time, global production networks are politically shaped phenomena. Corporate strategies are embedded in world trade regimes and industrial policies that may change due to geopolitical and economic tensions as well as increasing ambitions of (green) industrial policy.

The thesis of our article is therefore that the COVID-19 pandemic cannot be interpreted as a trigger for a general retreat from global production or even a deglobalization, but that it is reinforcing shifts towards more multipolar production and consumption structures that have been going on for

some time. The issue of global production network resilience has attracted greater attention in companies' strategic planning and states' industrial policies. Yet, increased localization and regionalization of production networks is only one of several strategies and one for which there has been little empirical evidence so far. Ongoing supply chain disruptions, rising transport costs, and, above all, trade tensions as well as geopolitically and environmentally motivated policies could well lead to greater re- or nearshoring and stronger regional bloc formation in the medium term. During the pandemic, the conflict over the contours of global trade and the importance of strategic industrial policy came to a head as issues of security of supply and technological sovereignty came to the fore. The post-COVID-19 phase will thus be significantly shaped by political objectives, which may have an impact on the geographic structure of production. However, political efforts may be limited by the continuing hegemony of the rationalization paradigm of flexible manufacturing, by pre-existing global economic development paths, and by the power relations associated with them, which makes a comprehensive deglobalization very unlikely. The Russian attack of Ukraine in February 2022, which reinforces geopolitical tensions, will very likely further drive a strategic reorientation in the geography of production and trade – less in the direction of backshoring but block building. The effects of this historical break cannot be assessed systematically in this article, also as they are not yet foreseeable.

Methodologically, the case studies – which look at production networks in three relevant sectors that have been characterized by a globalization of production in recent decades – are based on an analysis of secondary literature and an assessment of current sources on geographical restructuring in the context of the COVID-19 pandemic. These sources include industry coverage in relevant journals, portals, and

conferences or roundtables. Furthermore, a total of eight discussions and semi-structured interviews were conducted with industry experts as well as representatives of industry associations and companies from the three sectors.<sup>1</sup> Our methodological approach offers a theoretically informed snapshot that reveals trends and possible developments, but it cannot provide definitive findings on developments that are largely in flux and contingent in the face of increasing geopolitical – and since the Russian attack of Ukraine also military – conflicts. However, this analytical perspective based on current assessments by industry experts from academia and practice provided us with sound insights into current debates, processes of restructuring, and possible geographical shifts.

In the following, we first outline a theoretical perspective on economic globalization as a dynamic, multiscalar, and politically shaped phenomenon; this understanding underlies our investigation of possible shifts in the geography of global production networks. This begins in the next section with a description of geographical shifts since the global financial and economic crisis of 2008/09, as well as a critical discussion of the key economic and political drivers of these shifts. The interpretation of these longer-standing shifts is crucial to understand the developments in the context of the COVID-19 pandemic, which we discuss below. We provide an overview of the collapse of global production networks during the pandemic and the causes of ongoing supply chain disruptions and discuss the extent to which COVID-19 points to a qualitative shift in the geographical structure of value creation. An analysis of recent developments in the automotive, electronics, and clothing industries substantiates the assessment that the increased localization and regionalization of production networks is only one of several strategies and has hardly been empirically proven so far. In

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<sup>1</sup> These included three experts from business associations, three representatives and experts from the automotive industry, and two experts from the electronics industry. For the clothing sector, the analysis focused on reports from Just Style, Sourcing Journal, and Apparel Resources, as well as discussions at the Copenhagen Fashion Summit 2020 and 2021, GFA CEO Agenda 2021, and Sourcing Journal Summit 2020.

an outlook, we emphasize the necessity of a comprehensive politically motivated restructuring of global production networks in the context of the urgently needed socio-ecological transformation.

## 2 Globalization as a Multiscalar and Politically Shaped Phenomenon

The discussion on deglobalization often paints a bipolar picture of global production based on a reductionist global-local dichotomy and simplistic juxtaposition of offshoring and re/nearshoring. This neglects the fact that global production networks are dynamic and multiscalar – that is, they integrate different geographical scales and ranges of production processes (local, national, regional, global) in networks that are subject to constant change. Although, in many production networks, products are sourced from global suppliers, also importantly from countries in the Global South, global production has always had a local and regional dimension as well, with global outsourcing, regional production clusters, and locally concentrated operations being closely linked. Also in the most globalized sectors, such as the clothing or electronics industries, regional suppliers and concentrations of production in regional clusters play an important role. The automotive industry is even more regionally organized around key end markets. Some process-oriented industries, such as metal parts, paper, and cement, have always operated more intra-regionally (Lund et al. 2019, pp. 27–32). Moreover, generally speaking, regionalization is not necessarily the opposite of globalization; processes of regional concentration of production can, for instance, take place within the logics of global production networks.

The current shape of both global and regional production networks is based on a management orientation that focuses on short-term efficiency gains and just-in-time production. This leads to a reduction of

inventories and redundancies as well as increasing rationalization, flexibilization, and acceleration of supply chains. As argued below, this rationalization paradigm of flexible manufacturing remains hegemonic and is accompanied by the outsourcing of costs and risks from so-called lead firms to suppliers firms, who often pass on the pressure to workers. Even in classic labor-intensive industries such as the clothing sector, factors such as quality, speed, and flexibility, as well as the capacity of supplier firms to take on further tasks like warehousing and financing for lead firms play a central role in sourcing decisions, in addition to labor and other direct and indirect production costs (Palpacuer et al. 2005). Lead firms in innovation-intensive sectors such as the chemical, automotive, and electronics industries also make decisions on investment and sourcing based on criteria that go beyond (labor) cost considerations. This includes anchoring in complex ecosystems and clusters of R&D and manufacturing operations, resulting in combinations of “high tech” and “low wages” that are highly advantageous for lead firms (Baldwin 2016).

Moreover, investment and sourcing decisions by lead firms in many sectors not only aim at ensuring advantageous conditions for production, but also at market proximity and market access. This has further increased with the increased importance of markets in large countries of the Global South (Herrigel 2015; ten Brink und Nölke 2013). As a result, both production and innovation processes are increasingly differentiating into a multipolar structure. This also means that regionalization and

localization are not just synonymous with the near- or backshoring of production units to Europe or the United States. Regionalization and localization can also mean that European or American companies make investments in close proximity to Asian end markets or production clusters.

A sound assessment of the prospects for reshoring of production can only be made if we consider the multiscalar and dynamic form of global production. The organization and governance of global industries – that is, their geographic configuration, the forms of value creation and appropriation, and the distribution of costs and risks – crucially depend on the strategies and practices of lead firms, which can be understood as the primary *organizing agents* of global capitalism (Gereffi 1994, S.97). A company-centered perspective must, however, address the embeddedness of these actors in socio-spatial contexts and, in particular, their political structuring (Henderson et al. 2002). For instance, the strong development of global production networks since the 1970s and particularly in the 1990s and 2000s has not only been based on technological advances in transportation and information and communications technology, but on political decisions and efforts to create a global economic area with uniform

rules, secured by the World Trade Organization and bilateral and regional trade and investment agreements (Linsi 2021; Raza 2020a).

