## Editorial

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## China – International Linkages: introduction to the special issue

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China has been a significant actor in what may be labeled, viewed from today's perspective, as a four decades-long golden period of globalization and international collaboration. Two fundamental processes were at work in the 1980s and 1990s, laving the foundation for rapidly growing global connectedness, which may now come to an end. The first process was technical progress that lowered the transaction costs of doing international (and interregional) business. Novel transport and communication technologies, accompanied by a global harmonization of norms, standards and interfaces, created inexpensive opportunities to make international connections, most importantly in business (Harvey 1990; McCann 2008). And with decreasing transaction costs, more and more companies discovered that the productivity gains resulting from specializing in narrowly defined core competencies were higher than the costs arising from outsourcing, off-shoring and organizing global supply chains (Baldwin 2006; Dicken 1992; Henderson et al. 2002).

The second process involved political developments, most importantly the end of the cold war and the integration of nearly all countries' economies in the global trade and exchange system. Worldwide, policies favored openness and international collaboration, stressing the benefits thereof (Woods 2008). The subsequent internationalization was much broader than economic globalization, notably including the mobility of students and employees, as well as academic and scientific collaboration (Archibugi & Filippetti 2015).

China was an important actor in all of these developments, but saw its role change from one of a recipient of high-end products and technologies to that of a partner in bidirectional exchanges: In the 1980s, the first stage of internationalization, China's priority was accepting the

economic rules of a market economy and getting familiar with them, opening up for trade and for foreign capital and technologies, and sending delegations and individuals abroad, often higher education students. During the 1990s, China gained the status of the world's factory, and the country grew into the role of an immensely important actor in global value chains, at the same time strengthening domestic R&D and education. The 2000s witnessed China becoming the main engine of the world economy, a center of networks and mobility, undergoing technological upgrading, and gradually increasing its contributions to the world's stock of knowledge. In the last decade, Chinese multinationals rose to global status, becoming heavyweights in terms of intellectual property and innovative capacity, accompanied by policies that sought to establish a Chinese form of global economic integration with the Belt and Road Initiative (Hayter & Han 1998; Liu et al. 2017; Wei & Liefner 2012, Zhou et al. 2016, Dunford & Liu 2019). Many people in China, as in other parts of the world, aimed to develop an open and cosmopolitan culture (Wu 2004).

During the last four decades, regional economic developments in China have also been significantly influenced by the globalization process. Regions that have received more foreign direct investment or conducted more international trade have generally experienced a higher economic growth rate than other regions in China. This has no doubt led to a more unbalanced pattern of regional economic developments in China, and some studies have also verified the significant influence of globalization on the increasing regional disparity in China (Fujita & Hu 2001). However, the globalization process per se should not be held responsible for these negative consequences. Instead, such disadvantages are more associated with how different regions in China respond to and participate in the globalization process. Notably, promoted by the Belt and Road Initiative, many Chinese inland regions such as Chongqing that were originally in a disadvantaged position in the global division of labor have become more active in building infrastructural linkages to connect themselves with the rest of the world (Smith 2022).

Recently, much of the spirit that made globalization possible seems to have disappeared, although it is

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too early to assess the true extent of deglobalization and its likely consequences. The main cause of the current retreat of international exchange and collaboration seems to be clear, however. It is not economic, since the technologies that lower transaction costs are still becoming more refined and powerful, but rather the political momentum that is working against globalization (James 2018; Charpin 2022). Political and public discourses have shifted towards a renewed interest in isolationist and protectionist policies and towards using economic power and trade policy as a means of competition or even confrontation among countries. A 'decisionism' narrative has emerged, which propagates that countries may do better when they disengage from complex and binding multilateral arrangements and instead rely on politicians' independent decision-making (James 2018).

Recent discourses focus much more on the downside of trade, globalization and internationalization, stressing national autonomy, technological sovereignty and secure domestic supply of key goods etc. (Balsa-Barreiro et al. 2020; Charpin 2022). And in many parts of the world, foreigners, who were once welcomed as representatives of openness and a better future, are now often confronted with prejudice (Farndale et al. 2021).

China, again, is at the center of these developments, as highlighted by the Sino-U.S. tensions that are causing a multi-faceted decoupling and are considered an indication of global systemic competition (Witt et al. 2023). The Covid pandemic has dramatically exacerbated the decline in international connections, most importantly by reducing the mobility of people between China and other countries (Witt et al. 2023).

