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Editorial

Globalisation in reverse? Reconfiguring the geographies of value chains and production networks

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Standing at a crossroads, where ongoing 'slowbalisation' coincides with new forces such as the outbreak of the Covid-19 pandemic, heightened geopolitical tensions, the emergence of disruptive technologies and the increasing urgency of addressing environmental challenges, many important questions remain unsolved regarding the nature and impact of the current economic globalisation. This special issue on 'Globalisation in Reverse? Reconfiguring the Geographies of Value Chains and Production Networks' aims at showcasing recent work that seeks to contribute to, and advance, the debates on economic globalisation and the reconfiguration of global value chains and production networks. This introductory article has three objectives: first, based on a broad literature review, we aim to identify four key forces, as well as the fundamental relatively stable capitalist logics contributing to the complex reconfiguration of global economic activities. Second, we will position the papers included in this special issue against the four main forces identified and discuss the contributions of each article to capture some emerging cross-paper patterns among them. Finally, we outline the contours of a research agenda that suggests promising avenues for further investigation of the phenomenon of value chain and production network reconfigurations in times of uncertainty.

Keywords: globalisation in reverse, global value chains, global production networks, reshoring
JEL classifications: O18, R11, R12

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Introduction

This special issue on 'Globalisation in Reverse? Reconfiguring the Geographies of Value Chains and Production Networks' aims at showcasing recent work that seeks to contribute to, and advance, the debates on economic globalisation and the reconfiguration of global value chains and production networks. The end of the Cold War set the scene for a period of globalisation that is still often referred to as the 'golden era' of globalisation, or even hyperglobalisation (e.g. Titievskaia *et al.*, 2020). The 1990s wave of neoliberal economic globalisation, spearheaded by the USA, was characterised by the proliferation of bilateral and multilateral preferential trade agreements, the increase of offshoring production abroad and intensified cross-border trade, including a growing fragmentation and trade in tasks.

Such forms of intensive globalisation started to slow down after the global financial crisis in 2008. The Economist (2019) termed this new pattern of world commerce 'slowbalisation', as cross-border investment, trade, bank loans and supply chains began to slow, and globalisation has increasingly given way to a new era of sluggishness (World Bank, 2020). In the last two years, the outbreak of the Covid-19 crisis and the strict measures taken by national governments to prevent the spread of the virus have exacerbated these slowbalisation tendencies, further depressing the growth of world trade (The Economist, 2019; Titievskaia *et al.*, 2020).

Standing at this crossroads, where ongoing slowbalisation coincides with new forces such as the outbreak of the Covid-19 pandemic, heightened geopolitical tensions, the emergence disruptive technologies and the increasing urgency of addressing environmental challenges, we have increasingly seen government initiatives in many parts of the world that seek to reverse aspects of globalisation, to the extent that the spectre of economic nationalism raises its head again (Hess, 2021). Evidence of pro-reshoring and policies seeking to domesticise/regionalise value chains are visible in the major economies today (Elia *et al.*, 2021). In the UK, a national policy called *Reshore UK* was announced in 2014, aiming at encouraging manufacturing firms in key sectors, such as space, marine, energy, medical and healthcare, aerospace, etc., to move back production that was previously relocated to foreign countries (Pegoraro *et al.*, 2021). In the USA, the Biden administration has pledged billions of dollars to restore the resilience of US key supply chains purportedly made vulnerable through extensive offshore production (White House, 2021). In China, the 'Made in China 2025', the 'dual circulation strategy', and the 'Belt and Road Initiative' have also shown the country's determination to reach technological autonomy, develop new markets, as well as to secure the supply chains for its domestic high-tech sectors (Brakman *et al.*, 2019; Zenglein and Holzmann, 2019).

Economic globalisation, it seems, is at a critical conjuncture (Coe and Yeung, 2019; Martin *et al.*, 2018). The international division of labour (Hudson, 2016) and the unstoppable forces of capitalism are continually being juxtaposed with different forces and challenges and thus lead to the complex reconfiguration of global production and consumption. The result of such reconfigurations, according to Martin *et al.* (2018, p.10) are leading to '… *a finely grained, multiscale, territorial patchwork of diverging real incomes and rates of labour-force participation: between states and regions; within regions; between core areas and peripheral areas; and between prosperous metropolitan regions and less-prosperous ones*'.

While evidence of the slowdown of the global trade, as well as the increasing fragmentation of global production networks and value chains, is growing (Brakman *et al.*, 2020; World Bank, 2020), many important questions remain unresolved regarding the nature and impact of these changes. In this article, we are particularly interested in the following three:

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- Are we now at a critical conjuncture where globalisation dies and gives way to a multipolar world order as (O' Sullivan 2019, 2020) has claimed (The Economist, 2019), even if this is arguably not a welfare-maximizing world order (Krugman, 1991)?
- What forces are driving today's global value chain and production network reconfigurations (both organisationally and spatially)?
- What consequences can be expected in terms of inequality and development in such ongoing transformations (if any)?

