THE ACADEMY OF INTERNATIONAL BUSINESS

Inequality, Geography and Global Value Chains

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Foreword

The Academy of International Business—United Kingdom & Ireland chapter (AIB UK&I) has a long-standing and productive collaboration with Palgrave Macmillan in producing an annual research volume. The book series is dedicated to publishing cutting-edge research in International Business (IB) that is of contemporary relevance and at the cusp of conceptual and empirical development. The first volume was published in 1996 and the current, 29th volume, marks the outcome of a subtle, yet important, change in editorial policy. With the inauguration of our roles as book series editors, the annual volumes have taken an increasing focus and shift towards collections of outputs around specific themes where chapters are closely linked and intrinsically connected.

The book *Inequality, Geography and Global Value Chains* embraces this shift beautifully around a theme that shows the dynamics in the IB field and the accelerating embrace of socio-political challenges, including those outlined in the sustainable development goals and the complex interaction between simultaneously expanding and shrinking attention to economic geographies and economic development outcomes. Geography matters and is very much intertwined with the institutional environment which also shapes the value chains the firms are part of. The geographical location of value chain activities, and how the "value" is distributed across countries, is again a very contemporary topic—which is something the chapters of this book show very well.

With ten chapters, organized into three parts, including Part I "Inequality and Institutions", Part II "Geography" and Part III "Global Value Chains", the editors compile a set of highly readable meso- and firm-level chapters. These help to understand IB phenomena through a post-COVID lens and provide a sense of realities that cannot yet be seen clearly through the fog of contemporary struggles.

Glasgow, UK — Rudolf R. Sinkovics
Lappeenranta, Finland — Olli Kuivalainen

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Are Multinational Enterprises Capable of and/or Responsible for Combating Rising Inequality?

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1 The Background to This Volume

This volume of the AIB-UKI (Academy of International Business United Kingdom and Ireland Chapter) book series is derived from the 48th Annual Conference of AIB-UKI, organized jointly with the 8th Reading International Business Conference, held at the Henley Business School, University of Reading from 8th to 9th April 2022. It was the first

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post-pandemic AIB-UKI conference held in person since 2019. The conference maintained the tradition of the AIB-UKI conference to encourage a broad range of papers to the parallel sessions, and at the same time, the Reading tradition of open-ended debates and interactive plenary sessions. This volume is composed of a careful selection of articles from the conference.

The central theme of the conference was *Contemporary Issues in International Business: Inequality, Geography, and Global Value Chains* (GVCs). During the last decade, we have been observing growing economic uncertainties and many socio-cultural challenges, which may suggest the possibility of seeing the tail end of globalization. While many talk about the world's grand challenges (e.g., climate changes, public health, inequality, poverty) affecting not only developing but also developed countries (Buckley et al., 2017; George et al., 2016), national governments tend to vary in how they respond to these challenges, and as a result, the world is faced with the absence of effective multilateral coordination but divergent regulatory institutions and geopolitical tensions. Societies have become increasingly intolerant to immigration, which in turn reduces people's mobility. At the same time, populist movements advocating nationalism and economic protectionism have also gained influence, pushing back against global cooperation and key aspects of globalization trends of the past three decades (Meyer & Li, 2022; Rodríguez-Pose, 2020). In particular, the tensions resulting from the growing inequality within and between countries and individuals, coupled with a rapidly changing global business environment and many recent disruptions in the global economy, beg the important question about the role of multinational enterprises (MNEs).

The economic and social consequences of the COVID-19 pandemic have made even more obvious the growing inequality between geographical locations and individuals both within and across countries. More importantly, the overall impacts of inequality may be substantial over the medium-to-long term due to a slow and uneven recovery in many developing countries. Disparities in school learning losses during the pandemic period will also have long-lasting effects on inequality of opportunity and social mobility (Narayan et al., 2022). MNEs are key

actors in globalization, not only through trade and investment but also as players and coordinators of GVCs. By both passive and active means, MNEs can influence the opportunities for workers and societies, both within their hierarchies and those of their suppliers and customers. However, it is often argued that MNEs are primarily responsible to their shareholders, and as such, social injustices are not always within this remit, despite the talk of corporate social responsibility and the United Nations' Sustainable Development Goals (SDGs). MNE-coordinated GVCs face challenges in enforcing higher labor standards, working conditions, and environmental protection of contractual, lower-tier suppliers. In some instances, this has seen a return to internalization and a resultant increased vertical integration, which may have other side effects (Narula, 2019). MNE activities also play an important role in determining or reinforcing spatial inequalities. Global cities have become prominent locations for MNE investment, especially in knowledge-intensive activities. This has contributed to the process leading to a 'winner-takes-all' economic geography. It has been reported that MNEs can substitute local connections with international ones. This can exacerbate the local disconnectedness between the city and its surroundings. However, MNEs are also known for their potential contribution to local spawning by engaging with the local entrepreneurial ecosystem to create and renew local connectedness. The pandemic has severely hit many cities and urban-oriented systems. It could bring about a series of social changes in the structure and morphology of cities, suburbs, and metropolitan regions which might affect their attractiveness to MNEs. This has the potential to lead the way to the emergence of intermediate cities and contribute to reducing the inequality between cities and locations.

In the conference, we have discussed three related questions: first, can MNEs really play a role in reducing inequality, and if so, to what extent? Second, can MNEs help reduce inequalities between core and periphery or between cities and their surroundings? Third, can MNEs cascade sustainability compliance throughout their GVCs? These issues were debated in three Reading-style plenary sessions with stellar panel members, a diverse mix of senior and junior scholars from around the world.

1.1 Can MNEs Really Play a Role in Reducing Inequality, and if so, to What Extent?

For the first question,[1] our panelists argued that MNEs can play a critical role in reducing economic and social inequality in various ways. For example, MNEs may bring their firm-specific advantages and knowledge assets (e.g., technologies, best practices) that local firms can benefit from learning new knowledge and upgrading their capabilities. This in turn can lead to the upgrading of local workforce skills, wages, and eventually reduce inequality. It was also noted that, in some regions with weaker governments and institutions such as Africa, MNEs can contribute to the development of both formal and informal sectors, creating value together with local stakeholders, and eventually reducing inequality and improving social conditions. On the other hand, the discussion pointed out that MNEs have limited capabilities and incentives to address inequality. Indeed, MNEs seem to engage in strategies to be "good and socially responsible" companies to help reduce inequality, enforce human rights, or mitigate environmental damages, but their commitment and efforts to address these issues in the form of corporate social responsibility activities are insufficient or at least, not ambitious. MNEs are taking too much credit for doing so little, while examples of MNE misbehaviors abound, which are too often classified as merely 'unintended' consequences.

1.2 Can MNEs Help Reduce Inequalities Between Core and Periphery or Between Cities and Their Surroundings?

Regarding the second question,[2] it was noted that MNEs can contribute to the local disconnectedness by creating 'economic death zones' beyond

[1] Panelists for this question include Rajneesh Narula (University of Reading, UK), Farok Contractor (Rutgers University, USA), Anne Jacqueminet (Bocconi University, Italy), Aloysius Newenham-Kahindi (University of Victoria, Canada), and Irina Surdu (University of Warwick, UK).

[2] Panelists for this question include Davide Castellani (University of Reading, UK), Andreas Schotter (Western University, Canada), Andrés Rodriguez-Pose (London School of Economics and Political Science, UK), Katiuscia Lavoratori (University of Reading, UK), and Luisa Gagliardi (Bocconi University, Italy).

the catchment areas of large or global cities. Stated differently, global connectedness may disrupt local connectedness, as a result of two factors: (i) global orchestration of resources and markets, (ii) lack of sufficient local entrepreneurial eco-systems in the catchment areas of global cities (Lorenzen et al., 2020). Recently, we have also observed that large MNE headquarters location decisions can shape the landscape of major cities and subsequently increase inequality by pushing up the living costs and leading to increasingly gentrified cities. However, our panelists also discussed that a non-trivial share of MNE activities is attracted to non-core areas. Another recent trend has been the re-shoring or near-shoring of economic activities that have the potential to benefit peripheral areas. In short, MNE activities are attracted by different location characteristics (Castellani et al., 2022), and knowledge-intensive activities have increasingly concentrated in core areas, which in turn, may create tensions and increase inequality within and between countries and cities. This begs an important question about the role of institutions and policies in affecting MNE strategies and decisions, as well as the necessary conditions for lagging cities and locations to become more attractive for inward investment.

1.3 Can MNEs Cascade Sustainability Compliance Throughout Their GVCs?

Finally, regarding the third question,[3] the debate was focused on the conundrum of how MNEs can ensure cascading sustainability compliance along their GVCs. Today, MNEs face huge market and non-market pressures to promote sustainability from various stakeholder groups. However, many MNEs, even with the best intentions, struggle to ensure sustainability compliance with their suppliers. Our panelists mainly discussed whether MNEs have 'what it takes' to ensure cascading sustainability compliance throughout their GVCs and whether they are willing to do so. The discussion also touched on the internalization theory of

[3] Panelists for this question include Rajneesh Narula (University of Reading, UK), Ari Van Assche (HEC Montréal, Canada), Stephanie Wang (Indiana University, USA), Luciano Ciravegna (INCAE Business School, Costa Rica), Valentina de Marchi (University of Padova, Italy), and Vivek Soundarajan (University of Bath, UK).

cascading compliance, in other words, whether promoting sustainability in their GVCs will lead to more internalization or not. It was mentioned that MNEs have 'new' control and coordination mechanisms—which are not available in the market—that they can use to promote cascading compliance (e.g., digital technologies). Moreover, MNEs can develop a unique external governance capability to promote compliance in their GVCs. On the other side, our panelists also argued that the 'carrots and sticks' that MNEs face for promoting cascading compliance are not sufficient, while internalizing transactions that are currently external to the firm may prevent MNEs from investing in 'efficient' governance mechanisms. Indeed, implementing cascading compliance is usually too expensive and complex for MNEs (Soundararajan & Brammer, 2018).

Ultimately, in the present world where global disruptions are prevalent, globalization is being challenged, and MNEs are under increasing pressures to promote sustainability; both managers and policymakers will need to be smarter about decision-making, particularly concerning the interest of various stakeholders. Beyond the broader context of the panel discussions, this volume seeks to provide a number of important contributions to some of the most current debates in the international business (IB) research. A variety of contemporary issues and questions about inequality, geography, and GVCs are all put under the spotlight. In doing so, this book aims to provide a richer understanding of MNE activities and how they are being affected by the complex and dynamic environmental settings in which they operate.

2 Contributions to This Volume

2.1 Part I: Inequality and Institutions

Part I offers a collection of papers that investigate the intricate connection between globalization, MNEs, and inequalities, as well as the mediating role of different types of institutions at different levels. During the last four decades, the world has seen a sharp increase in within-country inequalities, that is no longer circumscribed to low- and middle-income

countries. At the same time, the world has seen a rapid increase in globalization driven primarily by the cross-border activity of MNEs. Although some research has recently pointed out that MNEs can be a key source of increased inequalities in the host economies—either by direct or indirect action or by inaction—our understanding of the role of MNEs in affecting within-country inequality remains at a very early stage (Narula & van der Straaten, 2021). Moreover, the interaction of institutions at different levels plays a crucial role in determining the social, economic, and environmental outcomes of both market and non-market firm strategies. Part I comprises three chapters that address some compelling questions revolving around MNEs and inequalities, and the mediating role of institutions that, so far, have attracted limited attention in the IB literature.

MNEs may affect social and economic inequalities, either directly through their investment and divestment decisions or indirectly through linkages with the domestic sector in the host economy. In the first chapter of Part I, "Left Behind. Research on Foreign Divestment and Local Employees," Nguyen takes stock on the literature on foreign divestment decisions—the closing or selling-off an active business unit in a host country—and local workers, while proposing avenues for further research around this topic. By means of a systematic review and meta-analysis of the literature, the author uncovers two main imbalances in the foreign divestment scholarly work. First, while the bulk of the empirical work on this matter has focused on divestment choices from the MNEs' perspective, for example, exit costs and value creation, very little work has been undertaken to studying the relationship between MNEs divesting choices and local workers. Second, most of these papers address how local employees influence MNEs' divesting decisions, while only a handful study the effects of divestment modes and processes on local employees' social and economic outcomes. This seems to be a striking omission given that local employees, especially low-skill workers, will be disproportionally affected—for instance, decrease in earnings, job loss, reduced living standards, and truncated career development—by foreign divestment decisions, thus potentially increasing inequalities. After a thorough review of the state of the art, Nguyen offers rather thought-provoking lines for future research in both directions of the 'foreign divestment-local employees' nexus.

MNEs may impact social and economic inequality not only via their foreign direct investment (FDI) activities but also through the implementation of their corporate social responsibility (CSR) strategies. In the second chapter of Part I, "'Universal' CSR and Its Discontents in an Emerging Economy," Brejnholt discusses how different institutional configurations have led Brazilian MNEs to increasingly apply universal CSR practices that disregard the local context in which they operate, and how this leads to different outcomes which may create different types of discontents. The author challenges the view that intended social and environmental outcomes of CSR are a result of 'weaker' domestic institutional quality, but rather they are a result of how different institutional prescriptions interact under different institutional arrangements. Drawing on 30 semi-structured interviews with relevant CSR stakeholders, the findings suggest continued concerns for CSR decoupling between policy and practice leading to unequal socioeconomic and environmental outcomes in local communities. The causes for such decoupling are found in institutional incongruences between community-oriented CSR engagement and the increased expectation for marketized forms of 'universal' CSR adoption—associated with global standards guided by financial priorities over social and environmental engagement. In addition, these incongruences tend to be enhanced by the lack of systematic enforcement and adequate oversight by the State, which effectively empowers a limited group of Brazilian MNEs rather than the public. Therefore, leaving CSR practice susceptible to ambiguous reporting and externalized responsibility (or irresponsibility) ultimately leads to rising unequal social, economic, and environmental outcomes in local communities.

Finally, MNEs may also have effects on vulnerable groups of the population through their corporate political activity (CPA) actions or inactions in response to institutional schisms. In the last chapter of Part I, "Using Non-market Strategies to Respond to Institutional Schisms: The Case of Florida House Bill 1557 and the Walt Disney Company," Moore, Pacheco, Brandl, and Dau make an account on how the CPA actions or inactions of a well-established MNE like the Walt Disney Company, in response to an institutional schism, may affect international human rights agendas, for example, those related to equity, diversity, and inclusion (EDI). In particular, the authors analyze how Disney's response to an

institutional schism created by United States national policies (Constitution and Supreme Court precedents) and those developed by the state of Florida, that is, House Bill 1557 (also referred to as the 'Don't Say Gay' bill) has the potential to actively contribute to promoting or hindering a public agenda for social change, such as the rights of the LGBTQIA+ community that has consistently suffered significant social marginalization. After facing considerable backlash from consumers and activists due to the company's initial silence, Disney chose to transform the institutional environment in the state through explicit CPA for EDI. By using the Disney case study, the authors show how non-market strategies are vulnerable in the face of institutional schisms that create uncertainty and ambiguity in business environments, especially when they ensue from misalignment of national and subnational level institutions. Importantly, the discussion also highlights how firms' actions have significant consequences on social outcomes and can either support or hinder their advancements.

2.2 Part II: Geography

In the age of the new economy, the boundary of world business has been undergoing challenging and dynamic changes significantly influencing FDI activities. Part II of the volume, therefore, includes three thought-provoking studies that aim to address some critical questions regarding the value-creating role of FDI and what influence the FDI outflows and inflows. In particular, rooted in the political institutions literature and economic geography and based on multiple levels of analysis, Part II combines contextualized insights into some topical and timely issues of FDI, which are crucial but have remained understudied. The efforts to address these FDI questions can lead to both economic and social consequences. Part II comprises one conceptual paper studying China as the home country context and two empirical studies using EU regions as the host country context. Taken together, the three chapters included in Part II can not only advance the field but also hold the potential to enlighten a community of MNE managers and policymakers.

The first chapter of Part II is entitled, "Political Risk and Location Choice of Chinese SMEs." In this chapter, Chen, Giroud, and Rygh bring to the fore an important yet under-explained research question: the association between host country political risk and the location choice of Chinese small and medium-sized enterprises (SMEs). This research question is intriguing and relevant in that FDI by Chinese SMEs has increased significantly in the past two decades. However, little scholarly attention has been paid to the location choices of these SMEs given the particular role of host country political risk. To address this question, the authors contrast and compare multiple political institutions approach lenses such as OLI paradigm, institutional economics, and organizational institutionalism, while accounting for both China and the host country institutional factors. The key message from this chapter is that what seems to have applied to large Chinese MNEs, for example, being less sensitive to host country political risks, might not be necessarily applicable to Chinese SMEs. Meaningful theoretical adaptations are therefore needed in order to better explain the outward FDI pattern of Chinese SMEs. In addition, this chapter suggested some fruitful avenues for future research. Given the increased geopolitical tensions, China's "One Belt One Road" initiative and its "Go Global" initiative, this conceptual piece is very topical.

The second chapter of Part II is entitled, "FDI in Balkan Countries: The Role of EU Accession on FDI Attraction." In this chapter, Benfratello, Ambrosio, Sangrigoli, and Scabbia investigate the link between EU accession and the positive gains in FDI into Balkan countries. To that end, the authors take a sub-regional perspective and use a comprehensive set of factors to single out the country-of-origin heterogeneity. These factors include market size, openness to trade, wages and governance, and different forms of co-location between the new investment and those previously located in the same host country. Based on 9185 greenfield FDIs locating in 8 Balkan countries from 84 origin countries worldwide over the 2003–2019 period, the authors found that EU accession is associated with positive gains in FDI. The findings, however, appeared to be driven by European investors, while non-EU MNEs do not seem to be affected by the EU membership of potential destinations. This undertaking, which is among the first to investigate FDI issues in Balkan countries, is well-motivated. This is because FDI inflows are generally positively

associated with unemployment reduction, infrastructure development, and managerial and technological advancement in the recipient country contexts while Balkan countries have long suffered from political and ethnic conflicts, thus receiving lower FDI inflows.

The final chapter of Part II is entitled, "Innovative Foreign Direct Investments and the Knowledge Sources for Green and Digital Inventions: A Patent-Based Analysis." Grounded in the economic geography literature, Bello, Castellani, Damioli, Marin, and Montresor highlight the important role of FDI inflows and outflows in knowledge exchange and transfer with respect to green and digital technologies for European countries. More specifically, the authors explore directly whether knowledge exchange that is beneficial to green and digital technology development will occur due to the linkage between two locations established by FDI. Based on a gravity model, this chapter provides interesting empirical evidence such that FDI inflows, in the form of either greenfield FDIs or cross-border M&As, into EU metropolitan and NUTS (nomenclature of territorial units for statistics) 3 regions did enable EU territories to access knowledge developed in the home countries of the MNEs that enter these EU territories while FDI outflows from these EU territories did not achieve significant reverse knowledge transfer. The authors also find that the positive relationship between FDI inflows and the knowledge base of green and digital technologies appears to be stronger in the case of digital technologies and when it is driven by more recent EU patent activities. Combined, the findings reveal the important pipeline role of MNEs carrying out innovative activities in the EU in enabling EU regions to get access to sources of knowledge abroad. Considering the current COVID-19 disruptions, soaring costs of energy, and accelerated digitalization trend, the research question is very timely.

2.3 Part III: Global Value Chains

Part III offers a collection of chapters which delve into the complex phenomenon of GVCs, focusing on the geographical location of value chain activities, the distribution of "value" across countries, the impact of GVC participation on environmental issues, and the role of GVCs on

resilience. GVCs have been investigated by different but related disciplines and analyzed from different levels, namely macro, meso, and micro. The three chapters in this part investigate the topic with a multidisciplinary approach, combining insights from IB, international economics, economic geography and regional science, and offer new evidence at different levels of analysis.

In the first chapter of Part III, "Assessing Value Capture in GVCs: Conceptual Issues and Evidence at the Country Level," Coveri, Paglialunga, and Zanfei investigate the geographical distribution of value chain activities between advanced and emerging economies by providing new empirical evidence on the "smile curve", a well-established concept in IB and international economics, where empirical evidence is still limited. Their study aims to overcome some of the data limitations of previous empirical studies on measuring the specialization of countries across GVC functions. More specifically, they use micro-level inward FDI data from the fDi Markets database, with global coverage during the period 2003–2018. The advantage of this dataset is that it distinguishes the specific functions involved in the FDI events, as it reports the value chain function for each FDI project (e.g., research and development, manufacturing, etc.). Their analysis is then developed in two parts. First, they measure the "functional specialization in FDI" of the country computing an FDI-based specialization index for the different stages of the value chain (i.e., upstream, production, and downstream). Findings show that advanced economies are more specialized in intangible and knowledge-intensive upstream and downstream activities, while low- and middle-income economies are more specialized in production activities. Second, their analysis continues with a focus on the economic returns of such FDI-based specialization. In detail, they find that a higher specialization in production functions is associated with a lower amount of value captured from GVC participation, measured with the domestic value added embodied in exports. These findings shed new light on the international division of labor and the distribution of activities, hence value along the value chain between advanced and emerging economies.

The second chapter of Part III, "The Relationship Between Global Value Chains, Green Technologies, and Air Pollution. Initial Evidence for EU Regions" by Colozza and Pietrobelli, discusses the role of GVC

participation in green patents and air pollution at the regional level in Europe. GVCs may facilitate the diffusion of knowledge, including "green" (environment-related) knowledge, and contribute to the adoption and production of "green" technologies. In turn, green technologies can have an impact on reducing emissions of air pollutants. Furthermore, GVC participation could reduce air pollutant emissions, but the "pollution haven" argument must be included in the whole picture: GVC participation can ultimately have a negative impact on emissions, because polluting activities might be offshored in other regions rather than those participating in GVCs. This chapter contributes to the literature by offering evidence on the above relationships, focusing on NUTS-2 regions in Europe. More in detail, the analysis is carried out in two stages. First, the relationship between GVC participation and green technologies in EU regions is assessed, and the results show a positive correlation between participation and green patents. In the second part of the analysis, they investigate the effect of green patents and GVC participation on the level of air pollution per capita. Preliminary evidence suggests that lower pollution levels are present in regions with a higher number of environment-related patents. Moreover, the data show an interesting negative correlation between GVC participation and air pollution, suggesting that regions with greater GVC participation have lower levels of emissions. However, the analysis highlights the importance of taking into account the "pollution haven" hypothesis, and one way to control the dependence of regions on productions offshored in other territories is through backward participation.

In the last chapter of Part III, "Global Value Chain Resilience and Reshoring During Covid-19: Challenges in a Post-Covid World," Marvasi provides a collection of empirical evidence on GVCs and resilience during the COVID-19 disruptions, moving from an aggregate country-level to a micro-level perspective, by looking at the response of Italian companies to COVID-19 shocks. Starting with a country-level picture, evidence shows a dual role of GVC participation during the pandemic, acting as a transmission channel of shock during the first wave of the pandemic, but contributing to a relatively stronger resilience phase in the second wave. This correlation between resilience and GVC participation is confirmed also in the analysis of sectoral data. The pandemic has

dramatically affected all service industries, less internationally tradable and more sensitive to face-to-face interactions. However, a strong heterogeneity appears even among manufacturing industries, where industries less involved in GVC are hit more seriously. Moving toward a firm-level focus, the chapter shows that larger and more internationalized firms are more resilient and suffer less from COVID-19 shocks, based on the evidence provided by the World Bank Enterprise Survey. When looking at the GVC angle, data from the Business Outlook Survey on industrial and service firms in Italy by the Bank of Italy support the idea of the sticky nature of GVCs, with a slight sign of regionalization in terms of the location of both production facilities and suppliers. The chapter concludes by discussing some key factors playing a role in the future of GVCs. Diversification of suppliers and regionalization of GVCs can reduce the exposure to shocks driven by interconnectedness, but at the risk of higher costs and reduced efficiency. The nature of the shock can also affect companies' decisions, as the impact and the response to temporary and permanent shocks can be very different.