State regulations and policies are therefore central prerequisites for the current form of globalized production. Since the financial and economic crisis, the role of strategic industrial policy in the context of geo-economic and -political conflicts and international competitiveness and technological leadership and sovereignty has again gained in importance (ten Brink und Nölke 2013). During the COVID-19 pandemic, the need for government intervention to secure supply also attracted political attention, and calls for greater self-sufficiency in global supply relationships were made in the face of massive supply chain disruptions. The autonomy of states to act is nevertheless limited and conditioned by geo-economic and -political interests and international power relations (Linsi 2021; Raza et al. 2021). Finally, unintended consequences can also affect states' ability to exert control. Specific trade and industrial policies – for example, the recent trade restrictions between the United States and China – may lead to difficult-to-predict reactions by companies that run counter to the motivation of political actors (Gereffi et al. 2021).

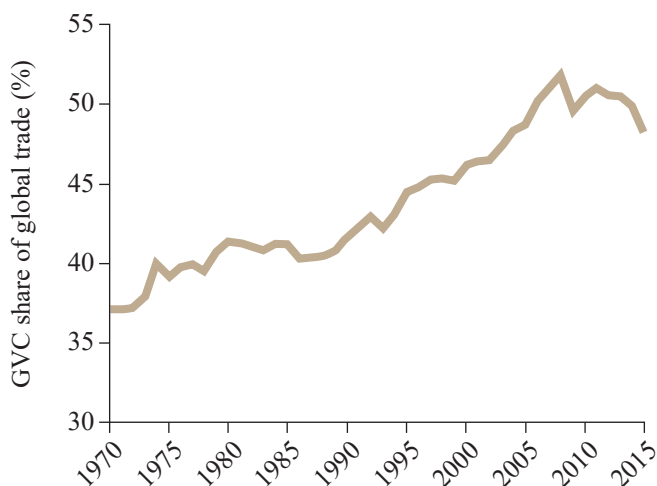
### 3 The Twilight of Globalization Before COVID-19?

The recent global supply chain disruptions are continuations of changes that were interpreted as an end of or retreat from globalization even before the pandemic (Cattaneo et al. 2010). While changes in the geography of production have indeed taken place since the economic and financial crisis 2008/09, the extent of deglobalization is often overstated. It is undisputed that the expansion of global production networks slowed during the past decade. Despite the recovery of the global economy after the financial and economic crisis, international trade and investment growth did not reach

pre-crisis levels, and trade in global production networks (statistically defined as goods crossing a border at least twice) has also stagnated at around 50% since then (World Bank 2020); in 2015, the figure was about four percentage points below the peak of 52% in 2008 (Antràs 2020; see Figure 1).



**Figure 1: Global production networks as a proportion of global trade**



Source: Antràs 2020

These shifts are centrally related to the changing role of China and other emerging economies in global production networks – not to any reductions in production capacity as a result of backshoring. The share of value added represented by the traditional global economic centers (EU, US, Japan) in global production networks for industrial goods decreased from 60% to 44% between 2000 and 2014. China quadrupled its share from around 5% to 20% in the same period (Turégano und Marchinski 2020). Although China continued to be a major hub in global production networks after the 2008/09 crisis, the Chinese growth model is now increasingly domestically centered. This is a consequence of rapidly growing domestic consumption and a push by the Chinese state towards greater economic independence, which is expressed, among other things, in industrial upgrading strategies such as the “Made in China 2025” digital strategy and the subsequent programs to promote artificial intelligence and the industrial internet (Butollo und Lüthje 2017; Schmalz 2018).

Regionalization is not only playing a more important role in relation to China. Since the beginning of the 2010s, the share of intraregional trade has again increased – from the historic low of around 45% in 2013 to 48% in 2017 (Lund et al. 2020, p. 38 f.). In certain regions, intra-regional trade plays an even more important role: For an average European country, about 65% of the intermediate goods imported for use in exports in 2017 came from another European country. In East Asia and the Pacific, the share of intraregional trade is 55%, while North America (39%), Latin America and the Caribbean (26%), and Sub-Saharan Africa (11%) have significantly lower levels of regional integration (World Bank 2020, p. 24f). The US–China trade conflict has further strengthened intraregional trade within these two blocs. However, a complete decoupling of the production networks is also very unlikely for China and the United States, as will be explained below.

Overall, then, we are dealing with a reconfiguration of the relationship between global and regional connections in production networks. After the phase of hyperglobalization in the 1990s and 2000s, there was a *slowbalization* and stronger consolidation of some production steps around regional hubs and a differentiation into a more multipolar world economy, mainly also due to the increased relative importance of consumer markets in the countries of the Global South (Horner and Nadvi, 2018). However, there was no general deglobalization trend, and even after 2008/09, global production networks remained of central importance.

## 4 Drivers of Spatial Restructuring

Five key drivers are mostly cited to explain *slowbalization* and an increased trend toward regionalization after the global economic and financial crisis 2008/09. However, it is important to take a differentiated look at these drivers.

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### 4.1 The vulnerability of global production networks to disruptions

The disruption of supply chains in the wake of the COVID-19 pandemic is a particularly drastic event, but it continues a trend towards disruptions that has increased significantly in recent decades (see Raza et al. 2021). This concerns, on the one hand, the accumulation of extreme weather events and natural disasters, such as floods, fires, and earthquakes. Extreme weather events are expected to increase as a result of climate change, which will further increase the vulnerability of supply chains to disruption (ibid.). On the other hand, interruptions and stresses caused by trade conflicts or cyberattacks are also on the rise. Supply chain disruptions have therefore ceased to be exceptional cases and are a constant burden on global trade. Disruptions lasting 1–2 months occur every 3.7 years according to a survey by the McKinsey Global Institute (Lund et al. 2020, p. 1), and such disruptions are quickly gaining global significance, especially because of the interconnectedness of production. While such disruptions invariably prompt calls to dismantle global supply relationships, such a response would not necessarily be effective, and a greater regional concentration of production could actually increase vulnerability to regionally concentrated shocks (Raza et al. 2021, p. 8).