The present introductory article has three objectives. First, based on a broad literature review, we identify four key forces contributing to the complex reconfiguration of global economic activities. Second, we will position the articles included in this special issue against the four main forces identified below and discuss the contributions of each article, capturing some emerging cross-paper patterns among them. Finally, we outline the contours of a research agenda that suggests promising avenues for further investigation of the phenomenon of global value chain (GVC) and global production network (GPN) reconfigurations in times of uncertainty.

Globalisation in reverse? Taking stock of driving forces and fundamental logics

Globalisation has been an evolving feature of world economic activity ever since the Age of Exploration in the 16th century (Martin *et al.*, 2018). Since the mid-1970s, the process of globalisation has accelerated considerably with processes of globalisation of value chains and production networks seen as a *fait accompli* among many social scientists (Dicken, 2015). However, recently this has changed (World Bank, 2020) with discussions of shifts towards trends of regionalisation, and/or domesticalisation of value chains and production activities (Dicken, 2015; UNCTAD, 2020; Yeung, 2015). Particularly during the current global pandemic, discussion on the turn from 'just-in-time' to 'just-in-case' globalisation has intensified, acknowledging the need for globalised production to be more resilient to shocks (Brakman *et al.*, 2020). Relatedly, scattered evidence of the reshoring/backshoring of manufacturing activities to the developed world has now been observed in some industries and sectors (Bailey and de Propris, 2014; Dachs *et al.*, 2019; Kinkel, 2012; Lund and Steen, 2020).

Against this background, whether our current phase of globalisation is coming to an end and the world economy is entering into a phase of deglobalisation, decoupling, reshoring, has sparked heated debates both in academia and beyond (Antràs, 2020; Atkinson et al., 2022; Olivié and Gracia, 2020; Williamson, 2021). While some believe that such predictions largely exaggerate the extent to which such restructuring will happen in practice (e.g., Antràs, 2020; Willliamson, 2021; World Economic Forum, 2020) or are premature (e.g. Coe 2021), others believe that deglobalisation is an inevitable trend. O'Sullivan (2019), for instance, provocatively argues that the death of globalisation is inevitable, because there is no central body to shape globalisation, and the perceived side-effects of globalisation, such as wealth inequality, the dominance of multinationals and the dispersion of global supply chains, will inevitably require different solutions in different parts of the world. He suggests that the construction of a new world order—a multipolar world composed of three or more large regions that are distinct in the workings of their economies, laws, cultures, etc. – is manifestly underway (The Economist, 2019).

While the future of globalisation is still uncertain, many scholars agree that the trend towards GVC fragmentation and segmentation will become intensified or, at least, remain an important feature in many sectors (e.g. Butollo,

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2021), and that a shift from the previous just-in-time logic to a just-in-case counterpart will happen in multinational corporations (Brakman *et al.*, 2020). Moreover, globalisation is not a linear process or a deterministic 'force of nature' to which all nations, regions or firms must inevitably bend (Martin *et al.*, 2018). Trajectories of globalisation will be an interactive process that can be manoeuvered, promoted, championed or even manipulated by individual states, multinationals and/or key international organisations.

To unpack such debates, we explore the forces that lead to the reconfiguration of GPNs and GVCs. We are focusing on four of them, which we believe are of particular relevance to the ongoing GVC/GPN reconfigurations (Figure 1).

Before outlining the four key forces for the current forms of economic globalisation, it is worth positioning these recent dynamics within the fundamental geographical logics of capitalism which underpin the operations and (re-) configurations of global production networks and value chains. Ever since its emergence, the capitalist mode of production has been predicated on, and driven by, shifting spatial divisions of labour (Massey, 1995) which, over time, have become increasingly fine-grained and global to maximise profit extraction and minimise labour cost. Relatedly, capital is constantly on the lookout for new markets and spaces to invest, an expansionary process based on the mobilisation of labour-power and resources of various kinds. As Harvey (2007) put it, following Marx, capital cannot abide by limits, hence there is a capitalist imperative of expanding its spatial horizons. '*Capitalism, we might say, is addicted to geographical expansion much as it is addicted to technological change and endless expansion through economic growth. Globalisation is the contemporary version of capitalism's long-standing and never-ending search for a spatial fix to its crisis tendencies*' (Harvey, 2001: 24–5).

Indeed, over the last few decades, intensive globalisation has been the main component of capital's spatial fix, primarily driven by the availability of new reserve armies of cheap labour after the opening up of China and the end of the cold war, and new market opportunities. Tapping into new markets and labour pools has been aided by new transport and communications technologies, resulting in falling costs.