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Part I

Inequality and Institutions

2

Left Behind. Research on Foreign Divestment and Local Employees

Ha T. T. Nguyen

1 Introduction

Since February 2022, over 1000 multinational enterprises (MNEs) have withdrawn their subsidiaries from Russia, under pressure from investors and customers regarding the Russia–Ukraine war (Yale, 2022). The exit has occurred across different business sectors and at different times during the conflict (New York Times, 2022). While some are temporary, for example, pausing sales in Russia, many exits amount to the permanent closure of subsidiaries (New York Times, 2022). For some years now, the world economy has been dealing with several geopolitical tensions and natural disasters, that is, the COVID-19 pandemic, US-China trade tensions, Brexit, and global warming. These events have produced a trend for de-globalization, where foreign divestment, in the form of liquidating or selling off a foreign subsidiary, is of particular interest to the

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international business literature (Coudounaris et al., 2020; Schmid & Morschett, 2020).

The prior research has provided knowledge on why and how MNEs divest their foreign subsidiaries. Nevertheless, while both academic researchers and business experts have discussed the impact of the exit decision on MNEs' perspectives, for example, exit costs and value creation after the divestment announcement (Cao et al., 2008; Meschi, 2005; Shepherd et al., 2014; Wright & Ferris, 1997), there is a lack of attention paid to the circumstances of the divested subsidiaries and, of particular interest, that of the local employees. This is a striking omission, given that local employees, especially low-skilled workers, have often suffered severely from significant changes in their earning outcomes, living standards, and career development, which may increase social inequalities (World Investment Report, 2020; World Inequality Report, 2022). More importantly, as the linkage between unemployment persistence and foreign subsidiary divestment has a significant impact on the welfare of the economy (Alvarez & Görg, 2009), we argue that the disregard for the impact of foreign divestment on local workers should be addressed, as it may enhance inequality effects in host locations.

It is important to explore the linkage between foreign divestment and local employees, in terms of social inequality, career development, and unemployment persistence. For instance, the World Inequality Report (2022) has shown that national incomes in 2020 fell between 6 and 7.6% in different countries, whereas the gap between the top of the wealth distribution and the rest of the population has widened remarkably during the pandemic. This inequality—economic, social, and in opportunities—has grown partly because of job losses, declining business transitions and development, skill-biased technological change, or reconfiguration in global value chains. Foreign divestment is a notable phenomenon in this context. It relates to closing or selling off an active business unit in a host country. Employees who worked in the divested unit are likely to lose their job, see a reduction in earnings, or experience changes in their career development. More importantly, the accumulation of specific human capital or bounded skills that local employees acquired during their time at the divested unit may result in persistent unemployment. However, our understanding on the consequences of foreign divestment

mainly concerns the MNEs or senior headquarters executives, while its impact on local employees has been largely neglected. The World Social Report has included the reduction of individual inequality as a development goal for the 2030 Agenda (UNDESA, 2021). Hence, our study aims to support this goal by exploring how foreign divestment influences local employees, both subsidiary managers and non-managerial staff.

In this research, we focus on the two-way relationship between foreign divestment and local workers, that is, the impact of local workers on foreign divestment and vice versa. In general, local workers refer to all local employees working at the foreign subsidiaries, for example, subsidiary managers, and production and non-production workers. We do not consider expatriates working for the parent firm on foreign assignment as local employees.[1] In addition, we focus mainly on two levels of subsidiary hierarchical structure, that is, local subsidiary managers and non-managerial local workers who are not involved in the decision-making process at the subsidiary. Precisely, we aim to explore how local workers influence foreign divestment propensities and divestment modes, and, more importantly, how the divestment decisions affect different aspects of the local worker's life, for example, in terms of economic and social outcomes.

Our study aims to contribute to the foreign divestment literature and international management research in two ways. First, we synthesize the previous findings on the relationship between foreign divestment and local workers. The synthesis takes stock of our knowledge on the impact of foreign divestment on local workers and, more importantly, offers new future research avenues. Our review shows that previous scholars have paid scant attention to the relationship between local workers and foreign divestment. This is a striking omission given that local workers have a significant connection with foreign divestment. As noted, the relationship between local workers and foreign divestment is two-way, that is,

[1] We do not consider expatriates in our study, largely because they may not be affected by the divestment of the foreign subsidiaries. Compared to local workers, they may easily move back to the parent headquarters or be transferred to other foreign subsidiaries (Fang et al., 2010; Harzing, 1995; Wang et al., 2009). In addition, the connection between expatriates and divested subsidiaries is significantly different from the linkage between local workers and divested units (Sartor & Beamish, 2018, 2020). The connection may be looser, compared to the expatriates' relationship with the headquarters.

local workers influence foreign divestment propensities via human capital or labor productivity, while the foreign divestment also changes local workers' career and personal development path—for example, job loss, persistent unemployment, future salaries—as well as workers' attitude and reaction toward the sell-off process and post-divestment performance. Therefore, our review will retrieve primary studies discussing both directions of the relationship.

Second, building on our findings, we propose a set of future avenues pertaining to the linkage between local workers and foreign divestment. The proposition constitutes a stepping stone to move the current literature on foreign divestment to the next level, from the causes of foreign divestment to its consequences. We further highlight the importance of understanding both foreign divestment and divestment implications—for example, divestment mode choices or the divestment implementation process—since the effects of divestment decisions on local workers will be contingent on different modes of divestment, for example, sell-off versus liquidation. In this respect, our research encourages future studies to delve into specific linkages between local workers and foreign divestment decisions.

2 An Encompassing Definition of Foreign Divestment

As noted above, although foreign divestment has emerged as a central topic in different fields of research, there are still misconceptions about foreign divestment and its implications that may affect the generalizability and reliability of previous findings. Boddewyn (1979, p. 21) was among the first scholars to define foreign divestment, as selling "deliberate and voluntary liquidation or sale of all or a major part of an active operation." Later, scholars simply defined de-internationalization, de-investment, or divestment as any reduction of a firm's engagement in or exposure to cross-border activities (Chang & Singh, 1999; Wan et al., 2015). Moschieri and Mair considered foreign subsidiary divestment as a form of corporate divestment, which refers to the disposal of a parent

company and sales of assets, facilities, product lines, subsidiaries, business units, and divisions. Recently, researchers have referred to foreign divestment as the full liquidation or sell-off of foreign subsidiaries by MNEs (Arte & Larimo, 2019; Schmid & Morschett, 2020; Song, 2021). This definition is popular in the extant literature because it provides a consistency across empirical studies.

International business and management scholars have further defined foreign divestment modes based on changes in a corporate structure. For instance, Cefis and Marsili (2005) divide divestment modes into closure, mergers, and acquisitions (M&A), and radical restructuring. Irfan et al. (2018) also consider three types of divestment mode, voluntary liquidation, involuntary liquidation, and acquisition. Nonetheless, foreign divestment is not emphasized in the two articles. Very few scholars have differentiated between full and partial divestment (Donald, 2001; Flickinger & Zschoche, 2018). International business researchers, for example, Benito and Welch (1997), have considered divestment as one of the different approaches to de-internationalization that other approaches have included, such as reduction of operations, switching to modes of operation with lower levels of commitment, sell-off or closure of foreign subsidiaries, reduction of an ownership stake, and seizure by local authorities.

It is worth mentioning that the finance and accounting literature has focused more on the differences in financial structure or status of the parent MNEs, thereby categorizing divestment into spin-off, equity carve-out, split up, and sell-off (Brauer, 2006; Brauer & Wiersema, 2012; Hamilton & Chow, 1993; Prezas & Simonyan, 2015; Kolev, 2016; Damaraju et al., 2014). In addition, Villalonga and Mcgahan distinguished divestment from alliances and acquisitions, based on different phases along the integration continuum. Kolev (2016) and Flickinger and Zschoche (2018) further referred to restructuring and divestitures as two types of divestments when focusing on changes in financial situation. However, the international aspect is not emphasized in this stream.

For the purposes of this research, we focus on only two types of divestment mode: sell-off, which refers to the outright sale of a subsidiary, and liquidation or closure, referring to the shutdown of a subsidiary (Konara & Ganotakis, 2020; Mata & Portugal, 2000). The main reason behind

this focus is that the two types are significantly different from each other in terms of the relationship of the divested unit and parent firm. Moreover, there are important changes in the corporate portfolio and financial status after the divestment. In addition, we discuss the involvement of local workers in the foreign divestment process and outcomes. The term process fundamentally refers here to the period starting with the announcement of the divestment up to the moment of its conclusion (Cairns et al., 2008; Defren et al., 2012; Nees, 1981). Furthermore, primary studies have deemed divestment outcomes the value creation for the MNEs after the divestment is announced (Zschoche, 2016). We acknowledge that research on the divestment process and outcome has not received the attention it deserves, compared to that on foreign divestment propensities and modes. Hence, we maintain that our discussion could provide an extensive understanding on the topic of foreign divestment.

In this review, we define foreign divestment as ***a strategic decision by which an MNE withdraws its subsidiaries from host countries in two different ways: either selling off their full assets or stocks and liquidation, that is, closing targeted subsidiaries.*** By definition, we exclude studies that discuss partial divestment or a minor change in ownership levels. In the present study, "divestment" refers to foreign divestment, unless otherwise specified, and "divestment process" refers to the implementation of a divestment announcement up to divestment completion. Further, we define divestment outcome, or the consequences of foreign divestment, as the changes in local employees once the divestment process is completed. Table 2.1 highlights definitions of foreign divestment and divestment modes in prior studies.

3 What We Know About the Relationship Between Foreign Divestment and Local Workers

As stated, the main objective of this work is to explore the diverse relationship between foreign divestment and local employees, for example, local subsidiary managers and non-managerial local workers. Thus, we

Table 2.1 Definitions of foreign divestment and divestment modes

Author(s)	Definitions
Foreign divestment	
Boddewyn (1979)	The deliberate and voluntary liquidation or sale of all or a major part of an active operation.
Bane and Neubauer (1981)	The failure of an activity in a business context is often not black and white but a matter of degree, and furthermore "can only be judged in relation to the management's original aims for the activity…the act of liquidation as given by the data as a surrogate for failure."
Tsetsekos and Gombola (1992)	Plant closure referred to the closure of foreign plant that does not reopen during the research period.
Benito (1997)	Forced divestments refer to the seizure of foreign-owned property, i.e., actions referred to as nationalization, expropriation, or confiscation, where change of ownership is forced upon the investor. Deliberate divestment is based on strategic considerations leading to the voluntary liquidation or sale of all or a major part of an active operation.
Luo (1998)	"IJV success" is generally defined as the accomplishment of the parent firm's strategic for the venture. Otherwise, it is "IJV failure."
Bergh (1998)	Acquisition success was defined in terms of whether the acquisition was divested (unsuccessful) or retained (successful).
Benito (2005)	Foreign divestment can be seen as an adjustment, a failure, or a result of restructuring.
Palmer and Quinn (2007)	Foreign divestment is not always a reactive measure or a sign of market failure, but quite often an emerging strategic action.
Moschieri and Mair (2008)	Corporate divestment refers to the disposal of the parent company and sale of assets, facilities, product lines, subsidiaries, business units, and divisions. Hence, foreign subsidiary divestment is a form of corporate divestment.
Wan et al. (2015)	International divestment, or de-internationalization, is generally understood as the reduction of a firm's international operations.

(*continued*)

Table 2.1 (continued)

Author(s)	Definitions
Our review	***Foreign divestment refers to the full exit of an active foreign subsidiary of a multinational enterprise (MNE) from a host country. Two elements that differentiate foreign divestments from others, i.e. corporate divestment, domestic divestment, are the foreign aspect (compared to domestic) and the subsidiary level (compared to a small reduction in ownership, market exit, or corporate divestment). The subsidiary exit may or may not relate to market exit, depending on how many subsidiaries the MNE operates in the host country. Foreign divestment could be a form of corporate divestment, especially when the MNE wants to refocus on its core products or strategies. Foreign divestment is not always caused by issues that stem from problems, i.e., poorly performing units, but might be a strategic reaction.***
Foreign divestment modes	
Benito and Welch (1997)	MNEs could take several approaches to de-internationalization strategies, including reduction of operations, switching to modes of operation with lower levels of commitment, sell-off or closure of foreign subsidiaries, (reduction of ownership stake and seizure by local authorities), and foreign divestment.
Mata and Portugal (2000)	There are two types of divestments: sell-off, referring to the outright sale of a subsidiary; liquidation or closure, referring to a subsidiary shutdown.
Alexander et al. (2005)	Divestment is a facet of corporate restructuring, and takes different forms: financial restructuring, portfolio restructuring, organizational restructuring, and multinational and spatial dimensions of restructuring.
Villalonga and McGahan (2005)	There are three types of divestments, including liquidation, alliances, and acquisitions, differing from each other based on the integration of the continuum.
Palmer and Quinn (2007)	There are different forms of foreign divestment. Depending on operational and non-operational dimensions to navigate the differences amongst them.

(*continued*)

Table 2.1 (continued)

Author(s)	Definitions
Cefis and Marsili (2005)	There are three types of divestments: closure, mergers, and acquisitions (M&A), and radical restructuring.
Coe et al. (2017)	There are different forms of foreign divestment, including closure of a number of stores or channels; financial restructuring in terms of the ownership and/or profit expectations of a subsidiary; organizational restructuring with respect to retail processes or formats; and/or total exit from a particular territory.
Irfan et al. (2018)	There are three types of divestment mode: voluntary liquidation, involuntary liquidation, and acquisition.
Flickinger and Zschoche (2018)	Depending on changes in the financial situation, there are two divestment modes: restructuring and divestitures.
Our review	***There are several approaches that MNEs pursue to divest their foreign subsidiaries. Depending on changes in financial status, the integrated continuum process, or levels of divestment, foreign divestment modes would in this review be considered sell-off vs. liquidation.***

first retrieved primary studies on the impact of local workers on foreign divestment, and the inverse, that is, the impact of foreign divestment on the local employees. More specifically, our review also includes research on the implications of foreign divestment, for example, divestment mode choices, process implementation, and outcomes. In particular, the examination of foreign divestment outcomes will focus mainly on the impact of foreign divestment decisions on local employees. Elaborating on the synthesis, we develop our proposal for future research on the foreign divestment—local workers relationship.

3.1 Literature Review Search

To provide a systematic review of the previous literature on the relationship between foreign divestment and local employees, we adopted the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework (Liberati et al., 2009). To this end, we first

retrieved previous studies on the foreign divestment topic using three leading electronic resources for representing academic research: the Scopus, ISI Web of Science, and ABI ProQuest databases (Rialp et al., 2019). These academic sources provide wide-ranging access to bibliographic and citation information. We collected all the relevant literature published from 1979 to 2021, and then created a group of keywords to use for our search of the domain.[2]

The second step was to manually search for studies from January 1979 to December 2021 in 20 leading and widespread journals in the international business and management fields,[3] such as *Academy of Management Journal*, *Academy of Management Review*, *Journal of Management Studies, and Journal of International Business*. The top 20 journals were selected based on being "leading" in both the academic community and the Financial Times business schools ranking. The journals are also popular in terms of publishing reviews and foreign divestment research.

Third, we applied the "ancestry" approach and backward-traced the references in the primary studies collected in the first two steps. Finally, we checked previous reviews (Arte & Larimo, 2019; Coudounaris, 2017; Coudounaris et al., 2020; Schmid & Morschett, 2020) in the existing literature to identify any missing articles. Further, we talked with well-known scholars in the international business field, especially in foreign divestment research, to see if we could identify any studies that were

[2] Our key search terms included words such as: "divestment," "divestiture," "exit," "sell-off," "closure," "de-diversification," "longevity," "survival," "duration," "termination" "subsidiary manager," "local employee" "local worker," "inequality." To compile the empirical studies, we employed keyword searches and developed a comprehensive syntax, using terms such as "MNE,*" *"MNC" and "divest,*" "longevity," "duration," "fail,*" "survi,*" or "performance." We also specified not to include "corporate divest,*" "corporate exit," which refer to corporate divestment as a full liquidation or sell-off of a whole corporation, not just a subsidiary, "industry exit," "*new firm," "*new venture," "SMEs," "export," "corporate social responsibility," "expropriation," and "entrepre*" in our search.

[3] Our manual search in the top 20 leading journals including (1) *Academy of Management Journal*, (2) *Academy of Management Review*, (3) *Journal of Management Studies*, (4) *Journal of Management*, (5) *Organization Science*, (6) *Organization Studies*, (7) *Strategic Management Journal*, (8) *Global Strategy Journal*, (9) *Journal of International Business*, (10) *Management International Review*, (11) *International Business Review*, (12) *Journal of Business Research*, (13) *Journal of World Business*, (14) *Asia Pacific Journal of Management*, (15) *British Journal of Management*, (16) *Management Science*, (17) *Administrative Science Quarterly*, (18) *Journal of International Marketing*, (19) *International Marketing Review*, and (20) *European Business Review*.

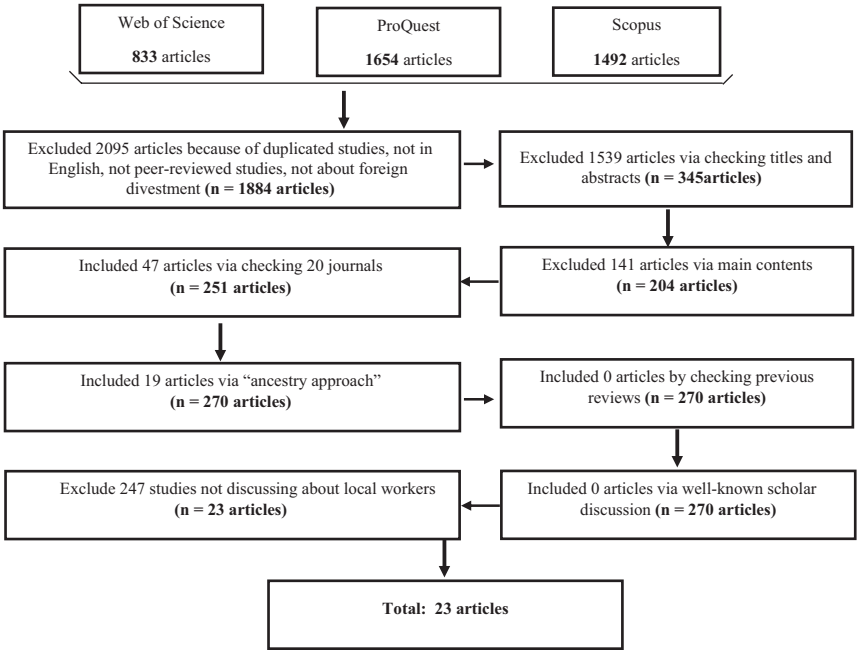

Fig. 2.1 Literature search—articles in each step

missed in the previous steps of our search. Figure 2.1 shows our retrieval method and the number of articles found in each step.

The search retrieved 270 primary studies on foreign divestment topics. Notably, the number of papers discussing the relationship between local workers and foreign divestment was significantly small. More precisely, we found only 23 studies that explored the relationship between local workers and foreign divestment (Baquero, 2013; Cairns et al., 2008; Defren et al., 2012). Of these, 18 discussed the impact of local employees on foreign divestment, that is, how the local workers react to a foreign divestment announcement, and influence the implementation of the divestment process, while five focused on the impact of foreign divestment on local workers. Importantly, among the 23 studies, there was a lack of attention paid to the role of local workers, especially non-managerial local workers, compared to that of local subsidiary managers or other managerial positions. It was also noted that the previous

literature had focused mainly on the antecedents of foreign divestment, that is, what leads MNEs to divestment decisions, rather than on the implications of foreign divestment, namely how foreign divestment influences the local employees of the divested subsidiaries.

3.2 A Synthesis of the Impact of Local Workers on Foreign Divestment

As noted above, our systematic review shows that the previous research has seldom reported how local workers are involved in foreign divestment, while only a few studies have focused on how local workers moderate the effects of other dominant factors on foreign divestment propensities. For instance, in discussing the impact of subsidiary characteristics, researchers confirmed that the number of local workers as a proxy for subsidiary size significantly influences foreign divestment probabilities. Stated otherwise, a higher number of workers increase the foreign subsidiary's chances of survival because the MNE might already recruit better-qualified workers from local countries; thereby, MNEs may not want to lose this intangible asset (Bandick, 2010; Ferragina et al., 2012; Geishecker et al., 2009). In contrast, a lower number of local employees might indicate that MNEs may not want to stay longer in the host countries. Alvarez and Görg (2009) further confirmed that the number of workers might act as a threshold to reverse the relationship between foreign presence and foreign divestment rate. However, this threshold effect is not explained clearly in their research.

Research has also found that labor productivity, that is, the net value added per employee, increases the survival rates of both domestic and foreign firms. For instance, Geishecker et al. (2009) reported that when labor productivity is significantly high, it could dominate the effects of the foreign presence and subsidiary density on foreign divestment probability. Furthermore, other scholars confirm that the education levels of local workers could increase the survival rate because of the greater human capital in the local markets (Bandick, 2010; Mata & Freitas, 2012). Collectively, this research stream highlights that human capital, and particularly labor productivity, increases the chances of survival among

foreign firms. It is worth mentioning that the effect of human capital is often assessed at the macro level, for example, residents' education level and average level of net value added per employee, whereas the specific individual levels of local employees working for the divested subsidiaries are not considered.

As noted above, the moderating effect of the local workers has been emphasized compared to its direct effect. For instance, adopting the footloose perspective, prior scholars have explained the moderating effect of the characteristics of the local workers on the relationship between foreign ownership and foreign divestment propensities (Alvarez & Görg, 2009; Geishecker et al., 2009; Mata & Portugal, 2002). In essence, the footloose perspective states that foreign presence is significantly associated with foreign divestment probability, because the foreign presence increases the lack of local knowledge and social ties in the markets, or higher multinational flexibility, leading to higher propensities of foreign divestment (Alvarez & Görg, 2009; Bernard & Jensen, 2007; Ferragina et al., 2012; Geishecker et al., 2009; Mata & Portugal, 2002). In this respect, prior scholars have reported that local workers' characteristics, for example, skills and levels of education, could support foreign firms in dealing with the local business environment and, thus, moderating the effect of foreign presence on foreign divestment propensities (Andrews et al., 2012; Bandick, 2010; Bandick & Görg, 2016; Belderbos, 2003; Bernard & Jensen, 2007; Ferragina et al., 2012; Görg & Strobl, 2003a, 2003b). It is worth mentioning that *footloose* perspective studies have focused mainly on the moderating role of local subsidiary managers or other decision-makers at the subsidiary level, who could modify or adapt firm strategies in local markets. Therefore, this theoretical perspective has focused mainly on the powerful actors in divested units, for example, subsidiary managers or business experts, while non-managerial workers have not been extensively discussed. As elaborated above, this lack of attention paid to the impacts of non-managerial local workers on foreign divestment propensities potentially leads to an incomplete understanding of what makes MNEs divest their previous FDIs.

Another area that has addressed the role of local workers is the foreign divestment process, that is, the implementation of foreign divestment decisions. Fundamentally, MNEs must implement the foreign

divestment decision after it has been announced. Implementing a divestment decision efficiently could bring benefits to the MNEs or increase positive outcomes of the divestment decisions. However, the extant literature has paid little attention to the divestment process (e.g., Nees, 1981), and only a few studies have discussed the role of subsidiary managers as key personnel implementing foreign divestment announcements (e.g., Cairns et al., 2008). Similarly, our review shows that the influence of non-managerial local workers on divestment mode choices and the divestment process has not been emphasized. This is a striking omission in providing a comprehensive understanding on foreign divestment.