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### 4.2 Increased labor costs

The glaring gap between labor costs at global export production locations and their target markets persists, but it has recently narrowed, especially with regard to China. In 2005, for example, the average wages of industrial workers in China were one-tenth of those of workers in the United States. In 2017, workers in the United States earned “only” about three times as much as their colleagues in China (Andersson et al. 2018). The decline in the cost gap is even more evident when we take typical nearshoring locations such as Turkey as a point of comparison. In 2017, employees’ wages in Turkey were 50% higher than those in China, whereas, in 2005, they were about five times higher (ibid). Purely cost-driven offshoring to China, the *factory of the world*, is therefore becoming less and less worthwhile. However, this should not be hastily interpreted as an indication of an end to global sourcing in general and China’s role as a hub of world market production in particular. As argued above, there are other factors besides labor costs that are central to being “interesting” for investments and orders, above all quality, delivery times, and flexibility. Furthermore, China – as well as few other classic export centers – now does not just produce cheap products but also a wide range of products of medium to sometimes high complexity and is integrated into regional development and manufacturing clusters (Butollo 2015; Andersson et al. 2018). The oft-proclaimed goal of overcoming China-centricity in sourcing is proving difficult to realize under these circumstances. “Cheaper” locations, such as Vietnam, Bangladesh, Cambodia, Myanmar, or even sub-Saharan Africa represent an alternative. However, economic catch-up processes and labor disputes are also leading to rising costs in some of these countries, and they cannot compete with China in terms of other factors (e.g., capacities and capabilities, range of services, quality, integration into local clusters).

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### 4.3 Digitalization of industrial production

The assumption that the digitalization of manufacturing could favor backshoring is based primarily on two assumptions (Kinkel 2020): First, labor cost differences could become irrelevant as a result of far-reaching automation. On the other hand, locating sites in the immediate vicinity of the respective consumer markets could offer competitive advantages because more flexible and customer-oriented production is becoming possible and increasingly relevant in the course of digitalization (“Industry 4.0”). However, such assessments usually remain abstract because frictional losses and the countervailing effects of digitization are neglected (Butollo 2020). Many interpretations uncritically adopt the narrative of a fourth industrial revolution, which includes technology-fixated misconceptions about substitution effects and productivity gains (*ibid.*). Additionally, they typically fail to consider that productivity increases are not limited to the countries of the Global North. In particular, catch-up automation in key locations in China and Eastern Europe (Butollo and Lüthje 2017; Schwarz-Kocher et al. 2019) is leading to increased relocation pressure in high-wage regions, as these locations can now combine lower costs with advanced production technology. Finally, as was already the case with the introduction of computing and the internet, new digital technologies represent important media for enabling as well as better coordinating and controlling cross-border production. Technological change therefore cannot be reduced to a trend toward reshoring or nearshoring.

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### 4.4 The reorientation of trade and industrial policy

Already since the financial and economic crisis of 2008/09, we have observed a renaissance of strategic industrial policy. Important reasons for this include geopolitical and economic shifts and the goal of defending - or regaining - the technological dominance of the USA and the EU, especially against China. Growth potential in technology-intensive fields, such as “green” or digital innovations, has attracted particular attention in this respect (Eder and Schneider 2018; Rodrik 2008). In the United States, since the Trump administration, there has been a shift toward a more protectionist and neomercantilist orientation (Helleiner 2019). Much of this realignment has continued under President Biden, with the administration placing a greater emphasis on reshoring through support programs in strategically important sector, especially in high-tech manufacturing in the context of competition with China, which ultimately led to the US-China trade war (Raza et al. 2021). In the context of the trade war, tariffs on Chinese products have increased more than six-fold from an average of about 3% in the first quarter of 2018 to nearly 20% in 2020. These tariffs affect two-thirds of all Chinese exports to the United States but there are also some product exemptions (Brown 2021).<sup>2</sup> In the EU this shift is not yet so clearly visible in economic policy discussions and, above all, in concrete policy measures; nevertheless, strategies and policies such as the new European industrial strategy (2020, and updated in 2021), the European digital strategy (2020) and the European Green Deal (2019) at least include the possibility of a comprehensive program of industrial policy making (Schlager und Soder 2020). Even though interventionist industrial policies can be key drivers of regionalization, there were only few concrete measures and results regarding the promotion of near- or reshoring before the COVID-19 pandemic, especially in the EU (see Raza et al. 2021).

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<sup>2</sup> Average tariffs on US imports in China also reached a value of around 20% in 2020 (Brown 2021).

#### 4.5 Policy responses to the climate and environmental crisis

These policy shifts and the formation of a new European Commission have also made the climate and environmental crisis more important in this context. In particular, the European Green Deal adopted at the end of 2019 is an illustrative example of “green” industrial policy (European Commission 2019). In addition to helping to achieve climate policy goals, the Green Deal is intended to promote competitiveness, innovation, growth, and employment in Europe and thus strengthen Europe’s position in the global economy. However, the financing of these projects has not yet been settled (Schlager et al. 2020). Moreover, the Green Deal mainly relies on

technology-focused efficiency strategies. Consistency strategies that aim to close material and energy cycles are partly relevant due to a focus on the circular economy (Pacts on Circular Economy 2015 and 2020), but sufficiency strategies that require a fundamental change in (global) production and consumption patterns, especially in the Global North, are lacking, as is a global perspective (Raza 2020b). A geographical shortening of global production networks could well be part of “green” industrial policies; however, the Green Deal does not contain any direct measures supporting nearshoring or regionalization. However, a serious pricing of CO<sub>2</sub> emissions and the planned carbon border adjustment mechanism for CO<sub>2</sub> would indirectly make global production more expensive.

## 5 The Anatomy of the COVID-19 Slump

The COVID-19 pandemic with its economic disruptions has now been combined with the bundle of economic and political changes outlined above, hence promoting a discussion about the dismantling of global production networks. In many cases, the pandemic has been interpreted as a trigger for an increased relocation of production, although, typically, no precise analysis of the differentiated causes of the economic disruptions following the Covid-19 pandemic were carried out. According to the United Nations Conference on Trade and Development (UNCTAD), the value of international trade (including services) and foreign direct investment declined by 10.5% and 37%, respectively, in 2020.<sup>3</sup> In this collapse, supply-side and demand-side factors (Baldwin und Freeman 2020) – that is, a shortage of raw materials, components, and end products on the one hand and a shift in demand on the other – have reinforced each other. These factors have had different impacts in different regions due to the sequential nature of the pandemic. In the first

phase, supply bottlenecks due to the extensive shutdown of production in China were of primary importance, while, in the later phase, the economic distortions were due to the various lockdowns in other regions of the world. Below, we outline the multiple pandemic-related causes of economic dislocation.

### 5.1 Supply-side factors due to the geographical concentration of production sites

Lund et al. (2020) have identified 180 products in global production networks for which one country was responsible for more than 70% of exports in 2018. This applies to various raw materials and important industrially produced goods and partly reflects China’s great importance as a production base for automotive components, electronic products, clothing, pharmaceuticals, and medical personal protective equipment (PPE). As a result of the pandemic in China, this concentration has led

<sup>3</sup> <https://unctadstat.unctad.org/EN/>, Accessed February 2, 2022

to shortages of important medicines, among other things (Gereffi 2020; Raza et al. 2021). The shortages of semiconductor chips that have plagued industries worldwide and led to disruptions in different sectors during the past years is also partly the result of an excessive concentration of production in few locations. These and other supply-side shocks have underlined perceptions of excessive economic dependence on China and spurred calls for reshoring and nearshoring. While media attention has focused on dependence on Chinese companies, most supply-side shocks did not mainly result from interruptions in and dependency on production in Asia, but were also due to disruptions in intra-regional production networks. The lockdown in Italy, for example, led to a suspension of deliveries of important components in the automotive industry (Buchenau 2020).