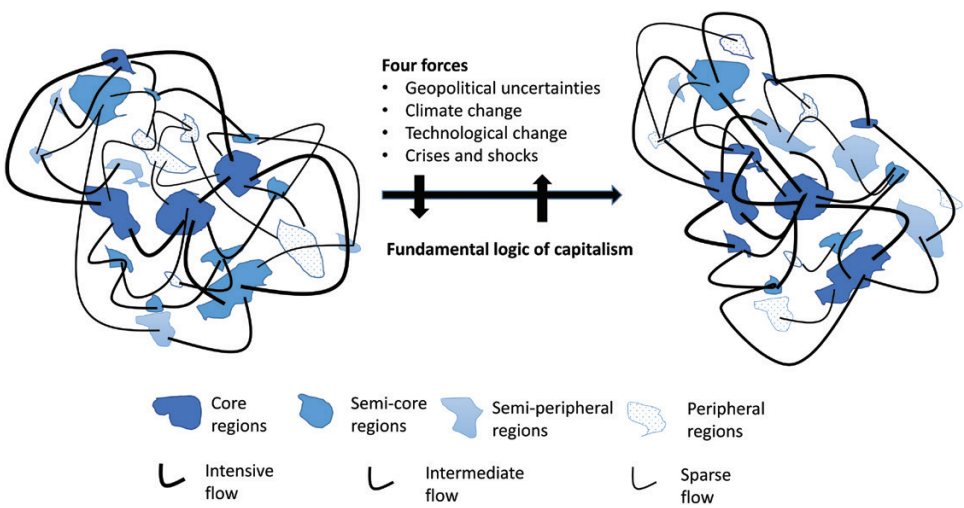

Figure 1. *Forces contributing to the reconfiguration of GPNs/GVCs.*

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The simultaneous emergence of a global, neoliberal political regime of trade and financial deregulation also enabled new forms of international divisions of labour and shifting geographies of production and capital accumulation (e.g. Coe and Hess, 2012; Dicken, 2015; Martin *et al.*, 2018). Rather than being a smooth process, however, events such as the Asian financial crisis in 1997/1998 and the global financial crisis of 2007/2008 have demonstrated the vulnerabilities of intensely connected economic systems and triggered new—if tentative—calls for rethinking the globalised capitalist system (e.g. Bello, 2004; 2009).

In addition to the enduring capitalist geographical logics that Massey and Harvey so aptly identified, and capitalism's own systemic crisis tendencies exemplified above, four forces have arguably contributed to the contemporary debate on the reconfiguration of global production networks and value chains. First, recent geopolitical tensions, uncertainties and conflicts, the consequential trade conflicts, barriers and frictions (e.g., Brexit, the US-China trade war, stalled WTO negotiations etc.), and related increasing protectionism in many different parts of the world. These have prompted renewed discussions on the configurations of global value chains and production networks (Bellora and Fontagné, 2019; Mao and Görg, 2020; World Bank, 2020). Countries and regions are now increasingly active in keeping strategically important R&D and manufacturing activities within their own borders by putting in place all manner of regulations and policies (e.g., the European Commission's EU Chip Act 2022; Made in China 2025; The EU Project of Common Interest, etc.). These trends should prompt a re-examination of the relationships between trade and GVCs in the context of tensions and uncertainties. At the macro-level, renewed debates have looked to examine the ways in which trade policies underlie the emergence of GVCs. Nevertheless, path dependence, state action and backward linkages may lead to GVC being resistant to significant changes even as trade is reconfigured (Gereffi *et al.*, 2021). At the micro-level, a large body of empirical research has shown that an increase in trade costs significantly reduces trade flows, with GVCs being affected to an even greater extent (World Bank, 2020). Recent evidence reveals that protection and disintegration reduce both backward and forward linkages of GVCs, and such man-made heightened barriers to trade increasingly put pressure on companies and policymakers to react and to reconfigure the parts of value chains and production networks that are embedded in their regions (Gereffi *et al.*, 2021). Moreover, recent literature also provides evidence of a shift towards South-South trade and emerging markets, which may be an additional drive towards the regionalising of GVCs (see for instance, Barrientos *et al.*, 2016; Horner and Nadvi, 2018). And as this article was being written, the horrific war unfolding in Ukraine, following Russia's military invasion on the 24th of February 2022, has brought geopolitical conflict to Europe in a way not seen since World War II. A humanitarian tragedy, this ongoing war will have significant and lasting ramifications for regional (supranational) and global value chains, natural resource flows and trade, beyond the current sanctions imposed on Russia.

Second, an intensified concern with climate change and environmental protection has also driven the change of GPNs and GVCs in fundamental ways (Coe and Yeung, 2015; Golgeci *et al.*, 2021; Ponte, 2020a, 2020b). To begin with, the 'greening' of GVCs, the production of green goods and the global race for cleantech innovations have recently emerged as a new strand of work exploring the impact of sustainability transitions on global production and innovation activities (Binz *et al.*, 2012; Binz and Truffer, 2017; Lema *et al.*, 2020; Ponte, 2020a; Yap and Truffer, 2019). As rightly pointed out by Ponte (2020a), sustainability management, or the set of practices that corporations put in place to address