3.3 A Synthesis of the Effect of Foreign Divestment on the Local Workers

The previous section highlights some of the effects that local employees may have on foreign divestment decisions. However, the impact of foreign divestment on local workers, both subsidiary managers and non-managerial staff, has not been discussed extensively in the extant literature. Only a few studies, for example Sofka et al. (2014), and Bernard and Jensen (2007), have shown that once a foreign subsidiary is closed, the opportunity for local employees to find higher-paid positions is contingent on whether the human capital was bound to the multinational enterprise or is valuable in itself within the host country. Put simply, local employees who worked for a divested subsidiary are more likely to find another job at a higher salary if they possess specific capital that could be applied to other firms in the host country. It is also worth mentioning that while these studies claim an effect of foreign divestment on local employees, in terms of future salary and unemployment persistence (i.e., Sofka et al., 2014, p. 724), their discussion has focused mainly on the top- or middle-management levels of subsidiaries, not other lower levels, for example, non-managerial local workers. In addition, these studies focus only on the closing of subsidiaries, not on other types of foreign divestment such as a sell-off. By nature, a sell-off may not necessarily relate to displaced workers. Instead, local workers will need to deal with the new owners of a divested subsidiary. This research direction has not been discussed in the extant literature.

In addition, scholars have discussed the relationship between foreign divestment rate and worker separation, referring to cases when local workers must leave MNEs, and then work for competitors or other domestic firms in the local country (Andrews et al., 2012). Precisely, the worker separation literature reports that foreign firms tend to be more protective than their domestic counterparts, to avoid knowledge spillovers to local plants, and, thus, MNEs tend to offer their local workers more job security, for example, higher wages and a social welfare package (Andrews et al., 2012; Glass & Saggi, 2002). Human capital may then increase the chances of local subsidiaries' survival. Importantly, the displaced workers would likely receive more support from headquarters once a divestment is decided upon, for example, job offers in other subsidiaries in the host country or in the region, or even working for the parent company headquarters. Employees who held more specific knowledge or capital value to the MNEs would be more secure than others, as the MNEs tend to keep them in place. Nevertheless, the specific intangible assets could be a motive to opt for closure rather than sell-off (Mata & Portugal, 2002). Interestingly, Andrews et al. (2012) showed empirically that the differences in job security, among developed industries or nations such as Germany, between foreign and domestic firms are not significant, compared to differences between developed and developing nations.

Employment growth is another aspect that has gained attention in the extant foreign divestment literature. For instance, Bandick and Görg (2016) recognized that foreign divestment decreases employment growth because it is easier to shut down or reduce employment in foreign firms compared to domestic firms. Similarly, Belderbos (2003) reported that because FDIs are expected to create employment in the industry and increase labor productivity, divesting them may hurt employment growth and productivity. However, it is worth mentioning that Bandick and Görg (2016) focused on the linkage between foreign acquisition or change in foreign ownership and employment growth. Foreign acquisition or change in foreign ownership could be considered foreign divestment only when the degree of new foreign ownership is significantly high. The authors also found that the effect of foreign acquisition on employment growth is not necessarily negative, since firm-level heterogeneity may modify the effect. Hence, this merits further consideration.

In general, our synthesis shows a significant lack of attention has been paid to the role of local workers, especially those who do not hold managerial positions, in making foreign divestment decisions or determining the outcomes of foreign divestment. Since our aim is to provide an extensive understanding on foreign divestment, in the next section, we propose some fruitful directions for future research, particularly on the influence of local workers, both as a factor in foreign divestment and as an indicator measuring the consequences of the divestment decisions.

4 Future Research Directions

Foreign divestment has garnered considerable attention for more than 40 years (Schmid & Morschett, 2020). Nevertheless, prior scholars have focused mainly on the influence of external environments (e.g., institutional differences or host environments) or internal constraints (e.g., headquarters strategies or performance) on foreign divestment decisions, while the influence of local employees has received considerably less attention. The prior studies have shown that the local workers may also have an impact on the implications of foreign divestment decisions such as divestment mode choices or implementation process, although this influence has been neglected in the extant literature. In addition, our review reported very few studies on the effect of foreign divestment on local employees. Elaborating on the synthesis, we propose several interesting research avenues to develop our understanding of the two-way relationship between foreign divestment and local employees.

4.1 Research on the Impact of Local Workers on Foreign Divestment

The impact of local subsidiary managers and non-managerial workers on foreign divestment is diverse. Local workers may have different characteristics that modify foreign divestment propensities, not just human resources or capital as previous studies have suggested. In addition, local workers may influence different stages of foreign divestment. Hence, we

propose directions to drive our research on the impact of local employees on foreign divestment and its implications.

First, we encourage future research to emphasize the linkage between local workers and divestment propensities. Important variables in this context include local human capital, for example, education levels, language proficiency, cultural intelligence, and local knowledge. The local employees demonstrate other characteristics that are also important to investigate. For instance, future research could delve into the individual characteristics of target subsidiaries' local employees to examine foreign divestment propensities, such as wages, individual creativity, and language proficiency. The research could also explore the competitiveness of local employees compared with other nearby or similar markets, for example, human capital, labor productivity and costs, as well as other specific skills and knowledge. A relative advantage could contribute as an exit barrier that discourages MNEs from divesting or relocating their operations to nearby countries.

Second, researchers may want to delve more into different impacts of local subsidiary managers and business experts, compared to non-managerial employees, for example, administrative staff or factory workers. The main reasons for the separation are their different roles in the divestment decision process and their potential contribution to evaluating alternative strategies. For instance, subsidiary managers are more likely to actively negotiate with headquarters or other sister subsidiaries on different issues, for example, resource allocation, headquarters attention, investment, or shifting value chains. In this context, researchers may want to investigate the impact of subsidiary managers' characteristics, such as personal relationships, levels of connectedness to the headquarters and other sister subsidiaries, and roles of the targeted subsidiaries in the parent firm's global value chain. In addition, subsidiary managers may be different to other local workers because they may have more opportunities to find new positions within the parent firm's networks, for example, at headquarters or other sister subsidiaries. Furthermore, opportunities to find a similar position at other firms are often higher for subsidiary managers, depending on the degree to which their knowledge of the MNE is bounded (Sofka et al., 2014).

In contrast, researchers should consider the task efficiency or competitive advantage conferred by non-managerial workers, as they are intangible assets of the subsidiary. As elaborated above, the educational levels, specific industrial knowledge, cultural diversification, and other demographics of the non-managerial workers in local countries may have a significant impact on subsidiary competitiveness and performance, which could be considered key factors influencing foreign divestment decisions. We further propose that while subsidiary managers may have more individual effects due to their unique characteristics, for example, personal relationships with headquarters or other shareholders, non-managerial local workers may have more general effects on foreign divestment propensities. Therefore, we encourage future research to dive into different levels of analysis when examining the impacts of local workers.

Third, as our review further shows that the extant literature on foreign divestment has neglected the role of local employees in other aspects of foreign divestment, for example, foreign divestment mode choices, implementing a process, or evaluating the outcome of the divestment decision, we encourage future research to fill this important gap. For instance, prior scholars reported that local human capital, for example, unique human capital, specific labor skills, or industrial experience, is important to MNEs' survival and superior performance, for both foreign subsidiaries and the parent firms. However, there are a few studies discussing how MNEs may have different divestment mode choices, depending on human capital not related to intangible assets, for example, R&D and marketing intensity (Chang & Singh, 1999; Mata & Portugal, 2000, 2015). Specifically, if the divested subsidiary possesses specific human capital, such as sales and marketing teams or manufacturing workforces for specific products, MNEs may generate higher profits by selling the subsidiaries to potential buyers. In contrast, if the foreign subsidiaries do not possess specific characteristics, searching for a potential buyer may be more difficult, while generating profits via the sell-off process is less likely. Hence, we encourage more studies focusing particularly on the linkage between local human capital and specific divestment mode choices.

We further suggest future research investigates the weighting effects of different intangible assets, for example, human capital-related assets versus non-human capital-related assets, on foreign divestment propensities

and divestment mode choices. Importantly, as local subsidiary managers may have more powers in dealing with headquarters to support the parent firms in following different divestment modes, we encourage future research to examine the influence of the powerful actors on specific divestment mode choices.

Moreover, we encourage future research to examine the roles of local workers in implementing the foreign divestment process. Previous scholars have discussed how local subsidiary managers are involved in the divestment process, for example, by providing information and documents to potential buyers, or preparing for the divestment at the subsidiary level. However, that discussion is quite limited. To this end, we suggest that subsidiary managers or other decision-makers at the local subsidiary level may have more tasks pertaining to the divestment process. For instance, subsidiary managers may negotiate with parent firms on subsidiary performance and prospects, which may in turn influence the chances of subsidiary survival. Once a divestment is decided, subsidiary managers would also likely be involved in the divestment announcement to internal (e.g., local non-managerial workers) or external stakeholders (e.g., local suppliers and customers, local government agencies, and other interest groups). Nevertheless, we acknowledge that local subsidiary managers may not always know about divestment decisions beforehand, especially when they are not connected to or have personal relationships with the headquarters. Related to this, it may also be important to discuss the reactions of subsidiary managers once a divestment has been announced.

In addition, we urge future research to investigate the involvement of local non-managerial employees in implementing a divestment process. Our review reports a lack of attention paid to non-managerial local workers, which could be since non-managerial staff often do not know about the divestment decisions until the divestment itself is publicly announced. In general, we suggest that while the local non-managerial employees may not be involved in the decision-making process, they can still have an impact on implementing divestment decisions, for example, delaying or postponing the divestment process. For instance, if liquidation is selected, local workers are more likely to lose their job and change career path, or even see their standard of living deteriorate. In this respect, local

workers may potentially have more negative reactions toward the divestment, for example, taking industrial action that reduces productivity or slows work processes. These reactions may have negative impacts on finding potential buyers or proceeding with divestment implementation. In contrast, when local workers react positively toward the announcement or believe their wages or jobs are secured, this could help attract more potential buyers, thus increasing parent company benefits from sell-off strategies. In addition, a positive reaction to the divestment announcement also promotes successful operation after the transfer of ownership is completed.

Furthermore, laid-off workers may involve different aspects of the local rules and laws, cause conflict with worker unions or other interest groups, and violate local government policies. These could be considered additional exit barriers, as previous scholars have discussed (e.g., Arte & Larimo, 2019). Accordingly, MNEs may have to consider these exit barriers once they decide to divest local subsidiaries. There is also a significant linkage worthy of further examination between the local workers, related exit barriers, and specific divestment mode choices.

4.2 Research on the Impact of Foreign Divestment on Local Workers

As elaborated above, the previous research on foreign divestment outcomes has considered mainly financial performance indicators, for example, stock markets, market growth, and sales growth. In essence, financial performance may only be reflected via value creation, which does not capture all other consequences of foreign divestment. In this regard, we propose that focusing on non-financial indicators could provide significant knowledge to develop our understanding of foreign divestment. To this end, we encourage future research to look deeper into how foreign divestment affects local workers, both managerial and non-managerial. The local workers of divested subsidiaries are significantly influenced by divestment decisions because these are bound to change their career path. For example, it may result in loss of employment, a change in current position or missing out on career promotions, which may in turn have

further effects on their personal life. Importantly, in light of increasing inequalities across the world, exploring how divestment affects local workers is not only pertinent but also necessary. We now suggest several avenues for future research.

First, we encourage future research to examine how local subsidiary managers and other decision-makers from divested units continue their career development. As noted above, depending on different divestment modes and the length of the divestment process, subsidiary managers are influenced in different ways by the divestment. Researchers could discuss subsidiary managers' careers after the divestment announcement, where they might work following the divestment. For example, at the parent firm's headquarters, for surviving sister subsidiaries, or for competitors. They might move into self-employment or entrepreneurship (start-ups), or switch industries. These changes could capture the effect of divestment on the personal career development of managerial personnel, a topic that may be particularly attractive to the human resource literature.

Second, future research could investigate the length of the period from when subsidiary managers lose their job in a divested unit until they start working in a new position, or the discontinuous pattern of their employment. This discontinuous time, or unemployment persistence, could explain how the human capital, specific knowledge, or multinational experience of divested units might be applied in different firms or industries. The human capital development of targeted subsidiaries and how that capital could be adopted in other firms or industries could also be significant factors in evaluating how FDI contributes to the human capital development of host countries.

Changes in wages or positions could also be worth investigating since foreign divestment may impact personal career development. We argue that investigating the influences of divestment on local employees is more important when MNEs still have existing subsidiaries in the host market, and foreign divestment does not amount to market exit. MNEs would need to manage how their divestment influences local workers, because those influences may have a significant impact on the MNE's subsequent investment or divestment in the local country (Vissak et al., 2020). For instance, if the influences are positive, where local employees working for divested subsidiaries might receive higher salaries or obtain more advanced

positions with new employers, foreign divestment researchers could claim the divestment is not necessarily a failure, at least from the local worker perspective. Accordingly, local government or other interest groups may not see foreign divestment as a negative development per se, resulting in a continuously friendly political environment in terms of, for instance, tax and non-tax-related policies, political connections, and informal engagement, to promote MNEs' survival and subsequent investment.

In contrast, if the influences of foreign divestment on local workers are negative, that is, divestments lead to employment persistence, redundant skills, or falling labor productivity, the local authorities may consider foreign divestment a situation to be avoided. In addition, if divesting subsidiaries produce significantly high levels of unemployment amongst low-skilled workers, local governments may have negative formal reactions toward the divestment decisions or the MNEs' activities, for example, forcing the subsidiaries to postpone or not implement divestment, abandon subsequent investments or other transitions. Accordingly, providing more knowledge on the influence of foreign divestment on changes in local workers' wages and positions could also develop our knowledge on what we should consider in judging a foreign divestment decision as a failure or a strategic success.

Fourth, foreign divestment decisions—either selling-off or shutting-down (liquidation)—will also affect local non-managerial workers significantly, especially those who work at the lowest levels of the hierarchical structures in the divested units. Non-managerial employees are always at greater risk of losing their job, even if the targeted unit is sold to another buyer. Previous scholars have confirmed that new owners of divested subsidiaries may want to renew the workforce in order to reduce levels of friction or conflict with the existing personnel, especially concerning staff who are easier to replace due to their less task-specific work. In addition, adopting new rules or working practices for existing employees may take more time and effort compared to training up new staff. Therefore, we urge future research to examine how foreign divestment changes local non-managerial employees' career development and personal life. This topic merits more attention, especially when the international business literature, particularly foreign divestment research, tends to focus mainly on elite workers (Singh et al., 2019; Tasheva & Nielsen, 2020).

Finally, we further encourage future research to focus on other external stakeholders regarding the divestment decisions, for example, local subcontractors or suppliers to the divested subsidiaries. International business scholars claim that foreign subsidiaries play a role in the global value chain or other shifting profit channels of MNEs in the global arena. In other words, foreign subsidiaries develop their connection with other partners in the chains, for example, business engagement and logistics systems. Accordingly, we argue that divesting a subsidiary potentially impacts its local suppliers and other subcontractors. Reduced business engagement, lost contracts, or falling profits are just some of the potential negative consequences. In this context, foreign divestment also influences local businesses and local workers in related subcontractors or suppliers. Hence, future studies could discuss streams to develop our knowledge on the influence of foreign divestment on local workers.

5 A Concluding Remark

Foreign divestment has been discussed for more than four decades, and several aspects of this research topic have been explored. However, while prior scholars have focused mainly on the antecedents of the divestment decision or the impact of divestment on the financial performance of MNEs, the discussion on how foreign divestment influences the local employees of divested subsidiaries has received lack of attention. Recent international reports (World Social Report, 2020; World Inequality Report, 2022) show a significant and increasing gap in equality across and within countries, due to recent geopolitical and economic events. In discussing the two-way relationship between foreign divestment and local employees, we aim to contribute to an emerging literature on foreign divestment and inequality. In this chapter, we have taken stock of what we know about the largely neglected role of local employees when considering strategic decisions, evaluating business outcomes, or how they influence foreign divestment propensities. More importantly, we explore how foreign divestment generates significant changes that affect local employees, for example, unemployment persistence, loss of earnings and income, and changes in career development. We argue that focusing on

these aspects provides a better indicator to evaluate the outcomes of foreign divestment, while developing nuanced knowledge on how foreign divestment affects inequality in host countries, especially in the emerging and less developed countries. Accordingly, we have proposed several interesting directions to guide future research on this increasingly relevant topic.

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3

‘Universal’ CSR and Its Discontents in an Emerging Economy

Alan Brejnholt

1 Introduction

After two decades of institutional development, economic growth and decreasing poverty levels, Brazil has in more recent years yet again found itself ‘walking forwards backwards’ (Cunha, 2019). This is emphasised by perpetuating high levels of social inequality and political instability not limited to a presidential impeachment in 2015–2016 (Castro & Ansari, 2017) and a current government that has largely dismantled the Ministry of the Environment (Casanova et al., 2019) and disregarded the COVID-19 pandemic as a ‘minor flu’ (FT, 2020a). For the market economy, this has reinforced a tension between contenders putting their faith in a solution resembling state capitalism at one end, whilst others crave free and unfettered market capitalism at the other (Cuervo-Cazurra, 2019). At either end, the means are arguably subject to elitism, questioning the constellation of democratic institutions and the support of public

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good bringing resonance to that of the past (e.g., Summerhill, 2002; Cunha, 2019).

In this realm, the private sector has been criticised for holding strong and favoured positions with former government or congress members (Bandeira-de-Mello et al., 2018). Conversely, it has been criticised for setting its own sail in its attempt to escape these crony legacies, resulting in little or no interest in public struggles (e.g., Barreto & Farias, 2016). And yet, given the current political unrest, the private sector is called on as the more efficient, transparent and accountable vehicle to supply what the state either will not or cannot do (Marins, 2020; FT, 2020b). In general, Brazil holds a strong tradition for providing public goods through arm's-length activities of the private sector, especially those companies that in the past were constructed as national champions by the state (Arreola & Bandeira-de-Mello, 2018). These continue to hold critical discretion over concerns of deforestation, natural resource depletion, degradation of biodiversity and social exclusion (Marins, 2020). This not only emphasises Brazilian companies as important actors within Brazilian society, but increasingly also in the international arena. This is epically of concern in conjunction with a global myriad of 'grand challenges' highlighted, among others, by multilateral principles like sustainable development goals (SDGs) (e.g., Ergene et al., 2020).

This chapter seeks to advance the understanding of the social and environmental engagement of companies from emerging economies, both the contributions and the limitations, using the case of Brazilian MNCs (BrMNCs). Against this background, I ask: Under which institutional configurations do BrMNCs adhere to which kind of CSR policy and practice, and secondly, what is the social and environmental outcome of this? Institutional configurations here are understood as the interdependence of formal and informal institutions[1] jointly shaping incentives, constraints and resources for companies to act in and around (Stephan et al., 2015). It follows that CSR is an umbrella term for social and

[1] Institutions here are defined as forms of shared scripts generating social structures. These scripts may be considered more formal as in legal or informal as in normative and cognitive. They form an interdependence in which norms may exist as a result of either rules or autonomic, non-deliberate cultural-cognitive acts whilst '[f]ormal institutions always depend on nonlegal rules and inexplicit norms in order to operate' (Hodgson, 2006, p. 18).

environmental policy and practice of companies, which are considered both as mandatory and voluntary (Jackson, Bartosch, Avetisyan, et al., 2020). The analysis draws on 30 online semi-structured interview perspectives of participants working in and around firm-level CSR in Brazil conducted between April 2020 and June 2021 and supplemented with two field trips in November 2019 and January 2022.

Following institutional theory and its application to CSR, I seek to contribute to literature on institutional complexity, emerging markets and CSR decoupling (e.g., Marano et al., 2017; Tashman et al., 2019). Typically, literature in this domain uses inferences based on CSR reporting and ratings evaluations often arguing that increased expectations for CSR are driven forward by 'universal' CSR principles inspired by inward FDI of foreign MNCs, as well as from the internationalisation experiences of corresponding emerging market companies (Perez-Batres et al., 2010; Marano et al., 2017). Diverging from this, I am less concerned with CSR adoption as a high-low binary continuum often related to explanatory models. By drawing on sociological institutionalism (e.g., DiMaggio & Powell, 1983; Greenwood et al., 2011; Mair & Rathert, 2021) and comparative institutionalism (e.g., Jackson & Rathert, 2017; Lim & Tsutsui, 2012), I seek to employ a 'thicker' and more dynamic institutional configurative lens (e.g., Jackson & Deeg, 2008). This invites a theoretical stance that acknowledges incoming CSR as rooted in a Western[2] political economic prescription associated with global standards influencing the meaning of 'universal' principles and its interaction with the local context.

Specifically, I question the extent to which the dominance of an instrumental epistemological disposition underlying 'universal' CSR overlooks pre-existing corporate social and environmental engagement and effectively contributes to portraying and guiding policy decoupling further from practice. In this view, the local context is challenged, complicating CSR practice and intended social and environmental outcomes of CSR

[2] The term 'Western' for the purpose of this chapter follows the capture by Bergman et al. (2015, p. 191) in which CSR '[t]ends to originate in developed economies and, as a consequence, are strongly influenced by Western, especially North American, British, and Australian worldviews, value premises, organizational culture, market logics, socio-economic sensitivities, and historical and political developments'.

policy adoption, not due to the 'weaker' domestic institutional quality as often argued (e.g., Barnard, 2010; Tashman et al., 2019), but inherent to how the different institutional prescriptions interact. Around this, I infer two outcomes discussed under four discontents.

Firstly, although BrMNCs tend to have fairly well-developed CSR activities increasingly following policies evaluated through environmental, social and governance criteria (ESG), this is underpinned by an unequal capture of domestic sustainability provision implemented under varying degrees of compliance and actual CSR practice. Arguably, BrMNCs operate in a silo representing a somewhat different reality than that of the small- and medium-sized companies that struggle to adapt to the incremental dominance of 'universal' CSR. To some extent it reflects what Western MNCs have been doing for decades. It squeezes out less powerful companies from participating in CSR and externalises costs associated with the upgrading of CSR to civil society exacerbating inequalities further (e.g., Ponte, 2019). Thus, BrMNCs appear to increase their CSR adoption according to reporting and indexes, yet it is not obvious that it fundamentally increases the social and environmental outcomes [discontent#1: *old wine in new bottles*].

Secondly, and drawing on concepts from Mair & Rathert (2021), the evolvement of the aforementioned outcome implies a degree of 'institutional incongruences' that emerge as a result of a 'lack of systematic enforcement' (Börzel & Risse, 2010) [discontent#2: *gung-ho CSR*] in combination with the 'clash between institutional prescriptions' (Webb et al., 2009). Here, the central point is that the former increasingly contributes to the issues of the latter. In essence, CSR undergoes a transformation from community-oriented CSR practice to being formulated in accordance with expectations and policy for 'universal' CSR reporting. In one end of the spectrum, this increases awareness of tailoring 'universal' CSR prescription into contextual materiality concerns of corporate governance matters, social inequality and depletion of natural resources. Meanwhile, the constellation of these at the other end of the spectrum is combined with lenient public and private CSR policy enforcement increasingly worsened during a current government's dismantling of domestic institutional infrastructure to support the practice [discontent#3: *'governing' through CSR*]. This collectively leaves the engagement

in 'universal' CSR receptive to paltered practice and externalised irresponsibility [discontent#4: *CSiR havens*].

In the following, I elaborate on the theoretical foundations. I then adapt this to the research setting of the Brazilian market economy. I attempt to look through the lens of actors in and around firm-level CSR of the emerging economy itself rather than that of Western institutions. The empirical part unpacks these findings before bringing these back to the theory in which I discuss the four discontents of 'universal' CSR and their consequences on local inequalities.