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### 5.2 Supply-side causes due to just-in-time production in global production networks

As the geographical locus of the pandemic shifted, the general vulnerability of many production networks became apparent, which is not primarily related to their geographical structure but to just-in-time production and the paradigm of flexible manufacturing. One aspect of this management orientation is the widespread practice of single sourcing – the concentration of the supply chain on a few key suppliers – which can reduce transportation costs and delivery times, increase flexibility, and achieve economies of scale (Petersen 2020). These management strategies make production networks more vulnerable to shocks and reduce their resilience, regardless of whether they are organized globally or intra-regionally.

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### 5.3 General production stoppages due to shutdowns and demand shortfalls

Although the pandemic revealed the crisis-prone nature of production networks in many industries, some production stoppages were not due to supply problems with semi-finished products. According to a study of the automotive industry, “the shutdown of operations triggered by the pandemic was by far the most frequently cited cause of disruption” (Frieske und Stieler 2020, p.31). Over time, many global production networks stabilized markedly and demand-side effects became increasingly apparent (Grömling 2020). A drop in demand led to a reduction of production in some sectors such as general consumer goods. Production segments were however affected very differently depending on whether sales declined, remained stable (in the case of staple foods), or increased (as in the case of medical PPE or disinfectants).

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### 5.4 Supply bottlenecks due to a surge in demand

The pandemic also brought about a change in the structure of demand, as certain goods and services were in greater demand as a result of the pandemic. This initially affected respirators and ventilators for intensive care units but also medicines. Bottlenecks were not primarily caused by the strong concentration of production, especially in China. Under normal circumstances, Europe is a net exporter of medical technology and medical protective equipment (Gereffi 2020). In fact, the shortages were due to a jumpy and impossible-to-predict surge in demand for a product previously used only in specific sectors. Even China, which had by far the largest capacity in the world, experienced shortages in the supply of respirators during the pandemic and eventually had to import nearly 2 billion masks, according to media reports (OECD 2020). During the pandemic, there were also significant increases in demand for a range of consumer goods such as furniture and electronic products. In the strategically-important semiconductor industry there has been

a major mismatch between supply and demand as well. The shortages of chips do not only result from supply-side disruptions, but are also a product of a hike in demand. Hence capacities worldwide are being ramped up, but due to the long-cyclical character of this sector, this will not lead to a short-term relief (Rapp and Möbert 2022).

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### 5.5 Chronic disruption of trade routes and rising transport costs

Pandemic-related disruptions have had a lasting impact on maritime trade in particular. The temporary closure or underutilization of seaports in the context of lockdowns, which occurred in various regions during the course of the pandemic, repeatedly led to selective disruptions. Normalization after such interruptions, which also included the coincidental accident involving a freighter in the Suez Canal, only took place weeks and months later, since any interruption had consequential effects on the trade routes: Ships became backed up in ports and could not be deployed, containers were stranded at coastal and inland transshipment points and so on (Kunst 2021). The significant increase in demand for consumer goods in 2021 has made normalization all the more difficult, as sea freight capacity is currently almost fully utilized and the backlog of goods cannot be cleared under these conditions (*ibid.*). Due to high demand, there have also been significant price increases, especially for short-term transport slots, which are currently a major inflation driver. A UN report estimates that overall transportation costs increased by 167% in the first year of the pandemic due to container shortages, limited port capacity, and high petroleum prices (UNCTAD 2021b).

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### 5.6 Policy interventions through trade policy restriction

Nearly 90 countries or entities introduced more than 284 temporary restrictions on exports following the onset of the COVID-19 pandemic, including Germany, the EU Commission, and Japan.<sup>4</sup> Such interventions led, for example, to China banning the export of masks made by the US company 3M, which manufactures in China, while the US government stipulated that 3M's US-made masks may not be exported to Canada or Latin America. Mutual export bans were also implemented within the EU at times. These bans also affected products such as food and toilet paper. Almost all OECD countries and emerging economies however also supported the development or expansion of local manufacturing capacity for the production of PPE and PCR tests (Raza et al. 2021). In China, for example, production of face masks was ramped up from 20 million to 110 million units per day as early as February 2020, and by the summer, production had reached 200 million per day. PCR test production increased from near zero to 2.6 million per day by mid-March 2020 (Duchâtel et al. 2020). This output was used internally but also exported.

This differentiated look at the various causes of the interruptions and stagnations in production networks puts in perspective the perception that the global structure in general and dependence on China in particular were the key reasons for the economic disruptions in the wake of the pandemic. Instead, as the pandemic shifted geographically, intraregional disruptions and shifts in demand emerged as major causes of difficulties in different sectors. Since 2021, the focus has again been on capacity bottlenecks and chronic congestion in maritime trade with the resulting hike in transport costs. Continuing disruptions and transport cost increases will, of course, raise questions about the future viability of globalized production in general and the just-in-time production model in particular.

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<sup>4</sup> [https://www.wto.org/english/tratop\\_e/covid19\\_e/trade\\_related\\_goods\\_measure\\_e.htm](https://www.wto.org/english/tratop_e/covid19_e/trade_related_goods_measure_e.htm), accessed May 12, 2021

## 6 COVID-19 as a Catalyst for a Geographical Restructuring?

The discussed economic turbulences and the ongoing disruptions in global production networks in the context of the COVID19 pandemic have led to a heightened awareness of dependencies on global supplier firms and regions for certain product groups and led to intensified debates on the “resilience” of global production networks (siehe Raza et al. 2021), which is understood to mean the ability to adapt and safeguard existing economic interactions. Surveys indicate that many companies intend to give greater priority to supply chain security over mere cost issues (Buchenau und Fröndhoff 2020). A global survey of corporate managers by management consultants Ernst and Young in April 2020 showed that 83 % of respondents are also considering a reshoring or nearshoring of production (Teigland et al. 2020).

Based on such surveys, at times exuberant expectations have been formulated regarding the scaling back or restructuring of global value creation (Haass 2020; Irwin 2020). However, these could prove to be a fallacy. Similar predictions were made after the financial and economic crisis of 2008/09 and also after the nuclear accident in Fukushima in 2011. However, a lasting decline of global production and sourcing failed to materialize. Economic interdependence has actually increased, and China’s role in particular has become even more significant (Baldwin und Freeman 2020). Precisely because of the pandemic, countries in the Global South are also under structural pressure to increase their integration into global production networks, because capital outflows and foreign debt have increased (UNCTAD 2021a). In this vein, dampening nearshoring expectations, at a similar survey on re- and nearshoring in October 2020, only around 37 % of respondents stated that are considering reshoring (Teigland et al. 2020); much less than in the Ernst and Young survey in April 2020.