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sustainability issues, is emerging as a fourth key capitalist dynamic (in addition to cost minimisation, flexibility and speed) (Coe and Yeung, 2015). Sustainability orchestration and ambitious climate action (e.g., development and mass deployment of green technologies such as solar panels, wind turbines and electric vehicles) may also bring significant changes to the spatial, organisational and technological fixes of the respective GVCs in various ways, especially concerning the supply of critical raw materials such as minerals and metals (World Bank, 2019). This will have implications for geopolitical conflicts/tensions and partnerships/collaborations, as well as local community social and environmental welfare, particularly in natural-resource-rich developing countries in Latin America and Africa. Moreover, within the field of sustainability transitions, the literature on latecomers' leapfrogging and catch-up in green innovations and cleantech has strengthened the concern on the geographies of value chains in relevant green sectors such as water sanitation, energy, transport, etc. (Binz and Truffer, 2017; Binz *et al.*, 2017; Yap and Truffer, 2019). This literature has increasingly pointed out the limitation of the conventional wisdom of industrial upgrading in emerging and developing countries—i.e. latecomers can only move up the GVC ladder by inserting themselves into an existing GVC that is controlled by a lead firm based in the global North, and upgrading is primarily realised through conducive linkages with this lead firm. As Yap and Truffer (2019) have stressed, instead of aiming to insert themselves into GVCs that are constructed and shaped by these global lead firms, latecomers could proactively (re)construct the emerging GVCs in many of the green technologies (e.g., wind power, solar energy, electric vehicles) by leveraging local/domestic conditions and mobilizing key global resources (Lema and Lema, 2012). While the GPN/GVC literature has covered in depth the established GPNs or GVCs (e.g., garment, automotive, retailing, agriculture, etc.) that have long been controlled by leading companies or large international corporations, it seems less relevant in explaining the spatial (re)configurations of emerging GPNs and GVCs, especially in many of the green sectors where clear global leadership positions have not yet completely formed (Gong et al., 2022b). Such a phenomenon of building new GPNs and GVCs combined with reconfiguring and adapting established GPNs and GVCs adds complexity to the discussion on (de)globalisation of the world economy.

Third, the development of several key technologies also seems to have fundamental implications for the organisation of global production activities (Autio *et al.*, 2021; Baldwin, 2016; Dachs *et al.*, 2019; Gress and Kalafsky, 2015). GVCs are rapidly changing under the pressure of digital technologies. Robotics, 3D printing, big data, blockchain technologies, cloud computing, the internet of things and the rise of platform firms are transforming production and distribution processes in many industries (Livesey, 2018; Kenney *et al.*, 2019, Krishnan *et al.*, 2020, Sancak, 2021). Digital technologies raise productivity but at the same time can also lead to changing geographical patterns of the production of goods and services. Amongst all these technological innovations, two that have generated discussions are robotisation and automation, given their disruptive impact on GVC reconfigurations—both technologies have been heralded as revolutionary as they can alter the way how production is organised across time and space—with important redistributive effects on the geography and size of production activities (Rehnberg and Ponte, 2018; World Bank, 2020). With the arrival of the labour-saving technologies such as automation and 3D printing, manufacturers could draw production closer to the consumer and reduce the demand for labour at home and abroad, leading to fundamental shifts in the global production patterns and, potentially, to premature deindustrialisation in developing

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countries (Rodrik, 2016). There is growing anxiety about the substitutional effects of such key technologies on workers and developing countries, which tend to benefit from all sorts of spillovers from global leader firms by inserting into the conventional GVCs of global lead firms (Rehnberg and Ponte, 2018; Rodrik, 2016). Recently, scholars have started to investigate the potential impact of such technological improvements on the geographies of production at the global scale (Baldwin, 2016; Brun *et al.*, 2019; Foster *et al.*, 2018; Strange and Zucchella, 2017). While the fear of reshoring and backshoring of manufacturing activities to the global North due to technological advancement is strong, the evidence is still limited, and the evidence on automation and 3D printing suggest that these technologies have contributed to higher productivity and a larger scale of production. As such, they have increased the demand for imports of inputs from developing countries (World Bank, 2020).

Finally, the Covid-19 crisis beginning in early 2020 and its disrupting effects on GVCs has revealed increasing vulnerability of globalisation (Brakman *et al.*, 2020; 2021; Bryson and Vanchan, 2020; Ivanov and Dolgui, 2020). This crisis has led to heated debates on whether conventional global value chains and production networks (based on a just-in-time logic) should be substituted with more regionalised and domestic ones (based on a just-in-case logic) (Brakman *et al.*, 2020; Pla-Barber *et al.*, 2021). This is particularly the case for essential goods such as food, medicines, personal protective equipment, etc. (Gereffi, 2020; Gereffi *et al.*, 2022). The shortening of GVCs had already been debated before the crisis (Livesey, 2017; 2018), but '*[T]he pandemic has served to amplify pre-existing debates over the continued viability of organising the production of goods and services through GVCs*' (Oldekop *et al.*, 2020, 2). Overall, Brakman *et al.* (2020, 3) expect economic agents to '*… use buffers and borders to increase their resilience to shocks like COVID-19 …*', which will lead to geographical diversification strategies and partial de-globalisation. In a similar vein, Panwar *et al.* (2022, 14) conclude that '*[t]he Covid-19 pandemic could catalyze reshoring in some regions and in some product categories, but GVCs are here to stay*'.

In sum, these four forces do not stand alone but are influencing and influenced by each other in non-trivial ways. Baldwin and Tomiura (2020, 59), for instance, recently stated: '*The combination of the US' ongoing trade war against all of its trading partners (but especially China) and the supply-chain disruptions that are likely to be caused by COVID-19 could lead to a push to repatriate supply chains*'. Moreover, Oldekop *et al.* (2020, 2) emphasise that '*[T]he extent and nature of restructuring that value chains undergo post-pandemic will have crucial implications for … sustainability transitions*'.