2 Theoretical Foundations

Extant literature on institutional theory and CSR in emerging economies has traditionally argued that the extent to which companies engage in CSR is largely dependent on the progress of institutions in relation to economic development (e.g., Cannon, 1994). In this view, economic development pushes up the normative, socio-cultural (Jones, 1999) and legal expectations (Vogel, 2010) for CSR conformity in society. More recently studies tend to use and compare CSR reporting with CSR indexes (e.g., Orsato et al., 2014; Duque-Grisales & Aguilera-Caracuel, 2021; Tashman et al., 2019). These follow formulations of CSR practices and policies born out of Western institutions—typically liberal market economies (Favotto et al., 2016) and created for institutions of Western origin such as investors and consumers (Hu & Wang, 2008; Yin, 2017). However, it may be argued that "[C]SR is located in wider responsibility systems in which business, governmental, legal, and social actors operate according to some measure of mutual responsiveness, interdependency, choice, and capacity" (Matten & Moon, 2008, p. 407) resonating with comparative institutionalism.

2.1 Comparative Institutionalism and CSR

The comparative institutional view of CSR (e.g., Ahmadjian, 2015; Campbell, 2007; Jamali & Neville, 2011; Jackson & Apostolakou, 2010) takes that formal and informal institutions interact with one another in

different dynamic configurations depending on the context. For instance, in studies on countries such as Bolivia and Colombia, which are considered comparably less developed in the Latin American region, companies are found to engage in higher levels of CSR than their more developed neighbouring countries (Amini & Dal Bianco, 2016). Here, economic development as a determinant of CSR, in its traditional sense, is not sufficient to explain CSR adoption. This also holds resemblances with studies on Brazil in which means and ends of CSR are argued largely to depend on relations between companies, states and communities (e.g., Peña, 2014, 2017; Tufte et al., 2020). Particularly in the early 2000s under the former government, the workers party (PT), CSR in Brazil was orchestrated around a 'multi-sectoral' political trajectory to address social inequalities (Peña, 2014, p. 310). Arguably, this suggests BrMNCs hold traditions of forms of 'communitarian citizenship' through the fostering of community collaboration and a corporate polity role (Sison, 2009) due to the institutional structures (Mair & Rathert, 2021).

2.2 Sociological Institutionalism and CSR

In a different but overlapping argument the community-oriented activities may be driven by relational reasons beyond status of economic development or instrumental firm-level objectives (Amaeshi et al., 2014). Here relational can thus be understood by some authors as an instrumental act to obtain legitimisation (e.g., Aguilera et al., 2007). Yet, the emphasis of such means may be considered less instrumental and rather embedded in the institutional logic of the given domain in accordance with sociological institutional arguments (Greenwood et al., 2011). This supposes BrMNCs as active in corporate citizenship compared to that of Western MNCs and driven by the accountability to the community be that for communitarian or polity roles configured through localised cross-sectoral engagement.

Lately, however, these dispositions are challenged. Partially, this is due to the increased marketization of CSR in Brazil stemming from the West, and partially, it is influenced by an incremental domestic liberal economic transition especially evident over the past decade. Given these

changing configurations, accompanied by a seemingly current lax government (VOX, 2020; The Guardian, 2020; BBC, 2020) and institutional factors commonly found in the Brazilian setting such as social inequality, high-interest rates, inflation and price sensitivity (Casanova & Kassum, 2014; The Economist, 2021), the recent intensification of 'universal' principles of CSR are shifting the institutional logics underlying how BrMNCs engage in CSR (Sousa et al., 2020). In the following I seek to unfold how these logics nested in different forms of institutional prescriptions (Mair & Rathert, 2021) converge and the outcome of this. I draw on perceptions of institutional configurations and CSR from the given setting contributing to research on contextualising corporate sustainability.

3 Research Setting

With an economy being the 6th largest in the global economy by 2012, Brazil had managed to come out of the financial crisis and had repositioned itself as a dominant actor at round tables in the international political arena (Peña, 2014). Being the world's largest exporter of sugar, chicken, beef and coffee, much of Brazil's economy was, and still is, highly dependent on external demand for Brazil's agricultural production as well as natural resources. Dilma Rousseff would take over the presidency in 2011, continuing the workers party (PT) social policy initiatives such as 'Bolsa Familia'—a direct subsidy to families to stimulate low-income prospects and alleviate poverty. This signalled a leadership supporting the working class, allegedly pulling millions of the 200 million strong Brazilian population out of poverty, driving up consumer demand and supporting economic growth of the country.

Yet, this would be met by frustration within the private sector, where some would view it as a short-term, quick fix inflating a bubble rather than a systemic industrial stimulation (Cunha, 2019; Cuervo-Cazurra, 2019). Alongside a tenuous labour law, onerous tax system and high-interest rates, this would make long-term investments a complicated matter (Cunha, 2019). Once the economy was affected by external factors of decreasing prices on primary commodities, this contributed to a

slowing down of the economy (Casanova et al., 2019). Political contenders saw it as an opportunity to criticise PT for initiating a short-sighted, populist policy and not doing enough to generate foundations for domestic industries to increase national industry competitiveness (Peña, 2017). Additionally, claims of corruption were made as the famous scandal of 'Lava Jato' [Operation Car Wash] came to light (e.g., Castro & Ansari, 2017). This led to the impeachment in 2016 and a subsequent economic crisis in response to the political uncertainty. Even without the onset of COVID-19, the economy was not able to recover (see Trading Economics, 2020), and themes such as bureaucracy, social inequality and arbitrary legal enforcement were once again brought to the attention of observers of the institutional system (Casanova et al., 2019; Cuervo-Cazurra, 2019).

3.1 BrMNCs, Institutions and CSR

Against the backdrop of such concerns, hope therefore often falls on the private sector's ability to navigate this, providing the foundations for generating economic growth (Casanova et al., 2019). However, in accordance with the logics of 'multisectoral political trajectories' corporate entities are inherently embedded in government affairs (Peña, 2017). Numerous social and environmental scandals can be drawn on, including the aforementioned 'Lava Jato', in which the government favoured the leading Brazilian conglomerate Odebrecht and the state-owned giant Petrobras in much-needed infrastructural projects. Other cases can be found in the mining industry, such as Vale and the dam collapse at Brumadinho (e.g., Maher et al., 2019). In May 2020, the largest sovereign wealth fund in the world, the Norwegian wealth fund, excluded Vale and the energy company Eletrobras from its investments due to human rights violations and the lack of commitment to protect the environment (Noticias, 2020). It is interesting to note that Electrobras is listed as one of 33 companies on the sustainability index (ISE) at the Sao Paulo Stock exchange, B3.[3]

[3] This metric uses the most diligent criteria to list performance according to a contextualised ESG framework (B3, 2020).

Whilst these examples may lead to the assumption that state affiliation is a cause of corporate irresponsibility, other cases related to family companies, like Galvani Indústria Comércio e Serviços S / A, also appear to be getting into trouble for poor labour conditions, unsustainable deforestation and biodiversity effects in mining activities in regions in the northern states of Bahia and Piauí (Isto é Dinheiro, 2018). As it turns out, returning to the Norwegian affiliation, 60 per cent of Galvani has recently been acquired by another group of Norwegians through the company Yara. Foreign ownership and investment criteria increase the pressure on corporate transparency in Brazil (Aguilera et al., 2019), yet it does not mean that corporate scandals are eradicated (e.g., DW, 2013; FT, 2014). Despite much focus on areas such as ESG (Candeloro, 2019; Marins, 2020), there has been little real structural change to areas such as accountability within corporate governance mechanisms in the past 15 years (Aguilera et al., 2019). Thus, BrMNCs on the one hand adopt CSR practice reflecting social provision when the state is either absent or unwilling to support such demands. On the other hand, BrMNCs also flock to take advantage of social and environmental signalling through CSR in conditions (Fiaschi et al., 2017) reinforced by institutional investors' criteria (Michelon et al., 2020) and transnational governance such as sustainable development goals rooted in the West (Cooke, 2015).

Yet, the combination of increasingly adopting CSR, motivated by the more instrumental-oriented Western institutional logics, alongside a weakened institutional infrastructure, does not come without social and environmental concerns (Ponte, 2019). In a traditional sense, in a context like Brazil, where transparency is argued to be limited and information availability slurred behind red tape (Cuervo-Cazurra et al., 2018), 'universal' prescriptions proclaimed to address these very concerns under self-government risk amplifying CSR as a means to an end rather than an end in itself (Sharma, 2016). Thus, this is not limited to the likelihood of CSR decoupling between reporting and ESG indexes (Tashman et al., 2019), but the adoption of Western-oriented prescriptions themselves potentially undermine localised conditions (Adeyeye, 2011; Donaghey et al., 2014; Ehrnström-Fuentes, 2016). Companies may adopt CSR

exclusively for ends of local market dominance, in the name of 'universal' prescriptions, whilst pre-existing configurations of local business practice instilled in the past for public good are marginalised and argued as premature or 'crony' (Marins, 2020).

4 Research Design

I conducted 30 cross-sectoral semi-structured interviews with internal and external senior stakeholders related to the institutional field of CSR of Brazilian companies with an emphasis on BrMNCs. In a similar vein to Buchanan and Deakin (2007), this includes perceptions held in the domestic field of public listed companies, private companies, not-for-profit sector and governmental agencies, as well as the international field of foreign MNCs and international organisations operating within the research setting (see Table 3.1). The represented companies vary in size, sector and operational activities, but all are pertinent to the case of firm-level CSR of Brazilian companies. I note these interview subjects that have worked for BrMNCs previously and have experiences from different countries broadening participants' horizon (Shah & Corley, 2006).

Due to the presence of COVID-19, interviews were conducted virtually. These interactions lasted between 30 minutes and 2 hours, with some including several rounds to follow up on interpretations and to elaborate on emerging themes in and around the protocol. All participants were given the option to be anonymous, in line with the vulnerability related to the topic and the potential risk to their professional and corporate reputation. Interviews were conducted between April 2020 and June 2021. They were initiated through snowballing from a field trip in November 2019 and concluded with a field trip in January 2022.

Table 3.1 Interview participant overview

Sector/level	#	Organisation type	#	Industry	#	Affiliated country	Country of origin (other than Brazil)	Comparative view (in addition to Brazil)	Incl. subsidiary view
Private company	6	Sustainability consultancy	2	Consulting	2				
		Foreign sustainability consultancy	1	Consulting	1	Portugal and Angola	1	1	
		SME	3	PR	1	UK		1	
				Asset management	2				
Private MNC	2	Private MNC (Brazilian)	2	Finance and banking	1	Colombia		1	
				HR and education	1	Peru, Argentina, Colombia		1	
Public listed company	1	Stock exchange Sao Paulo	1	Stock exchange/ sustainability index	1				
Public listed MNC	11	Public listed MNC (Brazilian)	6	Airline	1				
				Cosmetics	2				
				Construction	1	Canada and Angola		1	1

(*continued*)

Table 3.1 (continued)

Sector/level	#	Organisation type	#	Industry	#	Affiliated country	Country of origin (other than Brazil)	Comparative view (in addition to Brazil)	Incl. subsidiary view
				Sugar and oil	1				
				Beverages	1				
		Public MNC (subsidiary level)	1	Cement	1	Mozambique, South Africa		1	1
		State ownership MNC (Brazilian)	1	Mining and steal	1	Angola		1	1
		Joint venture Hybrid MNC	1	Petrochemicals	1	UK/the Netherlands	1		
		Foreign MNC	2	Petrochemicals	1	France	1	1	
				Pharmaceuticals	1	USA	1		
Industry	1	Industry association	1	Transport and logistics	1				
Not-for-profit	3	NGO	3	Impact investment	1	Kenya		1	
					2				
Public sector	3	Governmental agency	1	Environmental agency	1				
		Central bank	1	Macro economics	1				
		Research institute	1	Development	1				

Supra national	3	IO	3	Transparency	1					
				Development	1					
				Labour	1	UK		1		
Total	30		30		30		4	10		3

Source: Author's

4.1 Data Analysis

I recorded all interviews and transcribed these myself to be able to capture implicit content that may not be obvious from the transcription on its own, for example, how answers are given and with what emphasis (Bazeley, 2013; Miles & Huberman, 1994). I initially structured data according to the themes of the interview protocol based on theoretical deduction. I used *NVivo 12* to organise initial codes followed by analytical codes generated by an iterative process consisting of multiple rounds of coding and re-coding (Miles et al., 2014). Within the software, I used different functions to facilitate the analysis, such as creating associations between codes and drawing on memos and comparing codes from transcripts. I classified these into aggregated categories.

During the data iteration, I also drew on secondary data related to business interaction with the socio-political evolvement. This includes news articles, business magazines and online seminars held by not-for-profit organisations to further the understanding of the setting. For example, whilst the logic underlying a code such as the 'business case of CSR' may be related to theoretical concepts of organisational legitimacy, it can also be a response to decades of politicised state intervention in corporate conduct. In practice, the former may be a result of seeking entrepreneurial agenda and the latter may stem from avoiding state objectives. Hence, the meaning of the code is contingent on its interaction with context and other evolving themes (Alvesson, 2003; Braun & Clarke, 2006). Whilst this may or may not lead to a different CSR practice, it helps to unfold meaning and accuracy around the conditions and outcome of the phenomenon (Lamont & Swidler, 2014). Finally, I presented the analysis and findings to selected participants from the semi-structured interviews on a field trip to Brazil, in January 2022 and visited sites of affected communities such as Brumadinho: the former providing consultative affirmation of the interpretation, and the latter to better sense the field (Shah & Corley, 2006; Bazeley, 2013).

5 Findings

The results portray a somewhat juxta-positioned interaction of institutional configurations and CSR. In one stream, these emphasise a 'business specific' agenda (e.g., Montiel et al., 2021) resonating with a more liberal economic view of institutional development. From this it follows that, because of their origin, Brazilian companies are said to be challenged in adopting areas of CSR such as product composition and longevity, wage equality and labour flexibility, accountability and transparency (also see Davila, 2018; Cruz & Boehe, 2010). As I show below, it is however not obvious that the increased exposure to 'universal' prescriptions—typically embracing logics of marketization—addresses such inequalities. On the contrary, in some instances, I find it may contribute to and exacerbate rather than combat such inequalities. As such, there are three broad tendencies in the changing institutional configurations influencing BrMNC's CSR engagement. I explain through means, ends and outcomes of CSR in accordance with Fig. 3.1.

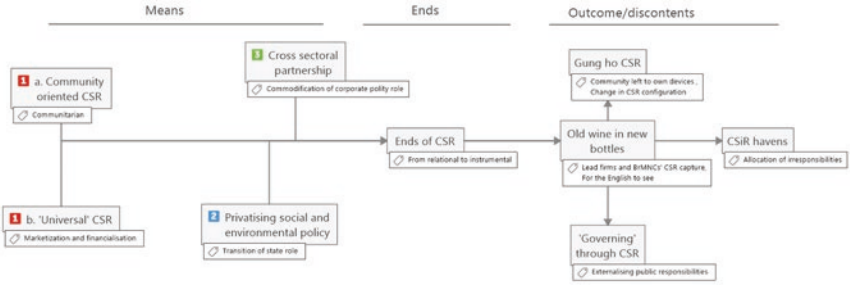

Fig. 3.1 Changes to institutional configurations influencing BrMNCs' CSR engagement. (Source: Author's)

5.1 Means of CSR Engagement

The first fundamental change [1st ab in Fig. 3.1] revolves around the pre-existing communitarian values with increased marketization[4] related to 'universal' prescriptions of CSR. This is among other influenced by the domestic corporate governance and environmental disasters in the recent past and the increased expectations from operations in overseas markets and foreign institutional investors:

> *Today the discourse [of CSR] is about ESG and E[economic]ESG—the movement is driven forward by financial markets…there is still a development to realise that we already had CSR and that this is just a repackaging into a more financial terminology. Really, it's nothing but the output that has been done before in general management and reporting*. (i#13, partner, sustainability consultancy)

The emphasis on the 'economic' inherently underscores a recent dominance of instrumental criteria also increasingly instilled as government-mandated CSR. It spills over into upstream activities exposing suppliers to conform accordingly. An associate director for the sustainability index at the stock exchange B3 exemplifies:

> *What I see in the Brazilian companies…foreign investors are the ones that are giving reason for increasing CSR engagement and showing new guidelines…. Indexes like DJS and ISE are a way to make companies aware of the practice. But there are two competing points for companies here in Brazil: They cannot give too much transparency because the risk of losing suppliers. At the same time, they are confronted with the need for more transparency in indexes, otherwise investors cannot benchmark*. (i#17)

It follows the rhetoric of making corporate activities transparent and requiring explicit reporting of CSR. This denotes the second tendency of

[4] I refer to marketization as 'characterized by the entrance of large and powerful investment players in the field, along with the growth of for-profit socially responsible firms and products (King & Gish, 2015). Relatedly, marketization entails the internalization and magnification of risk management, cost efficiency and concerns for returns into the movement's approach (Soederberg, 2009)' (Michelon et al., 2020, p. 3).

bringing more awareness to fundamental principles often underscored in a liberal market economy [2nd in Fig. 3.1]. This is supplemented by underlying motives for CSR engagement transitioning to a more consequentialist stance (also see Kim et al., 2021):

> *I see CSR as a philosophy, ESG is more about particular business activities that is to do with strategic moves… you may even have similar outcomes in some initiatives, but these remain to have different motivations*. (i#11, compliance director, asset management firm)

This does not come without its complications in the local domain. Whilst larger—and typically public listed MNCs—adapt to this transition, smaller and often private companies struggle to do so:

> *To us something that is hard, is the standards ESG framework, first of all the governance elements. It's very expensive for a private company to adopt. It's really burdensome to comply with this.* (i#20, head of capital markets, fintech-bank)

More perplexingly, the conjunction of differing 'motivations' risks undermining pre-existing relations:

> *Being equipped for this change will take some systems because of the metrics to measure impacts—this involves money and technology. It means you cannot do business with certain partners anymore… you have to cut some relations due to their activities. In my company we also had to dismiss people as we made changes to bonuses*. (i#11)

To an extent, in the aim of pursuing longevity and transparency through measures of accountability in the name of 'universal' CSR, the embracement of 'universal' prescriptions is effectively susceptible to countering its very own ideal. Although the immediate outcome is debatable, as I refer to later, the transition does seem to reflect a challenge to the relational and cross-sectoral partnerships instilled in the pre-existing institutional configurations [3rd in Fig. 3.1].

As mentioned earlier, Brazilian companies traditionally are expected to bear responsibilities in addressing some of the emerging economic development issues purportedly arising from the lack of capability of the state to reach out. Often being driven forward by family or state affiliation, these are conditioned into providing social solutions to support public provision: *I would say that Brazilian society is very family driven, often together, we think about the collective not like Japanese, but we think about the community* (i#10, marketing manager, brewery industry). This is also presented as an argument for why in periods of crisis—such as during COVID-19—Brazilian companies have shown some engagement in providing social goods either directly or indirectly through funding.

Most larger companies have corporate citizenship schemes through their corporate foundations that are important for the socio-economic development of the community. When companies do not have the capacity or size to conduct such practice through corporate foundations, they often source these projects in collaboration with social entrepreneurs or local NGOs, providing a row of opportunities for the social innovation sector. In this way, there exist rather implicit forms of responsibility such as relational, collective community engagement and *psychological components* (i#29) that traditionally have been largely underrepresented in corporate responsibilities of Brazilian companies:

> *Corporate responsibility in Brazil is traditionally a license to operate—sometimes more like community engagement programme. And this is not new. But the terminology of clustering under CSR is new*. (i#2, director of public affairs, oil and gas industry)

However, in this pursuit of 'clustering' activities under CSR, rather than larger companies engaging in cross-sectoral partnerships for community development, it effectively becomes a means for sourcing CSR and externalising costs associated with compliance:

> *You have a big company that has excellent inside measures but at the same time, the next tier is where issues are not really considered. This company may have a recycling policy in place, but it then hires some waste company to take care of it… So big companies to some extent offload their issues to the next layer.* (i#13)

Meanwhile, arm's-length public provision on the part of the state has been lessened. This has further decreased the support for companies to engage in community programmes. Allegedly, in response to corruption scandals of the past (e.g., 'Lava Jato'), the current government has privatised public policies and decentralised public responsibilities in the attempt to overcome such institutional failures. This has reduced resources of public agencies to engage in oversight of corporate conduct:

> *This ease to the system is one way that the government has made corruption seem less predominate. There is more leniency these days. This allows us to operate with less responsibility*. (i#6, executive, industry association, transport and logistics)

With values shifting to more marketized prescriptions, community legitimacy plays less of a role. It is further dominated by instrumental logics in which the emphasis is on commodifying CSR engagement. Even in those cross-sectoral partnerships where the government is involved, the formulation is increasingly material to those concerns that have a private economic upside. I infer three ends associated with the respective means of CSR engagement.

5.2 Ends of CSR Engagement

Firstly, the increased marketization of CSR is said to suffer from 'sustainability value capture' (Ponte, 2019) by larger companies. This can be renewable energy supply or *waste management for coprocessing* (i#27). This feeds into their CSR reporting and raises their CSR profile, but also increases the price for small- and medium-sized companies to adopt such practices. Additionally, the increased pressure to report on CSR activities gives rise to an institutional configuration in which publicly listed Brazilian companies channel their irresponsibility further down the supply chain to get it off non-financial reporting as second-tier suppliers do not appear in the same manner as first-tier suppliers. As one interview subject eloquently puts it:

> *In my opinion, in relation to transparency, companies show what they want to show, I have not seen a real transparency report in Brazil.… We do our best, when it goes to the high level, then they decide to cut off details that we insert in the reports.* (i#15, head of coordinating sustainability of minority state owned BrMNC, mining industry)

Secondly, the apparent reduction of state role in the private sector has reduced corruption on paper. However, in practice, the reduced oversight means that irresponsibility or alleged CSR activities have become more prone to forms of decoupling. The changed role of the state from a more 'developmental' oriented regime (e.g., Nölke, 2010) is argued not to be less interventionist and more liberal—as it likes to be portrayed—but as a strange paradoxical combination of absent and authoritarian at the same time. This is explained by directing principles but removing the broader support for implementation of CSR. For instance, it revolves around a less significant role of the Brazilian development bank, decreasing financial funds for common goods projects for companies to apply for and collaborate on.

Thirdly, although BrMNCs' can be said to hold traditions of strategic intentions in obtaining a licence to operate, it is originally affiliated with community development and a broader corporate polity role (e.g., Sison, 2009). Increasingly, motivations for such practice are related to a narrower and more business-centred approach discovering opportunities of reporting for window dressing to satisfy stakeholders that have little to do with local practice. As ownership is progressively dispersed and brought out of the community, the subsequent shift of resources to serve financial activities above social and environmental engagement leaves a critical development gap when the state and municipality are unable to support the community. To an extent the social licence from the community is substituted by accountability by 'universal' prescriptions unrelated to the localised domain repackaged under *industry label innovation* (i#13).

In configuration with domestic institutional factors such as *lack of education and awareness* (i#8), this is well positioned to create false promises. Moreover, companies are becoming increasingly creative in using social entrepreneurs as low-cost R&D supply whilst writing it up as a form of CSR. Whilst this does still provide benefits for the public, some

initiatives become more of a tick-box exercise, are subject to corporate opportunism or social entrepreneurial washing and inherently do little for long-term operational CSR practice as otherwise promised:

> *Companies do report through sustainability reports. But what I think they remain to do very little for society. Despite these reports cover many aspects, it is a scan of the surface. Companies only do as much as they feel, no more than what they have to*. (i#2)

To explain the outcome of CSR as a result of the configurative changes to the means and ends laid out above, I draw on concepts from institutional incongruences (Mair & Rathert, 2021). Essentially, I argue, rather than emphasising the domestic institutional configurations as a driver for decoupling of CSR (as argued by Tashman et al., 2019), it is equally as conceivable that the influx of 'universal' CSR contributes to both perpetuating and creating new layers of decoupling.