Although the COVID-19 pandemic is different from selective shocks or crises because of its global scale and long-lasting knock-on effects, significant persistent forces are at work. This is not only due to the general and continuing focus on just-in-time production and short-term efficiency gains, but is also linked – as the sector studies in the following section will also show – to the path dependencies of the existing international division of labor and the concentration of production capacities and -capabilities in difficult to substitute clusters. At the same time, according to a study by the IFO Institute, genuine dependencies on difficult-to-replace suppliers only exist for about 5 percent of semi-finished products. Of this, in turn, overseas suppliers only account for a fraction – in the case of China, it is mainly bicycle frames, magnets, and ornamental items (Flach et al. 2021, p. 14–19). Market-driven reshoring or nearshoring can therefore only be expected in very isolated cases and for specific product groups, but this can be reinforced through continuing disruptions and increasing costs in transport.

Accordingly, despite all the rhetoric, there has been no consistent geographic reorientation of investment and sourcing strategies of lead firms to date. Instead, alternative resilience-oriented sourcing and investment strategies by lead firms are definitely being pursued. A recent study on the subject states: “Regardless of the sector, a majority of companies plan to better diversify their sourcing, increase warehousing, and more vigilantly monitor supply chains in the future. Reshoring [...], nearshoring, or insourcing, on the other hand, are mentioned relatively rarely and are usually considered by no more than one in ten companies” (ebd., p. VIII).

Efforts to intensify monitoring, conduct due diligence on suppliers, and strengthen logistics infrastructures are not about dismantling global production networks but rather about securing them.<sup>5</sup> As is also shown by the sector studies in the following section, the response of lead firms rather seems to lie in an enhanced focus on flexibility and the use of digital technologies to maintain global sourcing and investment – not a retreat from the principle of just-in-time production. The increasing diversification of production networks, which aims to help avoid localized shocks, is in turn in conflict with strategies of intraregional *concentration* through backshoring. A stronger diversification could also further shift the power relations in favor of lead firms, as they can play suppliers off against each other.

Such distributional conflicts within production networks have generally received limited attention in the reshoring debate. In the context of large power asymmetries between lead firms and suppliers, it is likely that suppliers will ultimately bear the costs of higher inventories, redundancies, and transportation. Even before COVID-19, warehousing had not completely disappeared as part of the just-in-time paradigm but had been handed over by lead firms to suppliers, who had to deal with the costs and risks. Right from the start of the pandemic, lead firms also attempted to pass on the costs of the lockdown-related drop in demand to suppliers by canceling orders, not paying outstanding invoices, or paying them only partially or too late (for the clothing industry, see McNamara 2020). Conflicts over the distribution of costs and risks and underlying power asymmetries make it difficult to reorient sourcing strategies, as orientations that could increase resilience from a systemic perspective may be in conflict with the self-interests of lead firms but also supplier firms and logistics providers.

A more relevant consideration regarding the geographic structure of production in the post-COVID-19 phase concerns policy initiatives to reorganize production and trade. The trend toward more strategically-oriented interventionist trade and industrial policies was gaining momentum in the US and EU even before the pandemic, primarily due to geoeconomic and -political motivations, but it was reinforced by COVID-19 and expanded by the topic of supply security of strategically-important goods and services (Dullien 2021). In the EU, particularly the concept of (open) strategic autonomy has gained importance. The European Commission's *Next Generation* recovery plan, which it established in response to the pandemic, promotes, among other things, a stronger presence of European firms in digital supply chains<sup>6</sup> and the Strategic *Investment Facility* aims to increase resilience and strategic autonomy in key technologies and supply chains and to reduce dependence on external suppliers.<sup>7</sup> *The Foreign Investment Screening* regulation, which is intended to impede foreign (and especially Chinese) takeovers in the high-tech sector, has also gained in importance in the context of the COVID-19 pandemic.<sup>8</sup> The current EU industrial strategy furthermore entails the monitoring of strategic dependencies in specific products and the definition of six strategically important areas – raw materials, batteries, pharmaceutical components, hydrogen, semiconductors and cloud and advanced technologies. *Important projects of common European interest* (IPEIS) are supposed to strengthen intra-European value chains through transnational cooperation and state support, which, however, so far mainly benefits large companies in large member states (see Berger und Soder 2021). Like the US Chip-Act, the European Chip-Act is supposed to strengthen the competitiveness, the technological leadership and the resilience in the field of semiconductors.

<sup>5</sup> For instance, the world's largest logistics company, DHL, is also aiming to anticipate risks such as "natural disasters, cyber attacks, and rapidly changing regulatory conditions" and is seeking to protect global supply chains against these risks with its startup "Resilience 360" (DHL 2019).

<sup>6</sup> [https://europa.eu/next-generation-eu/index\\_de](https://europa.eu/next-generation-eu/index_de)

<sup>7</sup> <https://www.consilium.europa.eu/de/policies/investment-plan/strategic-investments-fund/>

<sup>8</sup> [https://ec.europa.eu/commission/presscorner/detail/de/ip\\_20\\_1867](https://ec.europa.eu/commission/presscorner/detail/de/ip_20_1867)



These EU policies represent a change in the strategic orientation and they contain stronger interventionist role of the state in industrial transformation. However, they remain generally faithful to the market- and competition-centered orientation that underlies the European integration project (Berger und Soder 2021). The establishment of local or regional production networks has played also only a minor role up to now and is limited to specific products such as semiconductors or batteries for electric mobility. The extent to which the intention to promote local or regional production structures in these and other strategically important products will be reflected in voluminous funding programs and if such programs will be successful is still unclear. Still, politically-driven re- or nearshoring can potentially become more relevant than market-driven reshoring on behalf of lead firms.

More likely than a comprehensive deglobalization is finally a stronger, geopolitically induced rift between rival world regions such as the US and China and their “friends”, which was called by the US *Treasury Secretary* Janet Yellen in April 2022 as „friends/ally-shoring“; hence, the relocation to countries that are seen as partners irrespective of their geographical location.<sup>9</sup> The geopolitical turning point in the wake of Russia’s attack on Ukraine strengthens this tendency and may well lead to a strategic reorientation in the geographies of production and trade. Yet, such efforts are also limited to a certain degree by the global economic development paths that have evolved and the interests and balance of power associated with them.