Papers in this special issue explore the changing geographies of value chains against the background of these four inter-related forces. They also provide a fertile ground to engage more broadly with conventional (economic) globalisation theories, potentially offering new insights into preexisting theories and concepts. Taken together, these four forces may potentially reshape the core-periphery structure in the global industrial space (Balland *et al.*, 2019) and thus lead to the successful rise of some regions (e.g., East Asia) and the decline of others, both in relative and absolute terms.

Contributions to the Special Issue

This Special Issue consists of 11 articles and a commentary. They span a broad range of geographical, sectoral and institutional contexts, showing different aspects of regionalisation, (de)globalisation and provide a starting point for further elaboration of the ongoing global economic dynamics. The articles draw on a range of methods and theoretical frameworks which together represent a diverse set

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of approaches to researching the ongoing phenomena of economic (de)globalisation. In this section, the key insights from individual papers will be briefly summarised and emerging cross-paper themes will then be discussed.

Concerned with the overall globalisation dynamics and engaging with the regionalisation and deglobalisation discussion, two papers in this special issue examine the extent to which deglobalisation is occurring, and its influence on regional and national economies drawing on novel macro-level data. The paper by Gao *et al.* (2022) utilises the latest world input-output table and uncovers the evolution of manufacturing locations during 2000–2014 and provides a macro-perspective for these micro-level strategies. The empirical evidence confirms that offshoring is still the dominant force after the Great Recession in 2008. Offshored companies prefer to move the advanced manufacturing back to the home economy; with offshoring activities to the developed economies being more locationally unstable than that to the others. The data implies that re-shoring and re-offshoring are more likely to happen between closer countries, suggesting a trend of regionalisation. Sharing Gao et al.'s (2022) interest in deglobalisation, the paper by Giammetti et al. (2022) investigates the effects of a retreat from global economic integration on the European regional production network for the period 2000-2010. They find that production has become increasingly fragmented, although the degree of heterogeneity across regions is substantial. The heterogeneity is also present in the direct and indirect effects of three different deglobalisation scenarios that the authors simulate. The results show that deglobalisation generates winners and losers. Specifically, two groups of regions emerge: regions that would benefit from a return to a less integrated world and regions that would instead gain from a strengthening of the European production network.

In addition to the papers that measure the dynamics of globalisation, other contributions to the special issue specifically focus on aspects of the four forces identified in the earlier section. Engaging with the topic of crisis and shocks, the article by Canello *et al.* (2022) assesses how the reshoring of manufacturing activities by micro and small enterprises (MSEs) affects the performances of co-located subcontracting networks and the reconfiguration of GVCs since the 2008 financial crisis. The authors utilise a unique dataset from the Italian Ministry of Economy and Finance Annual Survey (IMEFAS) to examine the Italian MSEs operating in the clothing and footwear industries during the 2008–2015 period. The findings suggest that MSE reshoring does not have a significant impact on domestic subcontractors' birth rates and survival chances, but it is positively associated with their productivity growth in the related industries. The authors argue that MSEs in their sample adopt a 'dual sourcing' strategy, expanding their GVCs while preserving their local supply base. By alternating offshore outsourcing and reshoring strategies, MSEs contribute to the geographical reorganisation of GVCs, hence corroborating the central role they play in GVC evolution over time and across space.

Writing against the background of the Covid-19 pandemic and the US-China trade war, Kamakura's (2022) paper evaluates the dynamics of reshoring in the Japanese semiconductor industry. It is argued that the highly globalised semiconductor industry has not seen significant reshoring to Japan despite the dual crisis, and even with a number of policies in place. Japan's semiconductor-related industries are embedded in broader Asian production networks. This aligns with the strong tendencies towards regionalisation in semiconductors, and Japan's industry needs to optimise its position within regionalised production, with domestic production system less viable. Focusing on the ongoing Covid-19 pandemic and the US-China trade conflicts, Gong et al. (2022a) look at a novel institutional innovation in China's Zhejiang province—the Industrial Chain Chief

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Model (ICCM)—that aims to restructure its integration into the global economy so as to increase the resilience of the local economy. The authors argue that while strategic coupling is a useful concept for understanding local-global economic dynamics, the idea that coupling can occur at multiple levels and that regional actors can increase their autonomy in the global economy by simultaneously and creatively combining different coupling scenarios (i.e., by inserting into regional, national, supranational and global production networks) has been little explored. This paper thus explores how regional institutional innovation can facilitate such multiple couplings in times of uncertainty. Overall, the authors argue that ICCM offers a different way of thinking for regions that have long been exposed to the influence of globalisation, and that it increases the agency of local actors who are part of GPNs. Sharing Gong et al.'s (2022a) interest in local institutions adapting in times of crisis, the piece by Hulke *et al.* (2022) looks at how tourism regions like Zambezi in Namibia were able to partly mitigate the disruption of value from tourism throughout the Covid-19 pandemic and strengthened agriculture-tourism linkages to achieve long-term transformation. The authors showed the role of local institutions in constituting a synergetic relationship between adaptation and adaptability through value distribution and capture from GPNs. Such local adaptation was also supported by the national government, conservancies, and local government institutions.