These developments have raised important and mostly unanswered questions for the economic geography discipline. Will uncertainty along with decoupling and declining mobility lead to a weakened integration of domestic economies, and will such a disintegration be fostered by programs such as the 'dual circulation' (Fang et al. 2021)? Or will countries such as China and Germany, which emphasize the benefits of maintaining a well-functioning multilateral exchange framework, keep a higher level of integration than other countries (James 2018)? How will reduced personal mobility affect trust and friendship, and eventually knowledge sharing and mutual understanding? Will a preference for national sovereignty lead to lower degrees of specialization for regional economies, lower productivity and lower income levels? Will the intention to protect the environment be compromised?

Apart from future research that will have to be carried out, it will be part of the role of economic geography to keep the scientific work and the necessary exchange going. When it comes to assessing and explaining the consequences of internationalization as well as of its opposite, research needs to include international and collaborative work.

The articles compiled in this special issue underline the advantages of international collaborative research, and at the same time shed light on important facets of China's internationalization, examining processes and outcomes at a crucial point in time: before the Covid pandemic hit. Despite focusing on different facets of China's international linkages, the research findings of the articles all highlight the advantages and progress that can be achieved through different types of linkages ranging from international scientific collaboration to the flows of talent and foreign direct investment. However, since globalization is now at a crossroads, it is becoming difficult to foresee the future development trends of these international linkages. But if the globalization process winds down, it may become difficult or even impossible for us to enjoy the benefits of international flows of knowledge, people, capital, and other crucial factors.

In terms of China's international knowledge linkages, the paper by Cao et al. (2023) in this special issue discusses a very important topic concerning the shifting geographies of global science and the shifting position of Chinese cities therein in particular. Over the past four decades, China has risen not only as a major contributor to the world's economy, but also as an important player in global scientific collaboration networks. The rise of China as well as other developing countries in global science has also fostered a more complex and polycentric landscape of global science, which was previously dominated by the European and North American countries. Although various factors are discussed in the paper by Cao et al. (2023) to account for the changing geographies of global science and the rise of China, it is worth mentioning that China's long-lasting active attitude towards globalization and global scientific collaboration has played and will likely continue to play a significant role in reshaping the landscape of global science.

The topic of economic (de-)globalization is taken up by Li's paper in this special issue, which analyzes how outward FDI from China has developed in the context provided by the Belt and Road initiative (BRI). Li (2023) proposes that BRI provides Chinese companies with alternative business opportunities that can reduce dependence on western markets. Since BRI is a high-level and long-term program, the related business opportunities, mostly arising in economically less advanced countries in close proximity to China, are viewed as very reliable. Since many countries seeking support through BRI are located in Southeast Asia, South Asia and Central Asia, companies originating from the spatially more proximate provinces in China's West may be assumed to invest there. Li's analyses, however, show that companies from China's eastern province dominate the outward investment pattern. Further details of this pattern become apparent from Li's (2023) analysis of the additional influence of firm characteristics and investment motives.

The effects of global linkages and international exchanges on Chinese companies' innovation performance is the topic of Zeng & Zhang's (2023) paper in this special issue. The authors examine the influence of foreign FDI and transnational personnel, and relate the two forms of international interaction to the concept of global pipelines. Zeng & Zhang (2023) use a quantitative approach and analyze firm-level data on more than 4,000 companies in Shanghai's Zhangjiang Park, one of China's leading high-tech and innovation zones. Their regression analyses reveal the interplay of the factors investigated on firms' innovation performance, generally showing positive influences of global pipelines on innovation. This outcome, while robust to the use of control variables, depends on the firms' characteristics, among other factors.

The focus in Yang & Bathelt's (2023) paper is again on China's outward investment. The authors examine the effects of outward investment on the Chinese home locations, using the cities' income levels as a broad and aggregate dependent variable. Outward foreign investment is assumed to exert positive influence on the home regions' income levels via knowledge spillovers and multiplier effects. With the help of regression analyses centered at the scale of Chinese cities and covering the time spans 2002-2009 and 2010-2016, Yang & Bathelt (2023) show that the proposed positive effects indeed materialize, partly dependent on investment characteristics. Absorptive capacity has a moderating role. The authors highlight, however, that the conditions that made the positive association of outward foreign direct investment and home city income possible may not be taken for granted when policies fail to support international openness.

Together, the four papers in this special issue provide a timely and meaningful compilation. Empirically, they highlight which aspects of globalization, and of China's role within globalization, are currently attracting scholars' interest. They analyze and assess the importance of international investment, the mobility of people and capital, and knowledge flows. The four papers' conceptual contribution is in understanding structures underlying and effects resulting from globalization, framed within concepts recently established and used in economic geography research. Regarding the future development of the empirical phenomena studied, however, they conclude that the path that China will travel in a globalizing or deglobalizing world is hard to predict. Economic geographers studying China's internationalization will thus have to observe recent developments

carefully and be open to examining new directions as well as to adapting concepts and methods.

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