## 7 Geographical shifts in the Automotive, Clothing, and Electronics industries

### 7.1 COVID-19 as a trigger for intra-regional shifts in the automotive industry

The COVID-19 pandemic was a real shock to the global automotive industry. The key factor was not just supply chain disruptions but also a collapse in demand. In the first half of 2020, sales in the major sales regions of China, the United States, and Europe fell by 28%; calculated for Europe alone, the decline was as much as 39% (VDA 2020). However, original equipment manufacturers (OEMs) seem to have come out of the crisis very well. Daimler, for example, reported an increase in profits of around 50% compared to 2019 despite the drop in sales (also as a result of extensive government support), and the situation seems to have stabilized quite quickly after the initial shock in spring

2020 (ZEIT ONLINE 2021). As in the global financial and economic crisis of 2008/09, crisis-related mass layoffs in some EU countries were cushioned by extending short-time working benefits, although this has been associated with painful salary cuts, especially for lower income groups. Major job cuts were nevertheless announced and carried out by global manufacturers in 2020, although these were largely a continuation of general rationalization measures that had already begun before the pandemic (Reimann 2020). The production shutdown during the lockdown, which meant that companies faced the challenge of ramping up production again, may act as a catalyst for more general spatial restructuring decisions. However, this is more likely to involve further offshoring of manufacturing steps than a reshoring of production capacities.

<sup>9</sup> <https://www.atlanticcouncil.org/news/transcripts/transcript-us-treasury-secretary-janet-yellen-on-the-next-steps-for-russia-sanctions-and-friend-shoring-supply-chains/>

The industry is, more generally, a vivid example of a multiscale industry in which processes of global fragmentation and regional integration overlap. While many simple components are manufactured globally, along with a growing proportion of electronic elements, an intraregional structure in which end manufacturers and large numbers of supplier firms are located in geographical proximity to the most important sales markets dominates overall (Sturgeon et al. 2008). The decisive factors include catering to regionally specific customer preferences and industrial and trade policies, which, due to the high importance of the sector for employment and value creation, rely on an extensive localization of production. An intraregional division of labor, in which wage cost differences within the triad play a major role, is additionally characteristic of global production. OEMs and suppliers have, for example, built up extensive production capacities in Mexico (target market: the United States) and Central and Eastern Europe (target market: Central Europe) in recent decades.

From the perspective of European production sites, the tendency to set up manufacturing structures close to major target markets has been associated with a loss of manufacturing. Because production is increasingly *intra-regional* and the focus of global demand has shifted to Asia, capacities that previously enabled exports to other world regions have therefore been lost. By now, more than two thirds of German automakers' sales revenues are generated abroad.<sup>10</sup> Industry experts expect the COVID-19 crisis to reinforce this trend, if only because the weak recovery of the European markets will make Asian markets even more of a growth engine for the automotive industry.

Another level of restructuring relates to the ongoing, costs-driven shift in European companies' value-added production locations in the employment-intensive supplier sector. The share of employment represented by Central and Eastern European suppliers working for German brands increased from just under 40% to around 48% between 2008 and 2016 (Frieske et al. 2019, p. 74). An industrial upgrading of these locations, which no longer differ greatly from the German plants in terms of technology and which are increasingly also performing some development tasks, also plays a role here (Schwarz-Kocher et al. 2019, S. 109–136).

The transition to electromobility is now deepening this intra-European division of labor and having dramatic effects on employment. OEMs are no longer making major investments in the further development of the combustion engine. However, according to industry experts, this is weakening the position of German-based supplier locations in the employment-intensive fields associated with the conventional drivetrain. Simple adaptations can also be made by development departments in Eastern Europe, where they can be combined with more cost-effective production. The current move away from combustion engine technology is therefore leading to increased relocation pressures, and it is considered unlikely that new investments in e-mobility will be able to compensate for these employment losses (Frieske et al. 2019).

Currently, these structural upheavals are being combined with the COVID-19 crisis. The slumps in sales markets and disruptions in supply chains are also exacerbating pre-existing cost pressures. It is therefore not reshoring that is the most likely outcome in this context but an acceleration of production relocation from Central to Eastern Europe as well as a further shift in market and production volumes toward Asia. On the other hand, prompted by the pandemic, industrial policy initiatives are emerging to promote structural change in current

<sup>10</sup> <https://www.vda.de/de/aktuelles/zahlen-und-daten/jahreszahlen/automobilproduktion>, accessed March 3, 2022.

industrial core regions to retain manufacturing capacities. The German government, for example, is promoting investments in process and business model innovation as well as in electromobility and autonomous driving as part of its economic stimulus package (BMW 2021). Nevertheless, it remains unlikely that such approaches can counteract the relocation and globalization trends in the sector.

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## 7.2 COVID-19 as an accelerator of restructuring and digitalization in the clothing industry

The clothing sector was greatly affected by the COVID-19 pandemic and by related supply and demand side disruptions, which unleashed far-reaching economic and social impacts on supplier firms and workers. This is related to the global and fragmented nature of the supply chain, which is characterized by the dominance of just-in-time production and therefore low inventories, short delivery times, and flexible production. The first supply chain disruptions occurred in the early 2020s with the outbreak of the pandemic in China, the world's largest textile and clothing exporter, and related production stoppages. As the pandemic spread, supply chain disruptions, including restrictions on transportation links and logistics services, occurred in all regions. This was followed by falls in demand due to lockdowns in consumer markets. In response, some major fashion brands in the EU and the USA canceled their orders due to "force majeure" clauses and refused to pay their suppliers up to \$16 billion in outstanding invoices during the first months of the COVID-19 pandemic (McNamara 2020). In addition, many lead firms took advantage of the pandemic to exert price pressure, delay payments, and weaken contracts. In this context, a clothing-sector survey among 75 supplier firms from 15 countries showed that the average payment terms of lead firms to suppliers increased from 43 to 77 days, with a simultaneous drop in prices by 12% (Anner 2020).

Despite the highly labor intense nature of the clothing sector and a shift of production to Asia in past decades, regional supplier countries for end markets in the EU and the United States – Central/Eastern Europe and North Africa for the EU and Mexico, Central American, and Caribbean countries for the United States – still play a role in the sector's geography. Proximity to end markets and flexibility are relevant in the context of fast fashion, as are regional trade agreements (Pickles et al. 2015). Given this multiscalar design of production networks, the Covid-19 pandemic tends to reinforce longer-standing restructuring processes and associated relocation processes (Barrie 2020; ILO 2020). However, these only to a certain extent involve re- or nearshoring.

