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ANNIVERSARY SPECIAL SECTION ON: GLOBAL VALUE CHAINS, TECHNOLOGY AND UNEVEN INDUSTRIAL DEVELOPMENT

Global Value Chains: antecedents and new perspectives

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An extensive literature has highlighted the increasing international fragmentation of production and the advent of global value chains (GVCs) (Gereffi & Korzeniewicz, 1994; Feenstra, 1998; Gereffi et al, 2005; Grossman & Rossi-Hansberg, 2008; Mudambi, 2008; Timmer et al., 2019; Durand & Milberg, 2020). The evolution of GVCs and their implications for economic analysis have attracted even more the attention of scholars and policy makers in times of deep transformations and disruptive events. In fact, economic and financial crises, military and trade conflicts, pandemic emergencies, and grand technological and environmental challenges have been re-shaping global supply chains, with a dramatic acceleration in recent years.

The *Journal of Industrial and Business Economics* (JIBE) has devoted constant attention to emerging modes through which production is being fragmented and organised across national borders. This attention has been paid in a relatively early stage of the Journal's life, when it was titled *Economia e Politica Industriale* (EPI) and published in Italian, and much before the notion of Global Value Chains has become widespread in the literature. Indeed, the focus was on the evolution of Multinational Enterprises (MNEs) as key players in international production, which appeared to proceed hand in hand with the development of international alliances and networks involving an increasing number of actors in the global economy. Works published in this Journal since the late 1970's, with an acceleration in the 1980's, contributed to launch a broader reflection on international market and non-market transactions and knowledge flows.

Important bits of this timely reflection carried out in this Journal include: the co-existence and co-evolution of cooperative and competitive tensions in the modern innovation-based competition (Vaccà 1986, Vaccà & Zanfei 1989); the role of digital technologies and the development of new organisational tools (routines, languages, codes of conduct) needed for the development of cross-border networks (Rullani 1987); the interplay between global players and local contexts in the generation and capture of economic value (Becattini & Rullani, 1993). Many of these contributions were indeed in line with, and often anticipated, developments in international literature on these issues. In some circumstances this reflection has involved scholars based in non-Italian institutions much before the fast internationalisation process that has characterised this Journal in the past decade, as documented by Mariotti in this issue. This is for instance the case of early contributions on international production and innovation-based competition published in Economia e Politica Industriale by Rosenberg (1988), Teece (1989), Arora & Gambardella (1990), Cantwell & Sanna Randaccio (1990). Other more recent contributions published in EPI-JIBE along this line include: Narula (2002), Piscitello & Cantwell (2008), Mariotti (2009), Castellani et al. (2015), Dachs et al. (2015), Castellani, Rullani & Zanfei (2017), Narula & Pineli (2019), Strange, 2020.

This Anniversary Special Section[1] connects to the long tradition of research this Journal has accounted for, and sheds new light on Global Value Chains. Through a combination of conceptual and empirical papers, three key aspects of GVCs are explored.

The first topic area concerns the *links between GVCs and economic performance*. While it is generally acknowledged that the international fragmentation of production is associated to important growth opportunities for economies involved in GVCs, the papers included in this subsection highlight that the