In another study that looks at the regional level, Wolfe *et al.* (2022) examine the evolution of Toronto's regional economy over the last decades against the background of accelerating digitialisation of the global economy and the related arrival of multiple ICT-related multinational corporations. In the postwar period, Toronto has become the headquarters for a growing number of multinational enterprises in leading tech sectors, particularly digital technologies, advanced manufacturing, and automotive production. During this period, the nature of multinationals' investment in the region has shifted, with an increasing proportion of inward investment focused on accessing local knowledge assets and integrating them into broader GPNs. The core argument of the paper is that an increasing number of big corporations, which emerged and agglomerated in Toronto during the digital revolution (e.g., GM, Thomson Reuters, Google, Nvidia, LG, Samsung, Uber, Huawei), are engaging with the Toronto region in new and different ways by creating new knowledge and information sources to diversify the locational base of their R&D activities. They are also engaging with emerging entrepreneurial ecosystems in the region to spur firm growth in emerging technologies and new industry niches. In other words, Toronto is intersected simultaneously by several lead firms with divergent GPN/GVC configurations. Similar to Wolfe *et al.* (2022), Fu and Cheng (2022) are also interested in the influence of digitialisation and emerging technologies such as industrial robotics on GVC and GPN reconfigurations. They examine the configurations of China's emerging domestic market-driven industrial robot production networks in the era of industry 4.0. The implications of such domestic and regional market-driven production networks remain understudied in the GPN literature, particularly in high technology industries. The paper elucidates two different production configurations in the Chinese robotic industry and the importance of 'layered' market structure in China. On the one hand, in order to serve China's high-end market, global lead firms establish regional production networks through sourcing high-quality components from Japan and making connections with Chinese system integrators and consumers. On the other hand, Chinese lead firms tend to organise domestic production networks by integrating with indigenous component suppliers and system integrators for China's middle and low-end

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consumers. In contrast to some industry 4.0 visions of reshoring of high-tech facilities, the study shows more complex patterns of regionalisation and domesticalisation across market-driven production networks in developing and emerging economies. It also highlights the continued importance of knowledge spillover and learning for indigenous firms in emerging economies.

The paper by Bridge and Dodge (2022) proposes a new concept of 'network switching' as an alternative to 'strategic coupling' to understand regional transformation under the influence of economic globalisation. Based on the offshore oil industry in the UK, the authors have shown empirically how this sector is constituted through the investment activities of multiple lead firms and how, over the past decades, network-territory has been transformed in substantial ways. They argue that regions embedded in multiple networks within the same industrial sector can experience a complex process of transformation from the way investment and divestment strategies of lead firms realign regional assets between different types of networks, rather than from single moments of coupling or decoupling. This process of network switching (i.e., an ownership transition, shifts in geographies of control, and a capital transition), where assets are transferred from one production network to another within the same industrial sector, embeds regional assets in alternative network geographies and exposes them to different power dynamics and logics of value capture. Regional transformation, therefore, can be understood as the cumulative and aggregate effect of multiple moments of coupling, decoupling and recombination, that occur more or less simultaneously.

Complementing the aforementioned work that deals with the quadruple forces of crises and shocks, geopolitical uncertainties, climate change and emerging technologies, the paper by Van Meeteren and Kleibert (2022) points to the longer-term international division of labour as one of the major reasons why a full-scale globalisation in reverse is unlikely. According to the authors, the distinctive characteristic of the world-economy is its division of labour. Thus far, at least three differentiated patterns of the international division of labour can be identified: the 'Old International Division of Labour' (OIDL) of the colonial era dominated by the capitalist merchant class. The New International Division of Labour (NIDL), of the early postcolonial era was dominated by the capitalist multinational industrial corporation, and the new(er) New International Division of Labour (nNIDL) of the contemporary era, with an increased salience of the capitalist financier class. A key contribution from geographers to the various IDL literature, according to Van Meeteren and Kleibert 2022), literatures has been the attention paid to the formation of the 'core', 'semi-core', 'periphery', and 'semi-periphery' in the global economic landscape. Each time the IDL shifted from one pattern to another (i.e., from OIDL to NIDL, to nNIDL), the global economic configuration was radically changed, leading to the emergence of new cores as well as new peripheries. While such global reconfiguration is not uncommon, the authors, however, argue that the global economy resembles archipelagos in the sense that in the process of uneven development, capital tends to produce geographical patterns appearing as 'islands of absolute space in a sea of relative space' (Smith, 2008, p.119). He discusses how islands (places) with a clear geographical identity are interspersed by unnamed space (the sea) subject to spatial processes associated with relative space such as the changing friction of distance, differential cost surfaces and the politics of circulation. The different islands collectively work as an archipelago to achieve a particular goal, such as realizing a GPN, or the geographical transfer of value. These islands, integrated into global circuits and flows, act as modulators of connectivity and make global circulation possible

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precisely through their particular arrangements of borders, connectivity and visibility. Based on these longer-term insights, the authors argue that the inherent archipelagic structure of global division of labour will remain intact and thus the globalisation will continue, albeit its structure and configurations may differ substantially from the previous ones.