Rising costs, especially in China, problems regarding compliance with social and environmental standards, and changes in industrial policy toward high-tech sectors in China and other Asian countries have driven shifts over the past decade that were accelerated by the US-China trade war. The COVID-19 pandemic has reinforced these processes, which primarily amount to a diversification within Asia and away from China. In a survey conducted by consulting firm QIMA in spring 2020, more than half of EU-based companies said they had no plans to relocate in the near term; a third of respondents in Asia (outside China) said the same. In contrast, nearly 95% of US-based companies surveyed said they wanted to change their supply structure due to the COVID-19 pandemic and the trade war with China. The most frequently mentioned new key supplier locations were Vietnam (preferred by half of respondents) and South Asia, especially Bangladesh and India (preferred by 30% of respondents) (Barrie 2020). Nevertheless, China continues to be of high strategic importance due to the broad product range and high volumes it offers, its high production flexibility, and its importance as a sales market (Langro und Lu 2021). The latter plays a central role in lead firms' growth strategies, rendering regional supply chains within Asia increasingly important and prompting an expansion of European and American retailers and brands in China and other Asian markets (ILO 2020).

One driver of re- and nearshoring, however, could be the disruptions and cost increases in maritime trade. It is not yet possible to assess how lead firms will deal with this. A 2021 survey of 10 large US and European companies by the consulting firm McKinsey suggested that 70% of these companies are planning to increase nearshoring and 25% are even planning to relocate back to the country of their head office. The materialization of this is however highly uncertain. Relocations to Turkey could however be particularly important. In the last decade, Turkey, viewed as a nearshoring location, featured among the top 5 sourcing locations for the first time (alongside Bangladesh, Vietnam, Indonesia, and China). Yet capacity bottlenecks are a problem, making a general retreat from overseas sourcing virtually impossible at present (Hedrich et al. 2021).

At the level of production network organization, it is expected that there will continue to be increases in consolidation at the first supplier level, focusing on core suppliers and especially transnational Asian producers, in the context of uncertainties due to the COVID-19 pandemic. These first-tier suppliers can manage the entire supply chain, possibly also vertically organizing the entire production process in one location, but can also flexibly draw on different production countries. This could lead to a shortening and simplification of supply chains but not to a reduction of their global reach. This would further weaken the position of smaller producers. Insolvencies in the wake of the COVID-19 crisis are reinforcing these trends (ILO 2020).

The use of automation and digitalization in textiles production and logistics, to predict consumer trends and to manage quality and compliance is one of the core strategies of the clothing sector's (lead) firms in the context of fast fashion. This particularly applies to the use of automation and digitalization to monitor and control supply chains, given that the automation of apparel production (in contrast to textile production) continues to play a minor role

despite experiments in robotics. Nearly two-thirds of respondents to the aforementioned QIMA survey stated that COVID-19 had further increased their efforts to digitalize their supply chain (Barrie 2020). Online commerce and the use of social media as a way of obtaining customer loyalty have also increased sharply as a result of COVID-19. Ultra-fast-fashion companies based in Great Britain – such as *Asos*, *Missguided*, or the *Bohoo Group* – are the winners of the COVID-19 crisis (Butler 2020) although their sales (still) represent less than 1% of the global fashion industry. They specialize exclusively in online retail and intensify the fast fashion model, for example, with delivery times of less than two weeks and up to 4500 new products per week (Wahnbaeck 2019). These companies are setting standards in the area of supply chain digitalization with their data-driven, responsive production and capacity to anticipate customer preferences (Camargo et al. 2020). These trends have implications for the entire clothing industry. Fast fashion retail chains such as Zara and H&M are also increasingly relying on online retailing (López et al. 2021). Despite the extremely short delivery times and some production near distribution centers in the United Kingdom, a look at the totality of ultra-fast-fashion companies' supply chains shows that the majority of products are manufactured by suppliers in Central and Eastern Europe but also in Asia (Asos 2021; Missguided 2021).

Another important trend is the rise of sustainability regulations and initiatives due to the significant environmental impact of the global textile and clothing sector (Niinimäki et al. 2020). In this context, increased regulatory initiatives at the European and national levels can be observed in recent years, such as the Green Deal and the Circular Economy Action Plan, in which the textile sector is a priority sector (Chua 2021) and the EU textile strategy.<sup>11</sup> Against the backdrop of these regulatory changes, but also based on the increasing importance of a “sustainable” image for fashion companies, an

<sup>11</sup> [https://environment.ec.europa.eu/strategy/textiles-strategy\\_de](https://environment.ec.europa.eu/strategy/textiles-strategy_de)

increase in in-house sustainability initiatives and multi-stakeholder initiatives can be observed in recent years. Higher environmental standards for supplier firms and the necessary infrastructure could increase nearshoring processes. However, companies and governments in manufacturing countries in Asia and new supplier countries such as Ethiopia are also investing in this area (Jensen and Whitfield 2022).

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### 7.3 COVID-19 and the new China+1 strategy in the electronics industry

In its first phase, the COVID-19 pandemic had a significant impact on the global electronics industry due to its heavy concentration in China (IndustriALL 2020). The associated supply chain disruptions quickly impacted other manufacturing countries, such as Malaysia and India. This was followed by demand-side effects in the context of lockdowns. However, at the same time, the pandemic boosted sales, as products for remote working and cloud computing were in greater demand. In response to the supply chain disruptions, various players, especially in the electronics sector, announced that they would reduce their dependence on Chinese production sites and increase the resilience of supply chains. This could reinforce the pre-existing “China+1” strategy adopted by lead firms and contract manufacturers. Strategies centering on diversification beyond China were however being pursued even before the pandemic, due to rising labor costs, concerns about intellectual property protection, and geopolitical changes (Patterson 2020); and have been very difficult to realize.

In general, the geography of production in the global electronics industry is characterized by multiple fragmentation and reintegration processes and is just as complex as in the automotive industry. One major difference pertains to the higher number of end products with greatly differing supply chains. For example, at global market leader Samsung, cell phone manufacturing is highly globally concentrated – around half of all Samsung cell phones come

from its plant in Vietnam, from where they are distributed to regional hubs, such as Samsung’s Slovakian plant, for fine-tuning prior to European distribution. In contrast, more decentralized production processes are evident in industrial or medical electronics, where the importance of public and private regulations for specific end markets is more significant, as are time-critical services such as maintenance and repair (Hamrick und Bamber 2019). Digitalization adds to this diversity, as electronic components and digital technologies increasingly find their way into other industries – for instance, electromobility, smart clothing, and the healthcare sector (Raj-Reichert 2018).

Notwithstanding this diversity, China plays a special role as the center of gravity of global electronics manufacturing, a situation that has emerged due to extensive outsourcing to contract manufacturers such as Foxconn, Felxtronics, Jabil, or Compal and Asustek (Lüthje et al. 2013). The spatial concentration of manufacturing in China has long since ceased to be purely based on cost but is related to the complex ecosystem of development and manufacturing operations for a wide range of components. By making investments in other locations such as Vietnam, manufacturers and lead firms are attempting to diversify, but they have not gone beyond supplementing their China-centric production networks (Pandit 2020). Notwithstanding the global shift toward Asia, electronics industry production networks have a significant macro-regional component, depending on the product type and manufacturing process – i.e., final assembly sites are established in close proximity to key sales markets – Central and Eastern Europe for key and markets in Europe and Mexico for the US (Lüthje et al. 2013).