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distribution of such opportunities and their exploitation are quite uneven across countries, sectors, business activities and firms. Agnes Kügler, Andreas Reinstaller and Klaus S. Friesenbichler show that EU economies diverge in terms of productivity premia they obtain from GVC participation according to the quality of their institutions and to the technological profile of their industries. They find that, while better domestic institutions favour regional integration, highly productive industries seek more global value chain trade rather than intra-EU production and trade. This appears to determine a trade-off between regional supply chains and global production networks, with effects on specialisation that may not be fully desirable for the EU. The paper by Yasmine Eissa and Chahir Zaki goes deep into the analysis of the relationship between GVC participation and countries' innovation performance focusing on a sample of 83 countries with different income per capita. They highlight the learning effect associated with the absorption of foreign knowledge embedded in imported intermediate goods, hence creating development opportunities for low-income countries. However, trade policy, IPR protection and competition policy turn out to be important moderating factors. Both Kügler et al. and Eissa & Zaki thus suggest that the advantages of GVC participation may depend on a variety of contextual factors and on the nature of industries involved. This line of argument is further developed by Andrea Coveri and Antonello Zanfei, who argue that the benefits from joining global production networks largely depend on the specialisation of economies in terms of value chain functions rather than products/industries, as value capture opportunities increase with the knowledge intensity of tasks undertaken in GVCs. Most importantly, they contend that the degree of functional specialisation also matters: economies that maintain the ability to perform a wider range of GVC abilities are better placed to foster innovation and cope with major disruptive events. This induces a reconsideration of strategic industrial policies at the national and supra-national levels. Large-scale investments may be necessary to fill-in key competence gaps, along with a more selective sourcing of inputs and knowledge assets on a global scale.

A second group of papers focuses on *how GVCs are affected by grand challenges* such as digital transformations and environmental change. Wim Naudé addresses the issue of how the rise of digital platforms over the last decade may have raised the costs - and reduced the share of value – associated with GVC participation for late industrialising countries. In fact, it is argued that while digital platforms may make participation by late-comers in world trade easier, it may also further complicate industrial policy and hence the industrialisation and catch-up growth of developing countries. Leticia Blazquez, Carmen Diaz-Mora and Belén González Díaz take a different perspective in their empirical paper on the digital transformation of GVCs. They find that, despite the deceleration of trade and FDIs observed over the past decade, countries' exports are increasingly incorporating foreign digital services, suggesting that a new channel of digitally driven GVC participation may be emerging. This might thus create unprecedented opportunities for countries, including emerging ones, that are able to position themselves as providers of intermediate digital goods. Valentina De Marchi and Gary Gereffi focus on the interplay of GVCs and environmental change. They observe that although environmental sustainability and green supply chain management are becoming mainstream concerns in the operations of companies worldwide, the pace of improvements is lagging the urgency linked to escalating climate change disruptions. Implementing sustainability is a complex issue that is simultaneously multifaceted (as it needs to account for different environmental aspects, such as biodiversity and acidification of soil), subjective (environmental problems are experienced differently by diverse actors, depending on their location and activity profile), and changing over time (what we considered sustainable 10 years ago is no longer sufficient today). Faced to these challenges, they propose a progressive agenda of environmental upgrading in GVCs.

The third and final group of contributions included in this Special Section addresses some key governance issues associated with *corporate misconduct and cascading compliance*. Ari Van Assche and Rajneesh Narula take an internalization theory lens to reflect on the effectiveness of cascading compliance as a governance mechanism to promote sustainability along global value chains. They discuss the limits of a pure cascading compliance model that creates disincentives for suppliers to invest the required resources to meet the sustainability conditions; and propose an enhanced cascading compliance approach ('cascading compliance +') that adds trust inducing mechanisms to engage suppliers in joint problem-solving and information-sharing. However, they observe that the additional transaction costs have the potential to crowd-out suppliers and possibly even make full internalization attractive. Vivek Soundararajan further

criticizes the cascading compliance model and posits that the practices that MNEs and tier-one suppliers adopt to make the cascade compliance model work can perpetuate exploitation and reproduce inequalities. A coordinated effort is called for to remove these flaws. Stefanie Lu Wang focuses on governance mechanisms that are needed to govern sustainability issues. She proposes a range of digital technology-enabled governance mechanisms and discuss how they overcome the constraints of traditional control and coordination and allow MNEs to uphold sustainability in their GVCs. The other side of the coin is corporate misconduct, which is examined by Federica Nieri, Priscilla Rodriguez and Luciano Ciravegna. They argue that regulatory pressures are not the only determinant of corporate misconduct, and that these pressures interact with civil liberties generating more complex outcomes than a linear low to high regulatory pressure scenario. They also suggest that access to technology for information
and communication purposes can be important moderating factors in the propensity of firms to adopt misconducts.

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