5.3 Outcomes of CSR Engagement

There are two interrelated outcomes that seem to come together in this regard. The first one is the demand for *pra inglês ver* ('for the English to see', i#10)—reflecting a wave of current CSR practice and policy in Brazil as an import of CSR dominated particularly by Westernised market economic logic. Originally, 'pra inglês ver' refers to the policies enacted by the federal state of Brazil to comply with the English pressure to end the slave trade. However, the enforcement was largely arbitrary and merely a smokescreen to satisfy the English, whilst in practice the slave trade continued (Cantarino, 1999).

The analogy concerns the ends for which CSR is increasingly performed by firms in Brazil as well as depicting the means of a marketization of CSR imported from predominantly Anglo-American fields.[5] At one end of the spectrum, this brings increased awareness to corporate conduct and misconduct in and around what may be considered forms of

[5] Interview subjects refer mostly to the US because of (i) institutional investment flows from the US into Brazil, and (ii) managerial leadership often being educated at business schools in the US.

'institutional failures' (Mair & Rathert, 2021). As such, 'universal' prescriptions of CSR are embraced to address such disparities, contributing to a current political movement that has sought to externalise public responsibilities to the private sphere. Notwithstanding, this has replaced forms of public policy as well as pre-existing logics of corporate responsibility—supposedly depoliticising CSR. Thus, BrMNCs are released from their corporate polity role and can adopt 'universal' CSR in the argument of overcoming institutional failures of public 'systematic legislative enforcement' and cronyism.

Meanwhile, and with regard to the second related outcome: (a) *there are less regulations and companies are freer, but there is less support [public] for them [companies]* (i#17); (b) *the reality is that integrating the SDGs, signing agreements with the Global Compact and or Agreements aimed at climate change, are for a few organizations (i#29)*; (c) *the quality of the reports and measurement is still fairly arbitrary* (i#13) and (d):

> *we have based many of our capabilities out of the context of Brazil, the diversity and inequality has functioned like an innovation hub for us. This is very difficult to understand for foreigners or foreign institutional investors.* (i#24, global sustainability director, cosmetics industry)

This, at the other end of the spectrum, raises concerns about how corporate polity roles and communitarian values that were important in the past and what remains of these conform to such changing conditions. The marketization of CSR effectively challenges the institutional logics of principles of accountability and responsibility entrenched in antecedents and structures between markets, firms and institutions. For instance, a dominant feature of BrMNC is to use corporate citizenship as a means for supporting communities. Here, initiatives may be related to social practice (e.g., primary education in lack of public provision) or environmental initiatives (e.g., conducting natural preservation projects). At other times, companies have supported such initiatives with resources either directly through their foundations or indirectly through social entrepreneurs and local NGOs (often when they do not have a foundation). Much of this has traditionally been done for a social purpose, embedded in institutional configurations such as vested interest in the

local community through corporate family ownership or local government ownership as a form of 'CSR as government' (e.g., Gond et al., 2011). Yet, the increased influence of marketization of CSR combined with a precarious government dismantles pre-existing complementarities of such configurations. It changes which stakeholders are empowered and shifts the purpose and incentives of the cross-sector organising from communitarian to an opportunity to drain such practice and repackage it as a tick-box exercise. In the following, I discuss four interrelated discontents of the emerging 'universal' CSR.

6 Discussion

Discontent#1: *Old wine in new bottles* (repackaging concurrent activities under new terminology).

The introduction of 'universal' CSR policies stands out as a convenient channel to re-package corporate responsibilities that BrMNCs already conducted. Moreover, it is an opportunity to disentangle from the eminent corporate political role and expectations of public responsibilities. Yet, this does not come without its limitations. Firstly, it creates competing pressures of prescriptions in which pre-existing strong practices of CSR found in philanthropic and cross-sectoral activities are undermined by the rhetorical superiority perception of the marketized and more instrumental form of CSR. Secondly, the consequence of implementing instrumental forms of CSR in a context that is not conditioned for such practice tends not to reach its intended ends and reinforces an opportunistic adherence to apparent new prescriptions (new bottles) based on old habits (old wine). This is especially evidenced in the unequal distribution of CSR engagement in terms of capture of sustainability provision. Effectively, it favours the conditions of larger companies.

Discontent#2: *Gung-ho CSR* (embracing 'universal' CSR under impaired institutional infrastructure).

CSR is increasingly a means for substituting public provision. Different to the past, these prescriptions are supported by multisectoral trajectories. With a current government externalising public responsibilities to the private sphere, BrMNCs enthusiastically embrace 'universal' CSR

stemming from prescriptions of the West. This may sound like good practice in line with arguments of liberal economic traditions. Yet, under conditions that increasingly lack the institutional infrastructure to support implementation and oversight of CSR (gung ho), it decreases stakeholder legitimacy in the local domain, leaving CSR very much to corporate discretion. It may increase BrMNCs' accountability and transparency in relation to selective oversight criteria based on international market-oriented certificates or foreign institutional investor criteria, but it does not necessarily match the needs of the community nor lead to an overall corporate social and environmental concern.

Discontent#3: *'Governing' through CSR* (the use of marketized CSR to cover continuous cronyism).

The marketization of CSR would supposedly make it less susceptible towards politicisation. In that sense 'Lava Jato' allegedly became known as the largest corruption scandal in modern capitalism illustrating the issues of cronyism in state capitalism. Although these activities were meant as state arm's-length measures to complement municipalities in securing infrastructural projects rather than substituting public provision, they would eventually be unfairly justified by favouring some companies above others, generating dominant market positions. Whilst the purpose ideally may have been to improve competition, the dismantling of the institutional infrastructure to support the enforcement has predominantly rather changed how and which BrMNCs are empowered. Initially, the outcome has unleashed these firms with market dominance by reducing the scope of social and environmental policy and substituting it with mandatory CSR policy following marketized values. Eventually, these beneficiaries themselves have become subject to their own wilfulness as they struggle to adapt to the increasing rigidness in 'universal' CSR under waned current government support. This would appear to reduce the politicisation of CSR. Yet, it is also portrayed as an attempt to offload public responsibilities to signal less cronyism. This does not imply 'CSR as government' (as in Gond et al., 2011) but rather a precarious act of 'governing' through CSR, which continues to empower limited stakeholder groups rather than the public as suggested by Sousa et al. (2020).

Discontent#4: *CSiR havens* (sourcing prospective CSR initiatives, draining them and externalising irresponsibilities).

The skewness in distribution and availability of resources in Brazil makes marketized CSR practice particularly susceptible to larger companies being able to take advantage of their bargaining position. This has the potential to squeeze the market from initiatives that otherwise support positive aspects of these new prescriptions—such as renewable supply or waste management practices. BrMNCs are often in a powerful position to organise their lack of CSR practices by sourcing elsewhere, either by internalising social entrepreneurs through acquisitions and hijacking social intrapreneurs or through forms of partnership for which they may drain the knowledge from external small and medium companies in the absence of enforced property protection. This lessens the impactful practice mostly to satisfy paltered CSR reporting. In a reverted mechanism, these vehicles also function to outsource irresponsibilities (CSiR) by externalising practices that do not go well on CSR non-financial reporting, leading to arranging CSiR around second-tier suppliers, sometimes with the potential of creating artificial intermediaries to shift these activities to third tier and 'off balance sheet' vehicles (CSiR havens).

7 Conclusion

Overall, the perceptions emphasise an increased CSR engagement driven forward by principles approximating a 'universal' substance. It revolves around a recent CSR transitioning from community-oriented and cross-sectoral partnerships to that of a more marketized prescription. This is carried forward by institutional logics of CSR affiliated with liberal market economies. Meanwhile, the tradition of public responsibilities of BrMNCs embedded in pre-existing institutional configurations of CSR to a certain degree continues to co-exist.

Moreover, this is accompanied by a current government, which is perceived, by many participants of this study, to be increasingly precarious. Whilst a transition to a marketized version of CSR may be a compatible model insofar as CSR is backed up with support of public and private agencies specialised in social and environmental monitoring, the impaired institutional infrastructure means 'universal' CSR may experience a

decoupling between policy and practice and thus exacerbating inequalities. This is caused by an increased tendency of reporting on CSR with companies lacking the required equipment and measures to follow their CSR policy adoption worsened by the weakened institutional infrastructure to support implementation and enforcement. It is also caused by the detachment from community legitimacy and the incongruence arising from adopting 'universal' CSR policy in accordance with overseas institutional prescriptions increasing inequalities within local communities.

Essentially, 'universal' CSR in it itself does not necessarily lead to discontents, it is the emphasis on underlying logics and how it comes together with the local setting that challenges the coupling between policy and practice. Yet, I find reasons to be attentive to how this is diffused. In the case of Brazil, corporate political trajectories have gone from allegations of cronyism under 'Lava Jato' to shifting accountability from public to private oversight with reporting for 'universal' CSR driven by 'pra inlês ver'. Despite a change in how CSR is organised, in principle, the concern remains similar: that private good—often that of the political and private elite—takes priority over the common good. Interestingly, the very relational-based institutional logics and cross-sectoral partnerships that have been accused of cronyism are, under supportive institutional conditions, also the configurations that lead to higher outcomes of CSR alongside the corporate economic return. I suggest further research investigates the role of the state in adopting 'universal' CSR—especially in the context of emerging economies as well as the meaning of cross-sectoral partnership beyond its 'universal' logic attained from Westernised prescriptions.

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4

Using Non-market Strategies to Respond to Institutional Schisms: The Case of Florida House Bill 1557 and the Walt Disney Company

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1 Introduction

Institutional schisms are misalignments between two existing sets of institutions (Moore et al., 2019, 2021). They occur when there is a misalignment between formal institutional systems at different levels of analysis (Moore, Brandl, & Dau, 2021). Formal institutions are the written rules (e.g., laws and regulations) that shape social interaction (North, 1990, 2005) and that provide a basis for shared expectations of human behavior (Helmke & Levitsky, 2004, 2006). Such written rules can exist

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at different levels, including the subnational, national, and supranational levels (Dau et al., 2022a, b). If the rules of two different levels are misaligned, institutional schisms exist. That is, institutional schisms are the misalignments of two or more sets of institutions that can cross multiple institutional levels. Schisms can exist between the supranational and national institutional levels; national and regional levels; national and state levels; and so on. To date, the international business literature has focused mostly on the schisms between the supranational and national institutional levels (e.g., Moore et al., 2019, 2021).

However, the recent spikes in anti-globalization and global crises have challenged the efficacy of national governments and resulted in increasing institutional schisms at the national and subnational levels as well. These events have made it increasingly clear that there are interactions between the different levels that merit further scholarly attention, especially as institutional schisms create uncertainty and ambiguity in business environments. An institutional schism creates complexities, as multiple formal institutions could be considered present in an environment, but there is no clarity on which one should be followed. For example, if the laws in a US state and at the federal level provide contradictory guidelines for business behavior, an institutional schism is created and causes uncertainty and ambiguity in the business environment. Such schisms can create important difficulties for firms as they can significantly increase the cost of doing business and, in extreme cases, may even discourage entrepreneurial activities (Moore et al., 2021).

We expand on the existing conceptual work done to date on institutional schisms by looking at schisms that are created by institutional misalignments at the national (federal) and subnational (state) levels. Considering the relevance of international agendas related to equity, diversity, and inclusion (EDI) as well as human rights and how they have been pushed by international organizations, it is important to analyze

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how these have been cascaded within a federation and its states and the schisms emerging from the alignment, or lack thereof, of formal institutions. Because government policies have a relevant impact on the competitive environment of firms (Hillman & Hitt, 1999), we focus our attention on *how firms use non-market strategies to overcome institutional schisms*.

We study the impact of these institutional schisms created by United States policies and those developed by the state of Florida, that is, *House Bill 1557* (also referred to as the "Don't Say Gay" bill). US law has consistently supported freedom of speech, codified in the First Amendment of the US Constitution. This has been applied in many contexts, but mostly within schools allowing teachers to openly discuss topics such as EDI and for companies to state their positions on any given area. When the state of Florida passed *House Bill 1557*, the ability of teachers to discuss LGBTQIA+ issues in the classroom was limited. The ensuing institutional schism caused uncertainty and ambiguity for firms in the state and local business environment.

For example, the Walt Disney Company's (hereinafter referred to as "Disney") local operations had to pivot their business activities and respond to the schism with a non-market strategy. We outline the strategy in the chapter. Initially, Disney did not come out strong on either side of the bill fearing public and political setbacks. In time, however, and in the face of increasing public scrutiny within and outside the United States, Disney took a stand against this bill, which led the state to seek ways to impose penalties on the company. We discuss how the extended legal battle will likely carry a toll on the company and the economy of the state. Through this discussion, we highlight how non-market strategies are vulnerable in the face of institutional schisms, particularly when they are created because of national and subnational level institutions.

This chapter contributes to the literature on institutions by examining how institutional schisms can affect local businesses. The extant literature has conceptualized institutional schisms but has maintained the focus on the schisms that exist because of supranational and national levels of institutional misalignment. While these schisms are central to international business, for the concept to be developed further, it is necessary for both scholars and practitioners to acknowledge that schisms can also exist

at other levels. Thus, a primary contribution of our study is to extend the existing conceptual understanding of institutional schisms to the national and state levels. By moving down levels of analysis, we continue to build on the novel concept of institutional schisms through a more finely variegated lens that seeks to understand the complex interactions that exist between formal institutions at different levels. Moreover, we purposefully focus on the impact of such schisms on the non-market strategic responses of Disney. In doing so, we contribute to the existing literature by connecting institutional schisms to a specific firm-level response and move the discussion beyond traditional, market-based outcomes. The use of a case study allows us to carefully identify how the company responded to the schism. Lastly, we expand this discussion to assess the implications of firms' action (or inaction) when experiencing schisms in the sphere of human rights, specifically of vulnerable populations such as the LGBTQIA+ community. Lastly, we advance the current discussion of corporate advocacy (Wettstein & Baur, 2016) in the context of human rights and EDI.

Through this discussion, we also provide meaningful contributions to practice and policy. For business leaders, we offer insights into how schisms influence strategic decisions while also examining how they can navigate conflicting institutional expectations at different levels. These insights are of importance for both national and international firms that face a wide array of institutional schisms at multiple levels. Firms' actions have significant consequences on social outcomes and can either support or hinder their advancements. In the case of Disney, we provide evidence that the initial inaction of a firm can backfire and generate dissatisfaction among employees, social activists, and consumers all around the globe. The backtracking of its inaction started a war over power between the company and the state government, which put the issue of EDI and human rights of the LGBTQIA+ population in the background. We provide critical insights into policy by discussing the advantages of institutional alignment to encourage local economic growth and development. Specifically, by demonstrating how institutional schisms strain firm-level non-market strategies, policymakers can use a firm's power and influence to promote change toward EDI and human rights—or to completely limit their advancement.

2 Institutional Schisms and Non-market Strategies

2.1 Institutional Schisms

New institutional economics (e.g., North, 1990, 1991), as used in the IB field (see Aguilera & Grøgaard, 2019), focuses on national institutional environments as a combination of formal institutions, that is, codified rules and policies, and informal institutions, that is, norms, values, and traditions (North, 1990). Each country has a unique national institutional environment, which is based on a variety of factors that connect to the country. For example, national institutions are dependent on the history of the country and, thus, path-dependent as well as influenced by its political, social, legal, and economic systems (Williamson, 2009). Thus, national institutions are unique and highly context-dependent (Fiori, 2002). They result in different robust federal guidelines that influence the country. These guidelines are often impacted by internal and external pressures from a variety of actors, such as national or foreign firms (see more below) or supranational/intergovernmental organizations.

Beyond the national level, a variety of institutional environments exist at the regional, subnational, and supranational levels (Dau et al., 2022a, b). Due to the variety of levels, differences between formal institutions can exist. For example, the national institutions can be different from the supranational institutions to which the country is connected. This difference causes a misalignment of institutions, which is referred to as an institutional schism (Moore et al., 2019, 2021), that is, institutional schisms are the misalignments of two or more sets of institutions that can cross multiple institutional levels (e.g., national, subnational, supranational, and firm). For instance, if a country is a member of an intergovernmental organization (IGO), such as the World Trade Organization (WTO), the country agrees to align their national institutions with the supranational institutions of IGOs (Lupu, 2016). This ratification means that countries agree to comply with the intergovernmental organization's supranational institutions. However, the recent US-China trade war has shown that institutional schisms can exist when national and

supranational institutions misalign. During the trade war, both countries did not comply with the supranational institutions agreed upon by the WTO, that is, despite having signed and ratified the WTO charter to promote the tenets of free trade, both countries violated the charter. They utilized trade barriers through high tariffs, which is in clear violation of the WTO bylaws (BBC, 2020). As a result, the schisms between the national policies of both countries and the neo-liberal policies of the WTO result in significant business and economic losses (Bekkers & Schroeter, 2020).

The national (federal) institutional environment of a country should generally align with the subnational (state) institutional environments, as the latter is derived and influenced by the national environment. However, countries often have distinguished policies at the state, regional, and local levels, and discrepancies can exist like the discussed institutional schisms caused by national and supranational institutional misalignments. The institutional schism that is created by misaligned federal and state policies is similarly evidencing issues with resulting uncertainties and ambiguities.

There could be various reasons for schisms generated between national and subnational institutions. For example, national institutions are dynamic, as governments are regularly changing in most democratic countries, leading to (sometimes very rapid) changes in the national institutional environment of countries (Milewicz & Elsig, 2014), which might take time to be implemented and changed at the subnational levels. Second, pressures are too intense for subnational governments, and actors are heavily influencing regional activities. Lastly, subnational levels facing extreme events or political uncertainty may become less compliant over time, based on contextual factors and actions that change their political, social, and economic environments.

2.2 Non-market Strategy

Non-market strategies encompass all strategies designed and implemented by firms in their home or host country aimed at managing the institutional or societal contexts of market transactions (Baron, 1995;

Mellahi et al., 2016). Two main strands of research compose the realm of non-market strategies: Corporate Social Responsibility (CSR) and Corporate Political Activity (CPA). The first, CSR, speaks to actions and projects that advance social goods that can affect a firm's overall performance (Doh et al., 2012; Hillenbrand et al., 2013). CPA, on the other hand, concerns "corporate attempts to manage political institutions and/or influence political actors in ways favorable to the firm" (Mellahi et al., 2016, p. 144) and involves several tactics targeted at elected officials and politicians (Hillman et al., 2004). In this chapter, we focus on Disney's CPA strategic response to an institutional schism.

Firms very often engage with and manage institutional misalignments to elevate their sociopolitical legitimacy. Recent studies show evidence that engagement with the non-market environment (NGOs, social activists, governments, civil society, etc.) can bring significant benefits for organizational outcomes and positively affect a firm's overall performance (Doh et al., 2012; Mellahi et al., 2016). Firms can have different strategic intents and governance modes related to their non-market strategic responses (Dorobantu et al., 2017). Regarding their strategic intent, firms can choose to *adapt* to the institutional environment focusing on non-market strategies that can help reduce transaction costs (Williamson, 1991, 2000); *transform*, by changing formal institutions that enable value creation and reduce institutional costs (North, 1990); or *augment* the institutional context, by creating new institutions that can reduce institutional costs for those that commit to them (Ostrom, 2005). For instance, a firm that engages in promoting the agenda of EDI through human resources and marketing policies in an environment in which such positive externalities are not rewarded might: (1) adapt and internalize this transaction; (2) seek to transform the environment through political action by pushing legislation that favors this commitment; (3) or make this a voluntary commitment in the expectation of being rewarded by civil society, employees, consumers, etc. (example adapted from Dorobantu et al., 2017, p. 117). Moreover, independent of what the non-market strategic response is, the firm must decide if it will conduct CPA (or CSR) alone or in collaboration with other actors in the non-market environment.

There are a variety of ways in which a firm can influence the political arena. Firms can engage in lobbying, public/government alliances, industry alliances or associations, and political inducements and contributions (Hillman et al., 2004). The goal of CPA is to either (1) reduce potential negative impacts and uncertainty connected to government policies or (2) maximize benefits associated with public policies and their impact on a firm's overall performance (Hillman & Hitt, 1999; Shaffer, 1995). Additionally, firms can engage in CPA to exercise their freedom of speech regarding government decisions (Keim & Zeithaml, 1986). Due to the uncertainties prevailing in the competitive environment and many conflicting expectations from several actors in the market and non-market environments, CPA became essential for most firms engaged in overseas operations. This is due to political actors' ability to influence the costs of doing business within a country by affecting market structures or altering the cost structures of firms through legislation related to several aspects, such as labor practices or taxation.

It is important to highlight, however, that engaging with CPA can have unexpected consequences for the firm. Despite the growing interest in the topic, few researchers were truly able to measure and provide evidence that CPA positively influences firms' overall performance (Greiner & Lee, 2020). Moreover, there are many qualitative gains and losses that are not being captured by statistical models. Through in-depth qualitative analysis, one can highlight not only financial but also legitimacy and image gains or losses connected to a firm's political engagement. CPA can be very fruitful in strengthening ties with governments, but it can also damage these relationships and severely impact firms. Moreover, considering the power and leverage that firms can build around political and social issues, a firm's non-market strategy can act as either tailwinds or headwinds for the issues being addressed. A firm's consistent support to a social issue is less prone to be criticized for lack of engagement (Li & Soule, 2021). When a firm proactively declares support for LGBTQIA+ rights, for instance, and implements actions that go against institutional structures that violate such rights, it is expected that this commitment supports the advancement of the human rights agenda (Lux et al., 2011; Wettstein et al., 2019). However, when firms commit to promoting such rights and remain silent or do not actively engage with the matter, this

position is not considered a neutral one, but more so a form of condoning the abuse (Wettstein, 2012). Corporate activism and the agendas they engage with through CPA can suffer severe consequences due to superficial or the absence of engagement.

3 The Case of the Walt Disney Company in Florida

We explore the case of Disney in Florida not only to demonstrate what an institutional schism is but also to highlight how firm-level non-market strategy is directly impacted by such schisms and used as a strategic response. We examine in-depth Disney's response to the controversial *House Bill 1557*. We outline what the bill says, why it represents institutional schisms and then present the various stages of Disney's non-market strategic responses. Through the different phases of responses, we will highlight the influence of institutional schisms on non-market strategy.

3.1 The Bill

Governor Ron DeSantis of Florida has recently signed into effect *House Bill 1557*, called the "Parental Rights in Education" bill, even though countless politicians, notably President Joe Biden, have called the piece of legislation hateful and questioned its legitimacy (Mazzei, 2022). The bill prohibits classroom instruction on sexual orientation or gender identity in K-3 grades "or in a manner that is not age-appropriate or developmentally appropriate for students in accordance with state standards" (Diaz, 2022; Goldstein, 2022). Before unpacking how the bill represents an institutional schism, it is essential to understand the details of the bill. There are several key facets to it, which we explain succinctly here (State of Florida, 2022). First, it foresees instruction on gender and sexuality to be constrained in all grades. Second, schools will be required to notify parents when children receive mental, emotional, or physical health services unless educators believe there is a risk of abuse, abandonment, or neglect. Third, parents would have the right to opt their children out of

counseling and health services. Fourth, parents can sue schools for violating the vaguely written bill, and districts would have to cover the costs. Fifth, Florida will rewrite school counseling standards.

While the bill has many additional complex dimensions, the most controversial element, and the one that subsequently results in an institutional schism, is the degree to which the bill limits the discussion of EDI in schools (Hesse, 2022). While this bill has critical implications for all individuals living in Florida and all companies operating in the state, it is worth highlighting that several other states, such as Oklahoma, Ohio, Louisiana, and Texas, have also started to mimic the law (Diaz, 2022). Across the United States, at least a dozen states are considering new legislation that, in several ways, will mirror Florida's new controversial law, referred to by some opponents as the "Don't Say Gay" bill. The specific details regarding the bills vary between states, but, overall, they seek to prohibit schools from using a curriculum or discussing topics of EDI.