In the wake of the COVID-19 crisis and the increased attention to the dependence on electronics manufacturing in Asia, as well as the geopolitical rivalries that have been on the rise for some time, especially between the United States and China, but also between the EU and China, initiatives for a geographic reorientation of sourcing could gain

traction. Hence, calls for a backshoring or rebuilding of industrial capacity in the electronics industry in the EU and US have a clear geopolitical dimension. The growing rivalry between the United States and China is about leadership in key technologies, such as artificial intelligence or the internet of things. And since these and other products are the basis for communications infrastructures and a wide range of products, the question of the geography of production also touches on the issue of technological sovereignty in the face of increasing trade conflicts.

Against this backdrop and in connection with the Green Deal, the EU is also promoting industrial policy initiatives to support strategic value chains. Since 2014, there has been the Electronic Components

and Systems for European Leadership (ECSEL) program, a public-private partnership. However, it is questionable whether such lofty goals can be achieved with the resources deployed – ECSEL's ten-year budget is just €5 billion. Given the extensive loss of industrial production and the concentration of manufacturing capacity and expertise in industrial clusters and ecosystems in Asia, larger investments or stronger government intervention would probably be necessary to drive substantial reindustrialization (Beattie 2020; Thun et al. 2021). And fundamentally, the extent to which production relocalization can succeed in the short term in an industry that has been one of the most globalized sectors for decades remains an open question.

## 8 Conclusions

Taking an understanding of globalization as a multiscalar and politically shaped phenomenon as the point of departure, the brief synopses of restructuring processes in three major sectors of the economy demonstrate that it would be premature to assume a general trend toward re- and nearshoring or even a deglobalization in the wake of the COVID-19 pandemic. The strategies of lead firms aim to combine decentralized sourcing with the advantages of regional manufacturing hubs and easy access to relevant target markets. Crucially, they do not depart from the paradigm of just-in-time production. In the automotive industry, which had been organized primarily intra-regionally, the consequences of the pandemic are most likely to drive increased offshoring of manufacturing capacity to lower-cost border locations in connection with the transition to electromobility. In the clothing industry, high transport costs, ultra fast fashion, and higher environmental standards could well promote tendencies toward nearshoring, which, however, is not equivalent with a general dismantling of global sourcing. In the electronics industry, which has a pronounced global

scope, there have indeed been government-driven attempts to re-shore the production of key components. However, it remains to be seen whether these will be successful, and in any case, they only concern a small proportion of the production and trade volume. In all three sectors, the response to COVID-19 seems to entail putting an increased focus on short delivery times, flexibility, and the use of digital technologies rather than on a fundamental dismantling of globalized production.

Overall, therefore, despite the epochal, pandemic-induced convulsions of global production networks, the global economy is still exhibiting continuity in its socio-spatial structure rather than undergoing a fundamental reorientation. However, the issue of resilience, in the sense of supply chain security, has received increased attention in the wake of COVID-19. The pandemic coincides with existing trade and industrial policy efforts in the US and in Europe to gain competitiveness and technological leadership in strategic fields, as well as to reduce dependencies, especially with respect

to China. Increased economic and political momentum is to be expected here, although it is more likely to affect strategically important segments of global production networks (e.g., semiconductor chips, electric batteries, or certain medical products and medicines) rather than aiming at a general geographic reorientation of production. Geopolitical conflicts increased due to Russia's attack of Ukraine and reinforce block building; concrete effects on a politically-driven fracturing or bifurcation of world trade still need to be seen.

Yet despite such trends, political goals are contested and also conflict with the balance of power and path dependencies in a multipolar world order. Free market dogmas in trade and competition policies remain strongly entrenched in the EU and also in national institutions. Moreover, political proclamations often do not coincide with the goals of (lead) firms in various industries. Political initiatives to encourage a comprehensive geographic reorientation would thus have to mobilize considerable resources and accept conflicts, neither of which are evident from the statements made so far. For lead firms, the medium-term consequences of the pandemic could, prompt them to become even more focused on (short-term) cost-orientation and flexibility rather than resilience in their decision making and ultimately mean that the new awareness of global production networks' fragility gives way to *business as usual*.

But the pandemic can also provide an opportunity. The experiences with the pandemic provoke more fundamental questions about the sustainability of our economic order. As governments worldwide intervened to stabilize economic relationships, the question arises to what extent and by what means industrial and trade policies can become the driver of a restructuring of global production networks and a socio-ecological transformation. The necessary decarbonization of the economy presupposes an unbundling of global production networks and

a greater regionalization and localization of the economy. This does not amount to intra-regional self-sufficiency but to a sectorally differentiated deglobalization of production networks. For example, it would be impossible and absurd to try to locate electronics production as a whole at the local level. In contrast, a number of economic activities connected to everyday necessities (e.g., food, clothing, furniture) as well as critical medical or pharmaceutical products could very well take place more at the regional or local level. A strengthening of localized economic cycles that address people's basic and universal needs is at the heart of alternative development strategies, such as the concept of the foundational economy<sup>12</sup>, which envisions a reorganization of public services (water, energy, mobility, health, education), the production of goods and services necessary for daily survival (food, housing), and certain consumer goods (clothing, furniture) based on social objectives.

For countries in the Global South, such orientations in the EU or the US would amount to a reduction in their exports, but they would also offer opportunities to refocus away from primarily export-oriented development models and a one-sided focus on the world market. A strategic and selective decoupling from global production networks and alternative integration projects within local and regional production networks could help broaden the industrial base and strengthen economic independence. However, the utilization of this potential depends not least on industrial policy measures and the policy space in countries of the Global South that has been through current trade policy and related agreements declined.

The reconstruction of the global economy in the context the COVID-19 pandemic should be guided by such a selective deglobalization in the interest of a socio-ecological transformation of the economy. Government trade and industrial policy, which is now attracting greater attention, has suitable instruments for such a transformation. Such instruments

<sup>12</sup> <https://foundationaleconomy.com/>

would however significantly interfere with (lead) firms' decision-making. Subsidies for companies and industrial policy measures should, for example, be linked to the implementation of climate protection policies and compliance with social objectives. What is more, a reversal of trade policies that for decades were directed at generating export surpluses and industrial policies that were geared solely toward global competitiveness is urgently needed. This requires a new generation of fair trade agreements that ensure binding compliance with social and environmental standards and the fair distribution of economic gains, costs,

and risks; grant policy space for development strategies (also within the EU); and focus on the basic needs of people in the Global North and Global South.<sup>13</sup> One important field for a reorganization of the global economic order with a view to ensuring sustainability and global justice is the supply of medical products, medicines, and vaccines. In this regard, the political handling of the pandemic has highlighted the enormous inequalities on a global scale that need to be tackled.

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<sup>13</sup> <https://www.anders-handeln.at/>



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