Brakman and Van Marrewijk's (2022) paper seconds Van Meeteren and Kleibert's (2022) argument. The authors formalise the existence, length and consequences of changes in fragmentation cost (production in different countries and traded in the market) along global supply chains. Specifically, the proposed model endogenises production fragmentation, allowing for multiple production stages in multiple countries, while remaining tractable. The model explains both the period of hyper globalisation and the subsequent slowbalisation in terms of changing fragmentation costs along global supply chains. The model is consistent with developments regarding labour market polarisation associated with modern globalisation: the labour market position of medium-skilled workers in advanced countries has deteriorated related to high- and low-skilled workers, which can be understood by changing global supply chains. Even with zero fragmentation costs, the demand for certain occupations does not fall to zero for any country—eventhough global division of labour benefits, we continue to observe occupations with different skills in any single country.

Conclusions and avenues for future research

Emerging cross-paper themes

Contributions to the special issue include important cross-paper themes which are briefly discussed below:

First, several contributions examine the 'end of globalisation' or 'globalisation in reverse' discourses (Brakman and Van Marrewijk, 2022; Gao *et al.*, 2022; Van Meeteren and Kleibert, 2022; Canello *et al.,* 2022). These papers contest the predictions that we have seen within the popular debate. There remain underlying factors, even considering renewed drivers of deglobalisation, that limit or impact on changes. This is conceptualised in different ways in papers, including the prevalent global division of labour (Brakman and Van Marrewijk, 2022; Van Meeteren and Kleibert, 2022), and long established and stabilised production networks and the notion of path dependence (Kamakura, 2022; Canello *et al.,* 2022) to show that the current challenges will not last forever. Globalisation and the archipelagic world economy will continue, although regionalisation, GVC shortening and reshoring remain possible, which could lead to different configurations of the world economy (consisting of different archipelagos) in comparison to today.

Second, several papers focus on regional institutional reactions and firm strategies in response to the four key forces focusing on agency: articles by Bridge and Dodge, (2022) Fu and Cheng (2022), Gong *et al.* (2022a), Kamakura (2022), Hulke *et al.* (2022) and Wolfe *et al.* (2022) give insightful illustrations on how such challenges have been approached, can be leveraged and manoeuvred by different regional or national actor groups and thus lead to the reconfiguration of the GVCs/GPNs.

In line with this idea of regions, nations and firms potentially having agency, some contributions have provided important reflections on the concept of strategic coupling as a key heuristic in the GPN literature. Bridge and Dodge (2022), for instance, criticise the evolutionary perspective of strategic coupling as it views coupling as a sequential (coupling, decoupling, recoupling) process that focuses on a relatively small number of actors. The authors argue that as regions are intersected by multiple leading firms, reconfiguring GPN-territory relations can have aggregated and co-evolutionary effects that go beyond coupling to a single leading firm. In other words, regions embedded in multiple networks within the same industrial

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sector may experience a complex transformation process through the way investment and disinvestment strategies of leading firms realign regional assets between different types of networks, rather than through individual moments of coupling or decoupling. Gong *et al.* (2022a) support such multiple coupling possibilities by arguing that the conventional notion of strategic coupling, in which a region inserts itself into the production network of a leading firm, limits the agency of local actors. Instead, they suggest that regions could simultaneously engage in strategic coupling with different production networks organised at different spatial levels—from global to supranational to national or subnational. Canello *et al.* (2022) underpin this multiple coupling possibility by examining dual sourcing by MSEs in Italy. They argue that local and global production networks are not two alternative paradigms of industrial organisation; rather, a region can participate in both types of industrial organisation simultaneously and maximise the benefits of both forms of organisation.

Finally, some contributions have dealt with the role of diversified markets in reorganizing GVCs. Especially, contributions to this issue show that emerging markets are playing an increasingly important role in steering the global reorganizing of the production and trade networks. Market switching in times of uncertainty (Hulke *et al.*, 2022; Fu and Cheng, 2022, Gong *et al.* 2022a; Bridge and Dodge, 2022) may have long-term consequences for how regional actors organise their production networks. The increasingly important role of growing markets in the Global South, and demand-led market dynamics (Yeung, 2022) warrants more attention as they are shaping and reshaping the global production and consumption in fundamental ways.

Avenues for future research

Returning to the research questions we proposed earlier, we can now sketch the contours of a research agenda that suggests promising avenues for further investigation of GVC and GPN reconfigurations in times of uncertainty.