As we will describe in the following section, this controversial element represents an institutional schisms-based precedent set by the Supreme Court as it relates to freedom of speech and unconstitutional vagueness (Mazzei, 2022; Millheiser, 2022).

3.2 The Bill as an Institutional Schism

For this chapter, we focus on formal institutional schisms and define them as misalignments between two existing formal institutions at the national and state levels. While many politicians, activists, and citizens have come out strongly against the bill, we assert that the bill represents a formal institutional schism as it highlights how legislation in Florida directly contradicts formal legislation in the United States for two key reasons.

First, lawmakers and legal analysts have offered critical insights on how the bill violates the First Amendment, which gives individuals the freedom of speech. Expert opinions indicate that although public school teachers' First Amendment rights are already curbed, this bill violates the amendment by blocking them from open discourse (Migdon, 2022). By preventing schoolteachers from discussing issues related to EDI and

human rights of the LGBTQIA+ community, policy experts indicate that the law itself is not legal nor is it constitutional, and it leaves the most vulnerable members of our society at severe and undue risk (Sawchuk, 2022).

"Over time and continuing today, our nation has strived to make good on its promise that everyone is entitled to be treated with equal dignity under the law. That is true when it comes to LGBTQ Americans, who now have the constitutional right to identify openly as LGBTQ, to marry, and to form families with children," said Roberta Kaplan, founding partner of Kaplan Hecker & Fink LLP. "With the passage of House Bill 1557, Florida has not only taken a giant step backwards, but it has done so at the expense of our children, the most vulnerable members of society. It is hard to imagine anything more offensive to our constitutional system than treating one group of school kids as second class based solely on who they are or who their parents are. This law cannot be allowed to stand" (Lavietes, 2022).

As a result, many fear that the bill will result in cultural controversy and could potentially marginalize a segment of the population (the LGBTQIA+ community) that has already faced significant hardship (Hesse, 2022). As noted by the ACLU, "This effort to control young minds through state censorship—and to demean LGBTQ lives by denying their reality—is a grave abuse of power" (Block, 2022). These same critics argue that the state of Florida has no constitutional right to block free speech, nor does it have the right to alienate any groups of society, especially in schools (Rosica, 2022).

Second, another key issue with the bill is its unconstitutional ambiguity or vagueness (Mazzei, 2022; Millheiser, 2022; Migdon, 2022). This claim is not only rooted in the Constitution itself but also in the precedent set by the Supreme Court of the United States of America. Legal pundits highlight that the bill does not define several critical elements that would legitimize the bill. For example, the bill brings up the idea of "age appropriate" and "developmentally appropriate" but does not set these conditions. Based on the Constitution, if a law is not clear enough to follow, the law itself is unconstitutional. A commonly used example to highlight this that has come out is as follows (Lavietes, 2022):

> Suppose, for example, that Ms. Smith is a second-grade teacher married to a woman. One evening, while Smith and her wife are shopping at the mall, she runs into one of her students and they say hello to each other. The next day, the student asks Ms. Smith who the woman she was shopping with is, and Smith responds, "Oh, that's my wife." If this conversation with the student occurs in a classroom, does it constitute "classroom instruction"?

There are two key Supreme Court cases that uphold the notion that state laws cannot be so vague and/or ambiguous that they cannot be followed reasonably. In Keyishian v. Board of Regents (1967), the Court deemed that a New York State law aimed at preventing communists from becoming teachers or professors was too vague, and thus unconstitutional, because, if extended, schools could not teach the Declaration of Independence (Lavietes, 2022). From this, the Court determined that laws around classroom speech and teaching "must not be so vague that people of common intelligence must necessarily guess at its meaning and differ as to its application" (Millheiser, 2022). Using the Keyishian standard, the Florida bill does not clear this bar and is thus unconstitutional. A second critical case that highlights how the bill is an institutional schism is Cramp v. the Board of Public Instruction (Lavietes, 2022). This bill, which was also attempted in Florida but ultimately deemed unconstitutional due to its extreme vagueness, attempted to mandate that all public employees swear that one "has not, does not and will not lend aid, support, advice, counsel or influence on the Communist Party." Ultimately the court struck this down not only due to its vagueness but also due to its violation of the 14th Amendment (e.g., the due process clause). The Cramp case has critical implications for the current Florida bill for three reasons. First, the court deems that any law that denies citizens of adequate notice of conduct that may face legal sanctions is unconstitutional. Second, such laws invite discrimination and segregation. Third, such laws violate the essential right to freedom of speech.

Thus, despite the ongoing discussion and controversy of the bill, we argue that it represents an institutional schism as it highlights how the state of Florida is in violation of the laws and courts at the national level. While this will take time to sort out in federal courts, we base this analysis and conclusion on legal precedent and the legal expertise of leaders in the field.

3.3 Disney's Response to the "Don't Say Gay" Bill

The initial strategic response by Disney in Florida was non-action (Stewart, 2022; Blair, 2022). While this may have been the result of a variety of factors, the company was one of the more notable companies that did not take a direct stance when the bill was initiated in Florida. While the company eventually took a firm stance, the initial response that lasted for several weeks was one of silence. Quickly, however, there was a public outcry against the company for not taking a stance both nationally and internationally. Critics pointed out that the company has donated roughly 200,000$ USD in the past two years to members of the Florida legislature and cited the company's lack of response to the bill as an indication of support for it (Kim, 2022). Social media platforms across the globe continued to speak out against the company. Arguments were based on the logic that Disney poses itself as a family-first company that promotes EDI, and because of their size and power, it was wrong of them not to oppose the bill when they could make a change (Ables, 2022). Protestors threatened to no longer attend amusement parks or purchase Disney products, and the stock price took a hit throughout the time that the company remained inactive (Blair, 2022).

Disney found itself facing an institutional schism. Stakeholders cited that the Florida bill represented a violation of freedom of speech and promoted hate, yet the state of Florida, where the company has huge operations and is one of the state's main employers, continued to promote the bill and operate as if it were in effect. Disney found itself in the middle, but eventually, the court of public opinion and the severe backlash pressured the company to alter its non-market strategy. In due time, the company vowed to help repeal the law and argued that Governor DeSantis should have never signed the bill (Whitten, 2022). The company's public opposition to the new law comes after CEO Bob Chapek was scrutinized for staying silent and not directly opposing the bill when he had the chance before it passed the Florida Senate. The company has since donated $5 million to organizations that work to protect LGTBQIA+ rights and has begun speaking to employees in town hall meetings about how it can better serve this community. Moreover, the

heir to the company, Charlee Disney, has come out publicly as transgender and has articulated that the company will continue to oppose the bill and seek the rights of the LGBTQIA+ community (Whitten, 2022).

In direct response, Governor DeSantis has since revoked Disney's special tax status and has continued to work on repealing their private district status (Atterbury, 2022; Ables, 2022). The law that has been repealed allowed Disney to operate as a private company over its properties in the state which has only intensified the feud and the institutional schism. Moreover, local communities and residents are wary of the consequences of such imposition due to fear of an increase in operational costs and tax payments, respectively. There is a lot of uncertainty regarding who will pay the cost associated with the state's resolution to Disney's non-market strategic response. This will likely have enormous cascading effects for Disney directly but also the state of Florida.

4 Concluding Discussion

In this chapter, we study institutional schisms created by the misalignment of national and state-level institutions and how firms use non-market strategies to overcome such schisms. Institutional schisms can create significant challenges for firms due to the resulting uncertainties and ambiguities that demand responses. A new public policy at the sub-national level that is in misalignment with national laws that govern firm behaviors can create transaction costs that reduce the firm's financial performance. To counteract such consequences, firms can design and implement CPA strategies as a response to misalignments.

For example, firms can choose to *adapt* and internalize transactions to find ways to reduce transactions and limit risks associated with institutional schisms (Dorobantu et al., 2017). A firm can partner with the ruling elite (Siegel, 2007) or even the military (Hiatt et al., 2018) to appropriate value in the existing institutional context. Political ties can be a source of competitive advantage and increase the firm's leverage when institutional schisms threaten to harm the firm's market transactions. Firms can also respond to institutional schisms by *adding* to the institutional environment through a voluntary commitment that will reduce

conflicts and costs associated with the schism (Ostrom, 2005). Instead of responding to formal institutions and state requirements, the firm can voluntarily position itself in a political or social matter with the expectation of being rewarded and recognized. This is the case of standards of conduct agreed upon in a certain industry (Dorobantu et al., 2017). Lastly, firms can try to *transform* the formal institutions and change transactional costs for all those affected by the change (Dorobantu et al., 2017). When experiencing a schism, firms can build new formal institutions through lobbying and political activism for new legislation and public policies that will reduce the intensity or threat associated with the institutional schism. Firms can target relevant political actors and convince them that new or modified rules are necessary by providing information and support from civil society or social activists (Hillman & Hitt, 1999). Sethi and Williams (2000, p. 197) mention that:

> The large corporation must become an active agent for social change if it is to make the world safe for democracy, and indeed, for capitalism […] As a dominant institution in society, the corporation must assume its rightful place and contribute to the articulation of the public agenda and [not] simply react to policy choices advocated by others.

When examining the institutional schisms created by the ratification of *House Bill 1557* in Florida, Disney chose to *transform* the institutional environment in the state rather than adapt or add to it. The bill does not only misalign with federal policies, but it also goes against Disney's commitment to EDI. Thus, consumers and social activists called attention to the issues and pressured Disney into action. After weeks of non-response, Disney decided to influence the governing institutions, trying to transform the policies (Dorobantu et al., 2017; Hillman & Hitt, 1999). The initial absence of response speaks to Disney's fear of engaging in an ideological discussion that could undermine its operations in the state of Florida and the uncertainties created by the schism. The unconstitutionality of the bill, as well as its lack of alignment with Disney's corporate practices, emphasized the urgency and relevance of its engagement with the matter (Li & Soule, 2021; Wettstein & Baur, 2016). Not positioning itself against the bill could cost more than the financial loss associated

with the current legal battle and a potential increase in taxes. Thus, Disney eventually positioned itself against the advancement of the bill, which caused the state's government to revoke Disney's special tax status. By stating its position against the bill, Disney aimed to impact public policy design by supporting the grassroots movement and providing information and evidence that the bill violates fundamental rights that should be protected by any state in the United States (Wettstein & Baur, 2016).

Disney's response started a legal battle that is expected to have consequences for the firm, local communities, and the fight for EDI and human rights of LGBTQIA+ community. For the firm, the State's decision has minimum impact; specifically, some of the red tape on Disney's decision to expand and renovate parks might be added. For the county and Disney surrounding communities, revoking the tax status can generate a significant financial burden since they might have to embrace debt and services once covered by the firm. Finally, since this became an ideological battle, the agenda on EDI and LGBTQIA+ rights was put aside and has been once more harmed by the State's rushed decision targeting Disney. To use the momentum and reinforce its position, the company must guarantee consistency and alignment with its own values and act against such laws in the United States (Wettstein & Baur, 2016). Even more so, Disney must launch projects and programming that promote equal rights for minorities and vulnerable populations. Considering politicians come and go, and corporations remain alive for decades, Disney has on its hand the chance to proactively change the discourse and push for legislation that favors EDI throughout the United States and reduce the misalignment between national and subnational laws.

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Part II

Geography

5

Political Risk and Location Choice of Chinese SMEs

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1 Introduction

China has experienced significant economic growth in recent decades since launching its "go global" policy, and is now the largest outward foreign direct investment (OFDI) home country among emerging economies (EEs) (Gaur et al., 2018). As the Chinese context is characterised by state involvement and control, Chinese MNEs attract extensive attention, with a focus on large multinational enterprises (MNEs), either Privately Owned Enterprises (POEs) or State-Owned Enterprises (SOEs) (Buckley et al., 2007). In contrast, few studies focus on the internationalisation of Chinese small and medium-sized enterprises (SMEs). We believe it is important to focus on these firms, which play an important role in China's economy. There are over 42 million SMEs, according to

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the Chinese definition, in China, and SMEs contribute 70% of foreign trade and more than half of outbound investments (Qiao et al., 2020; Zhu et al., 2012). Besides, SMEs may take on even greater importance in global markets following the Chinese government's "One Belt One Road" initiative, which further encourages Chinese firms to engage in OFDI (Zhu et al., 2020). In this context, it is surprising that little is known to date on the internationalisation of Chinese SMEs.

The international business (IB) literature has well recognised the role of institutions in shaping the strategic decisions of MNEs from emerging economies (EMNEs) (Deng & Zhang, 2018). On one hand, home institutions shape the resource environment and influence the resources, capabilities and national image that firms can acquire (Cuervo-Cazurra, 2011; Tang & Buckley, 2020). For instance, in China, existing policies tend to favour large firms or SOEs (Deng & Zhang, 2018); the government often provides preferential treatment to SOEs and large private MNEs that are "national champions" (Buckley et al., 2007), such that these firms take more risks and may make aggressive decisions. This tends to be different for SMEs, as most are privately owned. Nonetheless, state involvement can also lead to disadvantages for Chinese MNEs, for instance when they face difficulties in obtaining legitimacy in host countries because they receive government support (Cuervo-Cazurra, 2011). Zooming in on host-country institutions, IB literature suggests that host institutions influence the level of political risk and thus MNEs' exposure to threats of expropriation and opportunistic behaviour (Henisz & Delios, 2001). EMNEs show unique ownership advantages and a "springboard" internationalisation pattern, and are thus widely studied (Luo & Tung, 2007). Whilst it has been found that Chinese MNEs may be less sensitive to such risks in their location decisions (Buckley et al., 2007; Li et al., 2013), the literature does not provide a clear answer as to whether, and how, Chinese SMEs consider political risks when choosing locations. Since they tend to benefit less from state support, one assumption is that they may be more sensitive to risks when investing abroad. This may be particularly salient given the recent increase in global geopolitical conflicts and frictions (trade wars).

To address this research gap, this conceptual chapter aims to explore the influence of political risk on Chinese SMEs' location choices. To do

so, we review the literature on the focal relationship, examine the theoretical lenses used by prior studies and identify extant gaps. We suggest that prior knowledge on large Chinese MNEs or Western SMEs cannot be simply transferred to Chinese SMEs. Even the updated springboard perspective can only offer limited insight into the focal relationship (Luo & Tung, 2018). Hence, studying these firms could enhance our knowledge of the relationship and contribute by filling some gaps. Exploring SMEs' characteristics, we suggest applicable theoretical lenses and identify research avenues to explore the influence of political risk on their location choices.

The next section will briefly describe Chinese SMEs' internationalisation. The following sections review the literature on the effect of political risk on MNEs in general and on Chinese MNEs. Finally, the chapter concludes with a discussion of future research areas.

2 Recent Internationalisation Trend of Chinese SMEs

China has been transforming into a market-based economy from a planned economy since their economic reforms of 1978 (Gaur et al., 2018). In 1999, the Chinese government proposed the "go global" policy, and privately owned enterprises (POEs) were allowed to invest abroad from 2004 (Buckley et al., 2007). Therefore, Chinese SMEs' dramatic rise and expanded role in the international market have been observed in recent decades (Deng & Zhang, 2018). Chinese SMEs grow in an institutional environment where the government dominates the economy (Buckley et al., 2007). Hence, research has focused primarily on how Chinese firms' internationalisation is influenced by their home institutions, and has proposed two alternative views, the "fostering view" and "escape view", emphasising that these can explain Chinese SMEs' internationalisation.

Scholars adopting the "fostering view" tend to highlight the positive role of home institutions in SMEs' access to resources and internationalisation. The Chinese government issued a regulation on "Measures of

Capital Support for SMEs to Develop International Markets" in October 2000 and set up the "International Market Developing Funds of SMEs", which aim to support SMEs and encourage them to compete in the international market (Luo et al., 2010). Another regulation, the SME Promotion Law, which attempts to provide public support and promote SMEs' financial access, was passed in 2002 (Zhu et al., 2012). However, these regulations and assistance programmes have not been enforced efficiently and do not necessarily align with Chinese SMEs' needs (Cardoza et al., 2015). For instance, the policy responsibilities of implementing the SME Promotion Law among multiple organisations are ambiguous (Zhu et al., 2012). Some studies even show that institutional supports such as state participation in ownership and funding are less relevant to SMEs' internationalisation, and as a result, SMEs rely on their own capabilities to expand abroad (Cardoza et al., 2015). Nevertheless, one would expect that the approval authority delegated to local government and a shorter approval period allow SMEs to expand abroad more easily than before (Luo et al., 2010). Additionally, institutional factors such as a higher regional marketisation level and ties to industry associations will promote SMEs' internationalisation (Qiao et al., 2020).

In contrast, scholars taking the "escape view" attribute the inconsistent findings of the "fostering view" to the focus on the individual dimension of institutions (Deng & Zhang, 2018). These scholars explore the influence of overall Chinese institutions and institutional distance between China and the host country on the internationalisation of SMEs. The key contention is that domestic institutions can be harmful to SMEs' growth, development and survival. Although SMEs can have weaker political ties to the government or officials (Deng & Zhang, 2018), many are still influenced by the state, for instance through the state-owned assets supervision and administration commission of the state council (SASAC), or, on the international stage, internationalisation of large Chinese MNEs or SOEs can open up business opportunities for smaller investors. Overall, SMEs tend to benefit less from access to institutional resources domestically (Wu & Deng, 2020). As a result, a major concern identified by SMEs is unfair competition (Zhu et al., 2012). The Chinese government treats large firms or even foreign firms preferentially, and provides them broader access to resources such as procurement contracts (Deng &

Zhang, 2018; Zhu et al., 2012). Another challenge for SMEs is access to finance, which is the most significant constraint of their growth and survival (Deng & Zhang, 2018). SMEs even encounter difficulty in obtaining financial support from commercial banks in normal ways due to their shortage of collateral and high-risk profile (Zhu et al., 2012). Therefore, in China, SMEs can only get up to 25% credit from banks, hence most have to rely on self-funding and their own capabilities (Cardoza et al., 2015; Zhu et al., 2012).

The "escape view" also suggests that administrative decentralisation, following the open-door policy, has fragmented the Chinese economy and led to competition among provinces regarding economic targets (Boisot & Meyer, 2008). This means that, even when doing business across provinces, Chinese SMEs may face local protectionism, and in some cases, administrative and operating costs of crossing domestic borders can be higher than those of crossing international borders (Boisot & Meyer, 2008). Additionally, the Chinese institutional environment is characterised by uncertainty in regulation, government involvement and corruption. For Chinese SMEs, it means that operational costs may increase and pose challenges to doing business (Deng & Zhang, 2018), and they may be at a disadvantage due to insufficient legal protection of their private assets against opportunistic behaviours (Tang & Hull, 2012). In sum, existing constraints in their domestic institutional environments and a more relaxed approval system of internationalisation act as incentives to internationalise (Wu & Deng, 2020). Chinese SMEs' internationalisation is partly or fully driven by "strategic escape" (Boisot & Meyer, 2008; Deng & Zhang, 2018).

Given these arguments, it is no wonder that OFDI conducted by Chinese private SMEs listed on stock exchanges increased dramatically after 2011 (Fig. 5.1). SMEs account for over 90% of Chinese registered firms in 2013 (Fig. 5.2). This number rose to 99.8% in 2018, so SMEs may be hidden champions of OFDI in the future (Qiao et al., 2020).

Both "fostering" and "escape" views provide compelling explanations as to how home-country factors push Chinese SMEs into internationalisation. Existing research, however, has focused less on how host-country institutions and institutional environments can attract—or otherwise—Chinese SMEs and explain these firms' FDI decisions. We propose that

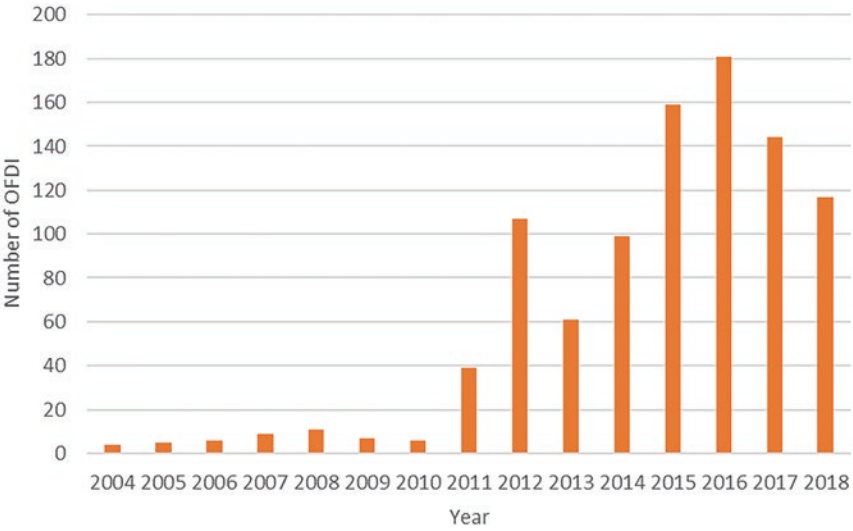

Fig. 5.1 The number of new OFDI made by Chinese private listed SMEs, 2004–2018. Note: These SMEs are private and listed on the Shenzhen and Shanghai stock markets. They are identified according to the Chinese definition of SMEs. (Source: Composed by authors based on the China Stock Market and Accounting Research Database)

Firm size (employees)	Number of firms	% of employer firms
1-7	5 629 753	52.0
8-19	2 672 035	24.7
20-49	1 441 548	13.3
50-99	556 331	5.1
100-299	378 706	3.5
300-499	69 948	0.7
500-999	45 443	0.4
1 000-4 999	28 458	0.3
5 000-9 999	2 273	0.0
10 000+	1 116	0.0
Total	**10 825 611**	**100**

Fig. 5.2 Distribution of registered firms in China, 2013. Note: Chinese criteria for SMEs range from 200 to 1000 employees, depending on firm sector. (Sources: OECD, 2018)

IB theory offers useful explanations, namely emphasising that SME internationalisation differs because smaller firms have fewer resources, and may be more sensitive to risks when making investment decisions. It is imperative to understand how host institutions, and particularly political risks in host countries, influence the location decisions of Chinese SMEs when they internationalise.

3 Host Countries' Political Risk and Chinese SMEs' Internationalisation

The IB literature has long shown that when investing abroad, a variety of institutional factors come into play, such as culture and governance system, among which a key factor is political risk (Berry et al., 2010; Farah et al., 2022). For instance, a higher risk of governmental opportunistic behaviour may not only influence firms' access to resources but also lead to revenue loss (Stevens et al., 2015). Conventional wisdom thus suggests a defensive strategy for MNEs. In an era characterised by rising ideological conflicts, national protectionism and interventionism (Hasija et al., 2020), firms' strategic decisions are even more likely to be influenced by such risks. In this chapter, we propose that political risks in host countries also influence Chinese SMEs' location decisions.

Political risks are multi-faceted and impact upon firms' strategic decisions in various ways. Table 5.1 presents some useful definitions.

According to the definitions in the early literature, the concept of political risk was limited to several assumptions. Root's (1968) definition assumed that political risk is event-based, while Robock's (1971) definition posited political risk as discontinuous and unpredictable. Other assumptions include that political risk always generates negative effects on business operations and that national governments are the major actor. As more contexts were investigated in political risk research and different contexts posed different types of political risk, the concept became much broader over time. According to the definition by Simon (1982), political risk can originate in social actions as well, and external sources are highlighted. Recently, the dimension of macro and micro was made clear in the definition of political risk (Alon & Herbert, 2009;

Table 5.1 Selected definitions of political risk

Author	Definition
Root (1968: 355)	Possible occurrence of a political event of any kind (e.g. war, revolution, *coup d'état*, expropriation, taxation, devaluation, exchange controls and import restrictions) at home or abroad that can cause a loss of profit potential and/or assets in an international business operation.
Robock (1971: 7)	Political risk in international business exists (1) when discontinuities occur in the business environment, (2) when they are difficult to anticipate and (3) when they result from political change.
Weston and Sorge (1972: 60)	Political risks arise from the actions of national governments which interfere with or prevent business transactions, or change the terms of agreements, or cause the confiscation of wholly or partially foreign-owned business property.
Simon (1982: 68)	Governmental and societal actions and policies, originating either within or outside the host country, and negatively affecting either a select group or most foreign business operations and investments.
Henisz and Delios (2001: 443)	The presence of political institutions that induce policy uncertainty.
Holburn and Zelner (2010: 1290)	The risk that a government will opportunistically alter policies to directly or indirectly expropriate a firm's profits or assets.
Giambona et al. (2017: 525)	Political risk is defined to include macro political risks (e.g. regime changes or nationwide security breakdowns), micro political risks (e.g. security problems arising in a certain region of a country or related to certain policies) and external political risk (related to tensions between countries).
John and Lawton (2018: 848)	Political risk refers to the possibility that a specific action or inaction in the political environment will directly or indirectly, on a regular basis or episodically, induce negative or positive changes in the economic outcomes of firms at macro and micro levels.

Giambona et al., 2017), highlighting how different firms entering the same environment may face different degrees of political risk. In addition, it has been argued that political risk can present not only risks but also opportunities (John & Lawton, 2018). As political risk is a multidimensional concept, it may be driven by a variety of sources, such as overall uncertainty in the political environment and lack of political constraints on policy-makers.

3.1 The Effect of Political Risk on FDI Location Choice

IB studies have explored how political risks arising from various sources can influence MNEs' location choices or the country's distribution of FDI. Generally, political risks have a deterrent effect on MNEs' location choice (Amore & Corina, 2021; Buckley et al., 2018; Flores & Aguilera, 2007; Li et al., 2018; Li & Vashchilko, 2010; Papageorgiadis et al., 2020; Skovoroda et al., 2019; Stoian & Filippaios, 2008; Witte et al., 2017). Table 5.2 gives examples of various types of political risks explored in IB studies.

Table 5.2 Selected studies on the effect of political risk on FDI location choice

Type of risks	Source
Overall political environment	Buckley et al. (2007), Desbordes (2007), Coeurderoy and Murray (2008), Kang and Jiang (2012), Duanmu (2012), Quer et al. (2012), Li et al. (2013), Giambona et al. (2017), Luiz et al. (2017), Quer et al. (2018), Shapiro et al. (2018), Mersland et al. (2020)
Lack of constraints on policy-makers	Delios and Henisz (2003), Rodriguez (2008), Guler and Guillen (2010), Holburn and Zelner (2010), Alcantara and Mitsuhashi (2012), Yasuda and Mitsuhashi (2017), Yasuda and Kotabe (2021)
Weak property rights protection	Coeurderoy and Murray (2008), Stoian and Filippaios (2008), Duanmu (2014), Papageorgiadis et al. (2020)
Poor regulatory quality	Stoian and Filippaios (2008), Kolstad and Wiig (2012), Buckley et al. (2016), Witte et al. (2017), Buckley et al. (2018), Skovoroda et al. (2019), Mersland et al. (2020)
Corruption	Witte et al. (2017)
Political system/ Accountability	Flores and Aguilera (2007), Kolstad and Wiig (2012), Witte et al. (2017), Skovoroda et al. (2019)
Political instability	Buckley et al. (2016), Buckley et al. (2018), Papageorgiadis et al. (2020)
Uncertainty caused by political election	Amore and Corina (2021), Yasuda and Mitsuhashi (2017)
Domestic conflict	Stoian and Filippaios (2008), Witte et al. (2017), Skovoroda et al. (2019)
Interstate conflict/ relations	Li and Vashchilko (2010), Li et al. (2018), Skovoroda et al. (2019)

When the overall political environment in a host country is risky (e.g. weak rule of law, governmental instability), MNEs face increasing uncertainties stemming from a variety of sources. Such uncertainties will generate a threat to firms' returns and lead to unexpected costs in business operations (Oh et al., 2021). The most prevalent firm response is to avoid investment in risky countries (Giambona et al., 2017), as shown in numerous studies (Coeurderoy & Murray, 2008; Desbordes, 2007; Duanmu, 2012; Giambona et al., 2017; Mersland et al., 2020; Quer et al., 2018). However, other studies indicate that, contrary to conventional wisdom, political risk can generate a positive effect on FDI or MNEs' location choice (Buckley et al., 2007; Kang & Jiang, 2012; Li et al., 2013; Luiz et al., 2017; Shapiro et al., 2018).

Since Henisz (2000) developed the Political Constraint Index to measure political risk, the effect of a lack of political constraints, a specific type of political risk, has received much attention in the literature. Inadequate political constraint poses a threat because there will be fewer checks and balances on various political actors in the process of making policy (Tang & Buckley, 2020). In countries where political constraints are weak, policy-making does not require the agreement of diverse actors (Holburn & Zelner, 2010). Policy-makers can thus easily change policies to their own benefit or on behalf of MNEs' local rivals. Therefore, in this situation MNEs face a risk of governmental opportunistic behaviours. Hence, political risk originating from the weakness of political constraints has been found to deter MNEs' location choice (Alcantara & Mitsuhashi, 2012; Delios & Henisz, 2003; Guler & Guillén, 2009; Henisz & Delios, 2001; Rodriguez, 2008; Yasuda & Mitsuhashi, 2017).

The risk of expropriation or weakness of property rights protection is a top concern of MNEs when making a location decision (Duanmu, 2014). In countries with a high expropriation risk, MNEs might need to defend their property and assets against governmental action or expropriation, incurring high costs (Papageorgiadis et al., 2020). Hence, the political risk originating from the weak protection of property rights is also found to have a negative effect on location choice (Coeurderoy & Murray, 2008; Duanmu, 2014; Stoian & Filippaios, 2008). Papageorgiadis et al. (2020), however, found a positive effect of weak protection of

intellectual property, but note that once a moderator for informal institutions is included, capturing the degree of effective enforcement of property rights, the effect becomes negative.

In addition to the above political risks, risks deriving from poor regulation quality, corruption, political system, political instability, political election, domestic conflict and interstate conflict or relations have also received attention in the literature.

Studies therefore generally indicate that political risks have a negative impact on FDI, although some suggest that political risk can also have a positive effect on FDI or MNEs' location choice (Buckley et al., 2007; Kang & Jiang, 2012; Li et al., 2013; Luiz et al., 2017; Shapiro et al., 2018), for instance when firms have political capability and experience in handling such risks in their home country, or through governmental negotiation and support (Li et al., 2013; Luiz et al., 2017).

Table 5.3 presents selected studies illustrating when political risks are found to have a positive or negative impact, on MNEs in general and on Chinese MNEs specifically. What is noticeable is that for Chinese MNEs, particularly SOEs, studies find the influence of political risks on firms' investment decisions to be inconsistent. Researchers suggest this is because these firms benefit from the experience of operating in an immature institutional environment and government backing such as cheap capital and subsidised credit (Buckley et al., 2007; Wei, 2010). Another explanation is that the Chinese government sometimes negotiates with host countries on behalf of Chinese MNEs (Li et al., 2013). Where the Chinese government provides multiple development projects in various sectors, including infrastructure, health care and agriculture, host countries in return allow Chinese MNEs to access local natural resources. Chinese MNEs thus gain political legitimacy and social licence and are less exposed to political risk (Shapiro et al., 2018). This explains why many Chinese MNEs have entered African countries to secure natural resources and construct telecommunications networks, railroads and hospitals. Extant empirical research, therefore, found that political risks can have a positive, weaker or no effect on Chinese MNEs or SOEs' location choices (Buckley et al., 2007; Buckley et al., 2016; Duanmu, 2012, 2014; Kang & Jiang, 2012; Quer et al., 2012).

Table 5.3 Studies on the relationship between location decision and political risk

Author	Home	Host	Dependent variable	Effect
Overall political environment				
Desbordes (2007)	US	Mixed	FDI flow	–
Coeurderoy and Murray (2008)	UK and Germany	Mixed	Location choice	–
Buckley et al. (2007)	China	Mixed	FDI flow	+
Duanmu (2012)	China	Mixed	Location choice	+
Lack of political constraints				
Delios and Henisz (2003)	Japan	Mixed	Location choice	–
Henisz and Delios (2001)	Japan	Mixed	Location choice	–
Holburn and Zelner (2010)	Mixed	Mixed	Location choice	–
Yasuda and Mitsuhashi (2017)	Mixed	Mixed	Number of entry	–
Duanmu (2012)	China	Mixed	Location choice	–
Quer et al. (2012)	China	Mixed	Location choice	Insignificant
Week property protection				
Coeurderoy and Murray (2008)	UK and Germany	Mixed	Location choice	–
Duanmu (2014)	China	Mixed	Location choice	–
Poor regulatory quality				
Skovoroda et al. (2019)	US	Mixed	Location choice	–
Stoian and Filippaios (2008)	Greek	Mixed	Location choice	–
Buckley et al. (2016)	China	Mixed	Location choice	+
Kolstad and Wiig (2012)	China	Mixed	FDI flow	+
Political instability				
Buckley et al. (2016)	China	Mixed	Location choice	+

Note: '+' represents a positive effect, '–' a negative effect and Insignificant an insignificant effect

3.2 Key Theories Explaining the Impact of Political Risks on MNEs' Location Choice

The springboard perspective suggests that EMNEs, as latecomers, have unique ownership advantages and disadvantages, and they use international expansion as a springboard to achieve multiple goals, such as seeking assets and bypassing domestic institutions (Luo & Tung, 2007). Nevertheless, a limitation is that it cannot explain the host government's attitude and policy towards EMNEs, which are important dimensions of political risks and offer the researcher comprehensive insight into where companies locate (Luo & Tung, 2018). In this section, we explore how existing theories provide valuable insights into how political risks affect MNEs' location choices. Institutional economics emphasises how host institutions influence transaction costs and thus shape location choices (John & Lawton, 2018). OLI explains how the locational advantages offered by lower political risk, together with MNE ownership and internalisation advantages, influence location decisions (Stoian & Filippaios, 2008). The stages model, based on the Uppsala internationalisation theory, depicts how experience in and knowledge of dealing with political environments and institutions can diminish uncertainty and influence MNEs at the early stage of internationalisation (Delios & Henisz, 2003). All these theories fall into the category of the political institutions' approach (PIA) identified by Stevens et al. (2015). Various bargaining models, identified as the bargaining power approach (BPA), help understand the bargaining power of MNEs or their home governments and host governments, and why MNEs enter risky countries (Li et al., 2013; Stevens et al., 2015). Finally, organisational institutionalism, focusing on MNEs' legitimacy and corresponding to Stevens et al.'s (2015) legitimacy-based view (LBV), has a potentially expanding role in future research.

OLI Paradigm

Dunning (1993) proposed that a firm with ownership advantages (O), such as superior technology and patents, will be able to exploit locational advantages (L) in the host country such as lower labour costs and natural

resources by internalising (I) ownership advantages. OLI was developed to explain the FDI of MNEs from developed countries (DMNEs) whose objective is profit maximisation. As emerging markets became increasingly important (Duanmu, 2012), Dunning (2008) extended the OLI paradigm by incorporating the dimensions of institution. Advantages stemming from home institutional environments such as the ability to handle political risk are recognised as ownership advantages (O), except for traditional advantages such as know-how and technology (Buckley et al., 2007). Additionally, institutions influence the cost of internalisation and transaction in the marketplace (Dunning, 2008). Some host governments do not allow internalisation in certain strategic sectors. Therefore, institutions may influence whether firms can enjoy internalisation advantages (I). In terms of locational advantages (L), as Dunning (2008) suggests, institutions affect the locational attractiveness of a host country, because whether the ownership advantages of MNEs can be exploited successfully depends to some extent on the quality of institutions in the host country. FDI will be attracted to a functioning country with institutions that secure property and ensure the credible enforcement of laws and good governance (Dunning, 2008). MNEs face lower risks of governmental opportunistic behaviour in these countries (John & Lawton, 2018). In other words, MNEs will be attracted to countries with lower political risk.

Internationalisation Stages Model

According to the stages model of internationalisation, firms start their global expansion by sequential and small steps (Johanson & Vahlne, 1977). The model, on one hand, suggests that firms start their international expansion through the mode of export, and then gradually move to more risky modes such as joint venture manufacturing and wholly owned manufacturing. On the other hand, it suggests that firms will move to geographically and culturally distant countries only after accumulating relevant experience and knowledge in proximate countries. Delios and Henisz (2003), however, argued that the original stages model does not consider the political environment. The authors extended the

model by taking uncertainty in political environment into account. The stages model emphasises the role of experienced learning and knowledge in reducing uncertainty (Johanson & Vahlne, 2009). Therefore, it predicts that DMNEs without experience and knowledge about politically risky countries are less likely to locate in such countries when embarking on internationalisation. In contrast, it might explain why some EMNEs with experience in risky environments are less sensitive to political risk (Delios & Henisz, 2003; Holburn & Zelner, 2010).

Institutional Economics

Institutional economics suggests that political risk is determined by institutions in host countries (Rothaermel et al., 2006). North (1990) defines institutions as humanly devised constraints structuring human interaction, and categorises institutions into formal institutions such as laws, and informal institutions such as culture. Ma et al. (2016) also suggest that institutions structure economic, political and social relationships in a country. Institutions are the "rules of the game", and stipulate what actors should or should not do in different contexts (Ali et al., 2010; North, 1990). The function of institutions is thus to mitigate the uncertainty of transactions and reduce incurred transaction costs. Therefore, the political risk imposed by institutions with poor regulatory quality, immature judicial and financial systems, and corruption will lead to higher transaction costs (John & Lawton, 2018). Furthermore, underdeveloped political institutions weaken political constraints on policymakers, enabling them to change policies and regulations easily (Tang & Buckley, 2020). Therefore, governments in such host countries will be well capable of opportunistic behaviour towards MNEs should they not align with the government's interest (Henisz & Delios, 2001). Therefore, when deciding on FDI, MNEs will assess the risks of a lack of political constraints or weak institutions in a host country (Stevens et al., 2015). Institutional economics contributes to the political risk literature by explaining how host institutions might present political risk and thus shape MNEs' location decisions (John & Lawton, 2018).

Organisational Institutionalism

Organisational institutionalism provides insight into how conformity pressure and legitimacy shape MNEs' response to political risk (DiMaggio & Powell, 1983; John & Lawton, 2018; Roth & Kostova, 2003). Legitimacy is defined as "a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions" (Suchman, 1995: 574). MNEs can adhere to regulative, cognitive and normative institutions as categorised by Scott (1995) to obtain legitimacy (Kostova & Zaheer, 1999). The regulative pillar corresponds to North's (1990) formal institutions, including rules and laws. Normative institutions include softer aspects such as values and norms. From the normative perspective, actors make choices based on what they are expected to do and what they are obliged to do, rather than on a basis of their own interests (Scott, 1995). Therefore, firms gain legitimacy when the norms and values they pursue are consistent with the social norms and values of their environment (Kostova & Zaheer, 1999). Cognitive institutions are the rules that constitute the nature of reality and the frames through which meaning is constructed (Scott, 1995). Firms comply with cognitive institutions by following a social cognitive structure which is "taken for granted". Therefore, the predictive power of organisational institutionalism is rooted in the notion of legitimacy (Donnelly & Manolova, 2020). It suggests that MNEs will enter countries where they are able to obtain legitimacy granted by various actors in the local political environment (Kang & Jiang, 2012). Stated differently, their business should be in line with the expectation of actors in the host country, such as the host government. This is because exposure to political risk will be more likely if they do not obtain legitimacy, which may influence a host government's motivation to behave opportunistically towards MNEs (Slangen, 2013; Stevens et al., 2015).

The Bargaining Power Approach

Various authors have developed the bargaining power approach (BPA) to identify how and when MNEs negotiate with governments to conduct their activities. Vernon's (1971) obsolescing bargain model (OBM) dominates the literature on the effect of political risk on MNEs (Orazgaliyev, 2020). A party has bargaining power if it controls the resources required by the other party (Kobrin, 1987). According to Vernon's (1971) OBM, MNEs' bargaining power tends to decrease over time, for instance when investment has already taken place, when the value of foreign resources such as technology diminishes, or when local firms become more competitive. Host governments often devise economic development policies and encourage FDI in specific sectors, explaining why, initially, MNEs can benefit from greater bargaining power. But as host countries grow, their policies may change, affecting the bargaining power of various stakeholders. A number of factors can influence the bargaining power of firms or state, such as the level of economic ties, for example, bilateral trade or investment flows, or host-home government relationships. Ramamurti (2001) develops a two-tier bargaining model by including an additional tier of bargaining taking place between home and host governments. Negotiations between home and host governments create macro rules or principles for later negotiation between MNEs and host governments. Such factors explain why the bargaining power of MNEs may not always erode over time (Duanmu, 2014). Various bargaining power models have been developed based on the experience of DMNEs. Li et al. (2013) argue that the BPA model cannot fully explain Chinese MNEs' investments overseas, including in Africa. In the Chinese context, negotiations between home and host countries are paramount and distinct (Shapiro et al., 2018). When Chinese MNEs' mission is to enter specific countries to fulfil home-country objectives—such as securing access to natural resources—they rarely need to engage in direct negotiation with the host country (Li et al., 2013).

3.3 Implications for Studying Chinese SMEs

Chinese SMEs have received little attention in the literature. Studying how political risk can influence private SMEs' location choices will enhance our understanding of their internationalisation. Prior knowledge has been based on large POEs and SOEs with abundant resources, and cannot be fully transferred to Chinese SMEs due to their unique characteristics (Wu & Deng, 2020). Chinese SMEs generally do not benefit from similar access to incentives and resources in their home environment, which sometimes drives them to "escape" and internationalise (Wu & Deng, 2020). On the other hand, Chinese SMEs may benefit from their domestic experience, which can help them deal with the political risk inherent in immature institutions (Holburn & Zelner, 2010), or when such firms seek a niche market in countries where political risks might deter potential competitors and thereby provide a unique market opportunity. The theories presented in the previous sub-sections can help us identify how Chinese SMEs might perceive political risks when choosing foreign locations.

The political institutional approach (PIA) provides valuable insight in terms of how a host institution can pose a general political risk to all foreign MNEs (John & Lawton, 2018). However, it has limitations in explaining how a specific MNE might face a higher or lower political risk than others in the same host country. The BAP helps to better understand how an individual MNE's home government and assets such as technology increase or decrease the political risk facing the MNE, depending on its bargaining power (Li et al., 2013; Shapiro et al., 2018; Vernon, 1971). Both PIA and BPA look at the attributes influencing the government's power to engage in intervention in MNEs' investment, so a complementary aspect, a legitimacy-based view (LBV), should be introduced (Stevens et al., 2015). The LBV sheds light on to what extent a government might be motivated to potentially use its power to interfere with foreign MNEs' investment (Stevens & Newenham-Kahindi, 2017).

Chinese SMEs may not possess traditional ownership advantages such as advanced technology, nor do they benefit from the strong government support that might reduce their need to engage in political activities in

the host market (Deng & Zhang, 2018). Without such advantages, political risk in foreign markets may be a salient locational disadvantage for them. Other theories such as OLI and institutional economics can therefore provide more useful theoretical explanations to predict these firms' approach to location choice in the event of political risks in the host market. The Uppsala stages model may be less relevant, as Chinese SMEs may escape their home country and invest in countries with distinctly different institutional environments even at an early internationalisation stage (Wu & Deng, 2020). We believe the legitimacy-based view presents useful arguments. Many Chinese MNEs encounter challenges of legitimacy in other countries (Shapiro et al., 2018), and Chinese SMEs are likely to face similar challenges. Here, we propose that seeking legitimacy may be even more important for Chinese SMEs compared with larger MNEs, because they benefit less from home-country support.

As a contribution to knowledge in this chapter, we propose a number of avenues for research in order to guide future studies aiming to provide novel insights into Chinese SMEs' internationalisation and their approach to political risks abroad. First, the literature has uncovered how large MNEs benefit from government support and thus invest in risky countries. Even if Chinese SMEs often favour foreign markets where other large Chinese MNEs are located (e.g. in African countries) (Stevens & Newenham-Kahindi, 2017), we lack insight into why some SMEs may be willing to locate in countries where the political environment is risky (Witte et al., 2020), and what strategic actions they take to overcome such risks. Future research is needed to open the black box of this area. For example, potential questions could ask *whether the Chinese government would also support their investments in countries with higher political risk? What factors explain why Chinese SMEs pay more or less attention to political risk? Why would SMEs choose to invest in risky countries?* Second, it has been reported that many SME investments encounter strict scrutiny in certain developed markets (e.g. North America, and some European countries); future research could explore whether Chinese SMEs view these countries as riskier, especially following the Chinese-US trade war (ACCPIT, 2022). The LBV suggests that they would be exposed to higher political risk due to difficulties in attaining legitimacy. Therefore, another future research question could be *does anticipated legitimacy*

influence an SME's perceived political risk and thus their location choice? Finally, the heterogeneity of political risks in different countries cannot be ignored. For instance, in African countries, political risks may be driven by political conflicts, government instability, etc. In Western countries, Chinese SMEs may face different forms of political risk, driven by illegitimacy and political friction. It is worth identifying what types of political risk will shape SMEs' location decisions and how this might affect their strategic decisions. In sum, we encourage researchers to enhance knowledge on these unique motivations and the strategic actions of Chinese SMEs when internationalising, and especially on how political risk affects Chinese SMEs' location decisions.

4 Conclusion

Chinese firms' international activities have grown dramatically since the "open door" policy was launched (Deng & Zhang, 2018). The "go global" initiative further encouraged the internationalisation of all MNEs, including SMEs (Buckley et al., 2007). Chinese SMEs thus play an increasingly important role, not just in the Chinese economy but also in the global market, internationalising by exporting overseas and also by expanding abroad through FDI (Qiao et al., 2020). It is surprising, therefore, that these firms' internationalisation strategies remain underexplored. This chapter goes some way to addressing this research gap, and based on existing research showing that Chinese MNEs tend to be less sensitive to political risks, contributes to the literature by developing some avenues for future research with regard to political risks and Chinese SMEs' location choice.

To date, the literature has proposed a "fostering view" and an "escape view" to explain how home institutions affect Chinese SMEs' internationalisation. The "fostering view" suggests that home institutions play a more positive role in SME internationalisation, while the "escape view" contends that home institutions push Chinese SMEs to expand abroad. As such, there remains little doubt as to the importance of home institutions in explaining Chinese MNEs' internationalisation. By contrast, we still know little about how host institutions influence Chinese SMEs'

international activities, especially their location choice and entry decisions. As SMEs tend to suffer from resource limitations, we propose that they will be more careful in deciding location and, in particular, may be more sensitive to political risks. In this chapter, we have reviewed the relevant IB literature on the relationship between location choice and political risk to better understand and frame future research on Chinese SMEs' location choice.

Challenging the conventional wisdom that suggests political risks will deter foreign MNEs (Amore & Corina, 2021; Coeurderoy & Murray, 2008; Giambona et al., 2017; Henisz & Delios, 2001), Chinese large MNEs appear less risk-averse, and their location decisions less affected by political risks (Buckley et al., 2007). What is not known, however, is how Chinese SMEs react to such risks in foreign markets. Based on existing literature and IB theories, we have identified pertinent avenues for future research to explore why Chinese SMEs may perceive political risks differently, compared to large Chinese MNEs. We propose that the OLI paradigm, institutional economics and organisational institutionalism—especially the legitimacy-based view—could be used in future research to understand how political risk affects Chinese SMEs' location choices.

To conclude, we encourage future research to seek insights regarding Chinese SMEs' OFDI. Moreover, the heterogeneity of Chinese SMEs should be considered as throwing light on MNEs' OFDI strategic decisions such as entry mode.