First, in answering the question of whether globalisation is coming to an end, the special issue contributions highlight some trends towards regionalisation (Gao *et al.*, 2022; Giammetti *et al.*, 2022). However, in line with the recent literature (Antràs, 2020; Willliamson, 2021; World Economic Forum, 2020), a full-scale 'globalisation in reverse' is highly unlikely. Furthermore, with a multiplicity of understandings of the term 'globalisation' and how globalisation unfolds it is unclear if using such an overarching discourse is productive. In discussing whether the phenomenon described as 'the end of globalisation' is a myth or reality, Titievskaia *et al.* (2020), for instance, look at five different pathways, breaking globalisation into key processes of international trade, financial openness, increasing inequality, cross-border social movements (e.g., tourism, migration) and digital exchange. The authors argue that slowbalisation and deglobalisation have not been uniform across these five aspects. While international economic globalisation (international trade, financial openness) has indeed slowed down, the accelerated global movement of data and growing importance of digital exchange and the evolving forms of incoming inequality emerging, suggest that globalisation is merely changing form. Moreover, while economic globalisation has in general slowed down, this does not mean an absolute decrease of international trade or capital flow *per se*. Rather, we may see an increased penalty of distance, which favours economic integration but with nearby countries (Brakman *et al.*, 2020). In these contexts, a future research agenda should therefore look to define and measure globalisation in more granular ways considering the different dimensions, including those mentioned above. Moreover, since (de)globalisation has variable spatial impacts, there is the need to investigate which parts of the world are experiencing more radical deglobalisation and in which less, and why this is the case.

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Secondly, in examining the forces driving today's reconfiguration of global production networks and value chains, we argue that the four forces discussed (i.e. crises and shocks, geopolitical uncertainties, climate change and new technologies), alongside the basic geographical logics of capitalism and the global division of labour, shape the (re)configuration of global production networks and value chains in non-trivial ways. While issues such as crises and shocks and emerging technologies have been covered in this edition, these issues are rapidly evolving and challenges such as climate change and geopolitical tensions would need to be explored more in the future. For climate change, the evolving attempts to 'green' existing global production networks and value chains (Ponte 2020b), as well as the construction of new global production networks and value chains for green technologies in space (Binz and Truffer, 2017) require further attention as they move to centre stage. The solutions often put forward in both media and academic discussions have been in favour of renewed local food production and consumption to reduce the carbon footprint of our daily consumption activities (Oosterveer and Sonnenfeld, 2012). Yet, drawing on the themes outlined in the previous section, further research can be done on how such a shift from global to local/domestic retail networks is realised and what kind of environmental benefits can be calculated. For geopolitical tensions and uncertainty, as the ongoing Ukraine war once again reminds us, the global economy is highly vulnerable to sudden shocks. While these geopolitical tensions will inevitably lead to a reconfiguration of several GVCs, particularly in the global energy and food sectors and the European chip and automotive sectors (New York Times, 2022; OECD, 2022; Simchi-Levi and Haren, 2022), more robust empirical research is needed in the coming years to assess its social and economic impacts (OECD, 2022). The interplay of various forces and their aggregate impact (e.g. the impact of Covid-19 in combination with geopolitical tensions and environmental pressures) on reshaping the global economy require researchers to integrate more complex conceptual and empirical ideas into research.

Finally, in terms of the impact of the ongoing GPN/GVC restructuring on different regions, several articles in this issue reinforce the increasingly important role played by emerging economies and actors from the Global South, especially China. A broader picture is that new core-periphery structures may emerge in this global shift. Against this backdrop, combined and uneven development in the context of globalisation (Dunford and Liu, 2017; Hudson, 2016) is a key issue that requires further research. In capitalist economies, competitive pressures force companies to seek new ways to increase profitability. This may or may not involve changes in location (Dicken, 2015). Moreover, these changes may also involve the construction of new intra- and inter-firm economic geographies that create new patterns of relationships between places and new spatial divisions of labour (Hudson, 2016; Van Meeteren and Kleibert, 2022). Consequently, maps of combined and uneven development evolve as capital flows across the restless economic landscape, in and out of places in search of profit (Hudson, 2016). In both the Global North and Global South, socio-spatial inequalities within countries have increased, and this trend will continue as a result of the changing position of economies in the global system (Titievskaia *et al.*, 2020). Hudson (2016) further argues that the current global shift among emerging powers—e.g. the BRICs—will benefit some while harming the interests of others. He believes that Asian economies, especially China and India, will continue to grow at a rather high rate over the next two decades, while the outlook for Brazil, Russia and South Africa is much more uncertain. Such uneven spatial development against the backdrop of globalisation, which despite its central status in the field

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of economic geography, is often only treated in practice as an explanatory background in empirical studies (Peck, 2016). In this context, interesting research questions such as how ongoing globalisation and the reconfiguration of GPNs and GVCs lead to the formation of new core-periphery structures in the world economy and how such newly emerging global economic structures cause an exacerbation of unequal development in space deserve more attention.

Overall, the insights gained in this Special Issue have made an important contribution to the ongoing debate on the dynamics of the global economy and provide a good starting point for further theorising the complex phenomenon of reconfiguring global value chains and production networks in times of uncertainty. We believe that the current iteration of globalisation is not fundamentally different from previous versions, but the quadruple challenges of climate change, geopolitical tensions, technological breakthroughs and crises and shocks indeed make the ongoing GPN/GVC reconfigurations more exciting to contemplate. We live in a highly interesting world where new knowledge and insights are urgently needed to better understand the current dynamics of the global economy!

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