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6

FDI in Balkan Countries: The Role of EU Accession on FDI Attraction

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1 Introduction and Background

In the last three decades, Balkan countries have witnessed dramatic political, social and economic changes experiencing the dissolution of central planned economies, civil wars and the emergence of new countries. Although the shadow of a long-troubled history of ethnic conflicts might still induce doubts and insecurity to potential investors (Estrin & Uvalić, 2014), countries in the region scored a remarkable transition towards becoming market economies since the 2000s, both from an economic and a political perspective. The beginning of a peaceful era, economic reforms and cooperation with the EU shed hope about an upcoming time of positive changes for the region. While economic integration with

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the EU took off somewhat later than in the New Member States (NMS, henceforth),[1] the increasing number of companies setting up their operations in the Balkan region indeed represents a signal of economic liberalization and increasing economic growth. Over the 2001–2019 period, the average annual GDP growth rate was 3.42% in the whole area (2.76% in the Western Balkans), compared to 1.41% in EU countries.[2]

Nonetheless, the Balkan economies are still quite backward and generally poor due to economic structures that largely rely on the primary sector, obsolete production facilities and technology, scarcity of natural resources and infrastructure, and high unemployment. This is especially true for Western Balkans. By 2011, Serbia, Montenegro and Bosnia and Herzegovina had still not reached their 1989 level of GDP due to the negative GDP growth rates scored during the war-torn 1990s.[3]

In this framework, external technologies and knowledge may represent valuable developmental triggers for the region. Specifically, foreign direct investments (FDI) may induce positive effects for the local economy, through both direct and indirect channels. Recipient countries are likely to benefit from increased availability of capital as well as managerial and technological know-how, potentially leading to increase their exports, reduce unemployment and develop better infrastructure.

Scholars deem FDI and trade to be among the most efficient ways of integrating post-communist transition economies into global economic

[1] With "New Member States" we refer to the eight countries of Continental Europe which joined the EU on 1st May 2004: the five Central and Eastern Europe (CEE) countries (Czech Republic, Hungary, Poland, Slovakia and Slovenia) and the three Baltic countries (Estonia, Latvia and Lithuania). With "Balkan countries" we refer to Romania, Bulgaria, Serbia, Croatia, Former Yugoslavian Republic of Macedonia, Albania, Montenegro and Bosnia and Herzegovina. Within this group, we refer to Romania and Bulgaria as "Southeastern Europe", and to the remaining six countries as "Western Balkans". We did not include Kosovo among the Balkan countries due to data incompleteness. We also did not include Slovenia because its peculiar historical, political and economic connections with nearby Austria mark a substantial distinction in its development path with respect to other Western Balkan countries. The New Member States and the Balkan countries share more than 40 years of planned economies and similar transition processes towards market economies. In turn, NMS represent the natural benchmark for comparing the economic performance of Balkan countries.

[2] https://unctadstat.unctad.org/.

[3] For an excellent historical overview of the economic environment in the 90s and its development, see Estrin and Uvalić (2014).

flows (Botrić & Škuflić, 2006; Fortanier, 2007; Lipsey, 2002; Te Velde, 2006). While countries from Central and Eastern Europe (CEE) started to attract foreign investment following the 1990s transition to liberal markets, FDI inflows into Western Balkan countries have been almost null throughout the decade. Two main factors have limited the FDI inflows into the region. The first one is the comparatively late start of the transition process for Western Balkan countries, due to the political and ethnic conflicts that have plagued the region throughout the 1990s. This left the Western Balkans behind in terms of skill and physical infrastructure development and foreign capital attraction, as well as in relation to the adoption of important macroeconomic reforms (Bacovic et al., 2021). A second factor, affecting more broadly the whole set of Balkan countries, concerns the very slow process of integration with the European Union, the slowest in the EU history, with accession talks of several Balkan countries still having uncertain prospects due to recent changes in the EU enlargement policy.

In the case of CEE countries, Bevan and Estrin (2004) identified in the integration with the European Union a crucial enabler of FDI and a means of enhancing economic and institutional development. The structural reforms introduced as part of the accession process are likely to mitigate perceived investment risk (Bandelj, 2010; Conconi et al., 2016). Moreover, EU accession may positively affect location choices of MNEs from EU countries by reducing institutional distance, trade barriers and, more broadly, the risks and uncertainties associated with investing abroad, commonly referred to as "liability of foreignness" (LOF, henceforth) (Hymer, 1976; Zaheer, 1995; Nachum, 2003). Furthermore, foreign investors from non-EU countries are likely to be attracted by the ability to access EU market, brought de facto by the absence of tariffs within the Union.

Despite the high relevance of the EU accession for the economic prospects of Balkan economies, the available empirical evidence is very limited. Indeed, studies empirically addressing the impact of EU membership do not focus on this peculiar region (Bruno et al., 2021; Kersan-Skabic & Orlic, 2007), or are related to a relatively early time period (e.g. Bevan

& Estrin, 2004). Therefore, the aim of this chapter is to explore the role played by the EU accession in determining the location choices of foreign MNEs in Balkan countries, drawing on the experience of the three Balkan countries that have already completed the accession process, namely Romania, Bulgaria and Croatia. We consider the end of the negotiations for the accession (and not the official date when the country joins the EU) as the cut-off date that *de facto* establishes the new status of the applicant country as an EU member. Indeed, to complete the negotiation phase the potential member has to prove to satisfy the economic and institutional requirements to become a member of the Union (Bevan & Estrin, 2004; Baourakis et al., 2008).[4]

In examining the impact of EU accession on FDI for Balkan countries, we control for standard FDI determinants at the host country level such as market size, openness to trade, wages and governance as well as for firm and investment-level factors such as the co-location between the new investment and those previously located in the same host country. Furthermore, we investigate whether EU and non-EU investors react differently to the entry of the potential FDI destination in the European Union. Due to their proximate geographic location and interrelated history, we expect our result based on Romania, Bulgaria and Croatia's accession to provide a benchmark for the likely impact of the ongoing accession process of other Balkan countries.

The remainder of the chapter is structured as follows: Sect. 2 reports the main findings of the literature on FDI determinants focusing on location choices in transition economies of Central, Eastern and Southeastern Europe and the Balkans. Section 3 illustrates the empirical model and the dataset used for the analysis and provides some descriptive statistics. Section 4 shows the main results of the analysis and Sect. 5 presents some concluding remarks.

[4] After the end of the negotiation phase, the applicant country and the EU sign a Treaty of Accession which regulates the transitory period during which the approved member is expected to keep up the process of economic and institutional convergence with the other members, until the date of the official entry. For a more detailed explanation of the requirement to enter the EU, see https://ec.europa.eu/neighbourhood-enlargement/enlargement-policy/conditions-membership_en.

2 Literature Review

According to Dunning's eclectic theory of FDI, firms invest in foreign countries to best serve their strategic objectives and maximize the expected profits related to their operations (Dunning, 1979; Buckley & Casson, 1976). In doing so, MNEs are attracted by location factors that are expected to increase revenues (e.g., market size and its growth rate) or to reduce production costs (e.g., cost and quality of labour, quality of the institutions and of the regulatory business framework, proximity), thereby maximizing their ownership and internalization advantages (Dunning, 1979; Dunning & Lundan, 2008; Nielsen et al., 2017).

Over the last two decades, several studies examined the location determinants of FDI in New Member States and transition countries. In their milestone study, Bevan and Estrin (2004) use a gravity model to explain the determinants of FDI in CEE countries and find home and host country market size, host country unit labour costs and proximity between home and host country to be the most influential factors. Most studies find a positive role of market variables and proximity, whereas there is less agreement on the role of institutional quality and labour cost (Bevan & Estrin, 2004; Botrić & Škuflić, 2006; Estrin & Uvalić, 2014; Günther & Kristalova, 2016; Kurtović et al., 2020; Bacovic et al., 2021).

As already mentioned, one of the institutional and political factors potentially affecting FDI inflows in transition and post-transition economies is their integration with the European Union. Theoretically, EU accession may positively affect location choices of foreign MNEs through more than one channel.

First, accessing the EU may increase the location advantages that the foreign firm enjoys in the potential destination. In fact, given the absence of tariffs within the Union, joining the EU increases, *de facto*, the market size of a destination. However, as pointed out by Lall et al. (2009), the increase in this locational advantage depends on the existence of previous trade agreements between the accessing country and the EU. Long-run effects can be expected to arise from the financial support that the EU provides to the less wealthy EU members to accelerate the convergence process. This injection of capital, which largely benefits New Member States, is meant to improve the economic and infrastructural conditions

of these countries, and can be expected to create a better ground for the attraction of foreign investments (Basile et al., 2008; Katsaitis & Doulos, 2009). In line with this interpretation, Basile et al. (2008) find that Structural and Cohesion funds allocated to the least developed EU countries within the EU Cohesion Policy have a positive role in increasing MNEs' location choices in those countries.

Secondly, becoming a member of the EU may reduce the liability of foreignness, that is, the uncertainty associated with investing abroad, which raises the costs of doing business in a foreign country compared to domestic competitors and decreases their location advantages (Hymer, 1976; Zaheer, 1995; Nachum, 2003; Kersan-Skabic & Orlic, 2007; John H. Dunning & Lundan, 2008; Bandelj, 2010; Conconi et al., 2016; Zhou & Guillen, 2016). When investing in an EU member country, indeed, foreign MNEs are protected by the *acquis communautaire*, the body of EU regulations and laws that new members must adopt to join the Union. Prospective members are required to undergo a series of structural reforms, such as the improvement of business regulations and governance and the privatization of state-owned firms, that are likely to mitigate perceived investment risk (Bandelj, 2010; Kersan-Skabic & Orlic, 2007; Conconi et al., 2016).

On the other hand, the increased ease of trade with a country once it has entered the EU may also cause a decline in FDI when foreign investment acts as a substitute rather than a complement for trade, especially when the cost associated with the investment is high. Therefore, the impact of EU accession is not forgone, and understanding its role in FDI attraction appears of central importance for Balkan countries. In fact, conditional on market factors, distance from the source country, institutional quality and prospects of EU accession, Western Balkans countries have systematically received less FDI than other transition countries (Estrin & Uvalić, 2014). Despite positive developments during the 2000s, the Balkans may still face a perception problem, reminding of "troubled images of war and conflict, rather than investment opportunities and economic potential" (Cviić & Sanfey, 2010).

Despite its high economic and political importance, only very few studies empirically address the issue of the impact on inward FDI flows of EU accession. Using a gravity model, Bruno et al. (2021) study the

effect of EU accession on FDI inflows from 142 countries over the 1985–2018 period and find the destination country EU accession to increase FDI monetary inflows by an amount ranging from 60% to 85% from outside EU and around 50% from inside EU. Focussing on the NMS, results are mixed: the panel data analysis by Kersan-Skabic and Orlic (2007) fails in identifying a positive role of EU accession whereas Bevan and Estrin (2004) do find a positive impact.

At present, no evidence exists for the Balkan countries. The aim of this chapter is to fill the gap and to explore the impact of the EU accession on multinational firms' will to locate in a specific Balkan country. In doing so, as mentioned, we consider the date of closure of the negotiations as the cut-off date, after which it is practically assured that the applicant country will join the EU, sanctioning, *de facto*, its new EU member status (Bevan & Estrin, 2004; Baourakis et al., 2008). We exploit the investment-level information in our dataset and also explore the heterogeneity in results in terms of FDI origin countries. Similar to Bruno et al. (2021), we are interested in unravelling the differential effect that a destination's EU status may have on EU and non-EU investors. Both origin groups are likely to enjoy location advantages investing in new EU members. While the former may be attracted by the exploitation of lower labour costs to produce both intermediate and finite products in the absence of barriers to internal trade, the latter find in FDI an opportunity to enter the European market.

To assess whether EU accession affects, in line with our expectations, FDI inflows for Balkan countries we now turn to our empirical analysis.

3 Empirical Application

3.1 Empirical Model

We use a conditional logit model (Train, 2009) to study the location choice of FDI in Balkan countries. Conditional logit models are widely used to study FDI location choices (e.g. Alcácer & Chung, 2007; Hong, 2009) when investment-level information is available. They model the probability of making a specific location choice, conditional on

observables, following the random utility framework. The investor chooses the location that yields the highest possible utility. Utility is modelled as a linear function of alternative-specific regressors, varying by destination country or by investment and destination country plus a random component. In our baseline specification, the utility for investment n from country o yielded by locating in Balkan country i at time t is:

$$U_{niot} = \alpha \mathrm{EU\_access}_{it} + \beta' x_{it-1} + \gamma' y_{oit-1} + \delta' z_{nit-1} + \theta' d_i + \epsilon_{niot}$$

where the dummy for the EU accession (*EU_accession*) is our variable of interest; x_{it-1} is a vector of destination country characteristics controlling for standard factors affecting the utility of potential locations (market size and growth, population, wages); y_{oit-1} is a vector of bilateral origin-destination regressors accounting for physical and cultural proximity and previous FDI inflows from the same origin country; z_{nit-1} is a vector of investment-destination regressors such as intra-firm co-location and industry agglomeration; d_i is a vector of destination countries fixed effects. α, β, γ, δ and θ are parameters to be estimated. The error term ϵ_{niot} is iid extreme value.

The probability that investment n from country o locates in Balkan country i at time t is the probability that the utility yielded by locating in i exceeds that of locating in all other Balkan countries $j \neq i$. Each of the N investments chooses where to locate among the set of J Balkan countries. The resulting number of choices under consideration is $J \times N$. The dependent variable *choice* is equal to one if a specific alternative was ultimately selected for the specific investment and zero for the other alternatives in the choice set.

The probability to choose a specific country depends only on the difference in utility that the specific country i yields to the decision-maker n compared with the other alternatives. The absolute value of utility does not matter. Hence, attributes of the alternative that do not induce a difference in utility, or attributes of the decision-maker that do not vary over alternatives, will not affect the choice and will not be estimated. This implies that variables that are invariant by investment (e.g. the country of origin of the FDI, its GDP, the amount of capital invested, time dummies, etc.) will be included in the specification only if interacted with

alternative-varying variables (Train, 2009). Instead, bilateral variables such as those related to physical and cultural proximity between two countries and country-of-origin agglomeration will induce a difference in utility across alternatives and will therefore be included.

In terms of economic interpretation, the marginal effect for a generic regressor w_{niot} for which the coefficient λ has been estimated is $\lambda P_{niot}(1 - P_{niot})$, given our linear specification of utility (Train, 2009), where P is the probability that the specific destination i is chosen. Hence, the marginal effect of a given regressor is maximum by $P_{niot} = 1 - P_{niot} = 0.5$, that is, when the choice probability is neither very likely nor very unlikely. The corresponding elasticity is $\lambda w_{niot}(1 - P_{niot})$.

3.2 Sample and Variables

For our analysis, we combined information retrieved from several data sources Table 6.1.

Lists all the variables included together with information on their sources. Our binary dependent variable *choice* equals 1 if investment n located in country i and 0 otherwise, and is retrieved from the *fDi Markets* database on greenfield FDI elaborated the Financial Times Intelligence Unit.[5] We consider 9185 FDI locating in 8 Balkan countries (Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Montenegro, North Macedonia, Romania and Serbia) from 84 origin countries worldwide over the 2003–2019 period, amounting to more than 70,000 investment-country combinations. We consider as origin country the one in which the investing company is resident when the investment takes place.

Our main variable of interest, *EU accession*, is a dummy equal to 1 if the accession of destination country i in year t has been approved. Since we also include destination country fixed effects in the analysis, we can exclude the risk that our EU status variable catches the effect of host country time invariant specificities.

[5] Unfortunately, this dataset is limited to greenfield FDI only, and it does not include information on cross-border mergers and acquisitions. However, greenfield FDI represents the great majority of FDI in Balkan countries, both in terms of number of projects and investment value (https://unctad.org/topic/investment/world-investment-report?tab=Annex%20Table).

Table 6.1 Variable description and data sources

Variable	Description	Data source
Choice	1 if investment takes place	fDi Markets
Log gdp pc	Log of GDP per capita (2010 US$) at t-1	WDI
Gdp growth	GDP growth (annual %) at t-1	WDI
Log population	Log of population at t-1	WDI
Wage	Monthly gross wage (2010 thousand US$) at t-1	UNECE
Initial regulatory quality	Regulatory quality index in 2002	WGI
Initial trade	Trade (% of GDP) in 2002[a]	WDI
Intra-firm agglomeration	N. of FDI from same firm from 2002 to t-1	fDi Markets
Country-of-origin Agglomeration	N. of FDI from same origin from 2002 to t-1	fDi Markets
Industry agglomeration	N. of FDI in same industry from 2002 to t-1	fDi Markets
Common language	1 if a language is spoken by at least 9% of the population in both countries	CEPII
Same country	1 if countries were or are the same country	CEPII
Weighted distance	Origin-destination larger cities distance weighted by population share (thousand km)	CEPII
EU accession	1 if dest is EU member or approved member at year t	EU website
EU origin	1 if origin country is EU member at year t[b]	EU website

[a] 2005 for Montenegro, for data availability issues
[b] Given the time period under analysis, UK is included among EU members

Following the literature on FDI determinants, we include a standard set of regressors to control for host country location determinants. Specifically, we use the log of the GDP per capita (*log gdp pc*), the log of the population (*log population*) and the *gdp growth* to proxy for the market size and its growth potential in the destination country. We retrieved these variables from the World Bank World Development Indicators dataset (WDI). We draw on the WDI also for our measure of the level of openness of the destination economy, measured by the share of trade on GDP. Including contemporaneous trade share would introduce a bad control in our model, since it would be determined by the same regressors included in the model and could therefore be an outcome variable

itself (Angrist & Pischke, 2008). For this reason, we include it as a predetermined variable (*initial trade*) taking its initial value (at year 2002). The same holds for our governance variable. To proxy for good governance and institutional quality, we rely on the host country regulatory quality index drawn from the Worldwide Governance Indicators (WGI) of the World Bank. This variable measures the quality of the regulatory framework in support to private sector development and takes values from approximately −2.5 to +2.5. As in the case of the trade share, the EU status as well as the other regressors included in the model are likely to determine the goodness of the business regulations in the host country, for which reason only the initial value of the index is included (*initial regulatory quality*). On the side of costs, we include the gross average monthly wages retrieved by the United Nations Economic Commission for Europe (UNECE) dataset to measure labour costs (*wage*).

To account for the geographical, cultural and institutional ties between country dyads, we include bilateral variables routinely included in the gravity literature (Anderson & van Wincoop, 2003; Head & Mayer, 2014), retrieved from the CEPII CHELEM dataset: the *weighted distance*, which measures the distance between the largest cities of the destination-origin couple, weighted by the share of the city in the overall country's population; a *common language* dummy equal to 1 if the two countries share a common language that is spoken by at least 9% of the population; and the *same country* dummy equal to 1 if the two countries belonged previously or later merged into the same country, which is especially relevant given the recent history of the Balkan region.

Furthermore, along with host country and dyadic determinants of FDI, we include among our controls three variables at the investment level considering the prior experience of the investing firm in the specific destination (*intra-firm agglomeration*) and the agglomeration of firms from the same origin country (*country-of-origin agglomeration*) and in the same industry (*industry agglomeration*). Drawing on the fDi *Markets* database, for each investment in year t we compute the cumulated number of investments from the same firm/same origin country or in the same industry in destination country i between the beginning of the period and $t\text{-}1$. All the three measures of agglomeration are assigned value 0 for the first year in the FDI data, 2003. The first two variables proxy for

the investors' access to information about the destination country (Head & Mayer, 2004; Head et al., 1995), whereas the third one captures the role of information spillovers arising from the agglomeration of foreign firms operating in the same industry, that is, "Marshallian" externalities (Marshall, 1920; Krugman, 1991). The empirical evidence available for transition economies, although limited, suggests that agglomeration economies are positively and significantly related to FDI flows (Kinoshita & Campos, 2002; Riedl, 2010; Tokunaga & Iwasaki, 2017).

Since we are interested in exploring the heterogenous effects of EU accession according to the EU status of the investing firm's origin country, we add a dummy taking value 1 if the origin country is a member of the European Union (*EU origin*). Since also intra-Balkans FDI are included, for Croatia, Bulgaria and Romania this variable is equal to 1 only after their accession to the EU.

Finally, we included destination country dummies to account for host countries' time invariant specificities. All time-variant regressors are lagged one year to mitigate simultaneity problems and to account for the time interval between the decision to invest and the announcement of the project, except for the EU accession dummy. Indeed, it is highly unlikely that a potential investor is unaware of the upcoming end of the negotiation process and that this does not affect his decision to invest in the applicant country. In other words, even if the negotiations are not yet closed at time *t-1*, in which the investor takes the decision of whether or not to invest at time *t*, we assume that the investor bases her decision on whether the potential destination will be an approved EU member at time *t*.

The wide set of location factors, dyadic regressors and country dummies included is intended to provide a comprehensive picture of location determinants and, while endogeneity issues cannot be ruled out, should also reduce the risk of omitted variable bias.

3.3 Descriptives

FDI have not uniformly increased in Balkan countries during the period under analysis, as Fig. 6.1 shows. The 2008 economic crisis, in fact, coincided with a drop in FDI in several countries, both those starting with

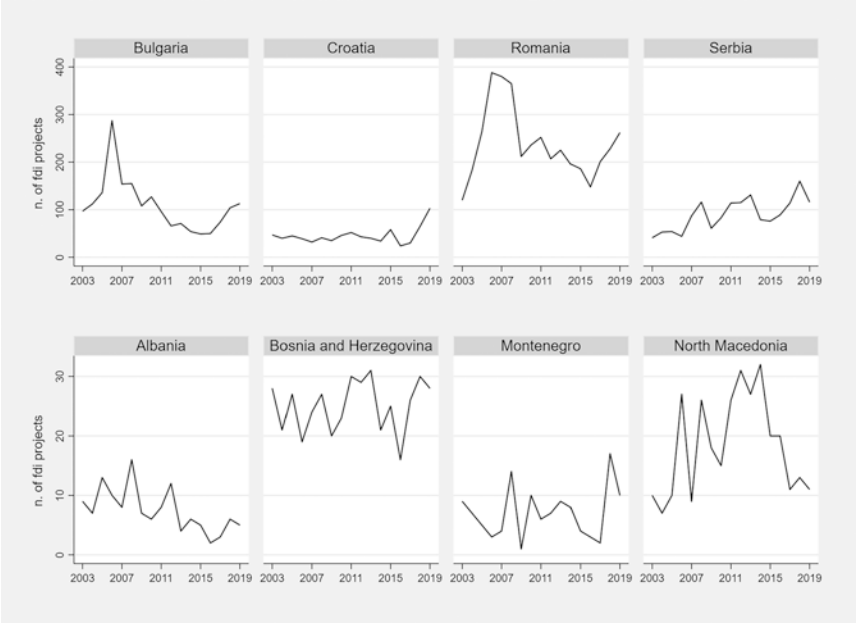

Fig. 6.1 FDI in Balkan countries, 2003–2019. Source: own elaboration on fDi Markets data

relatively high inflows at the beginning of the period, namely Romania and Bulgaria, and those which were already marginal recipients before the crisis, such as Albania, Montenegro and, to a lesser extent, Serbia. Notice that for Romania and Bulgaria the drop occurred in the years right after EU accession whereas a spike is recorded in the years immediately before. A similar, although less pronounced, effect can be detected also for Croatia. While following different trend patterns after the crisis, FDI started to increase in almost all countries from 2016.

Figure 6.2 shows the total number of FDI projects from European and non-European investors targeting Balkan countries in the 2003–2019 period. The two main FDI destinations in our sample are EU members throughout most of the period. Romania is by far the largest FDI recipient in the Balkan region, receiving 44% of total FDI. Bulgaria and Serbia follow, attracting respectively 20% and 17% of the projects. Although Serbia is not part of the European Union, its considerable performance

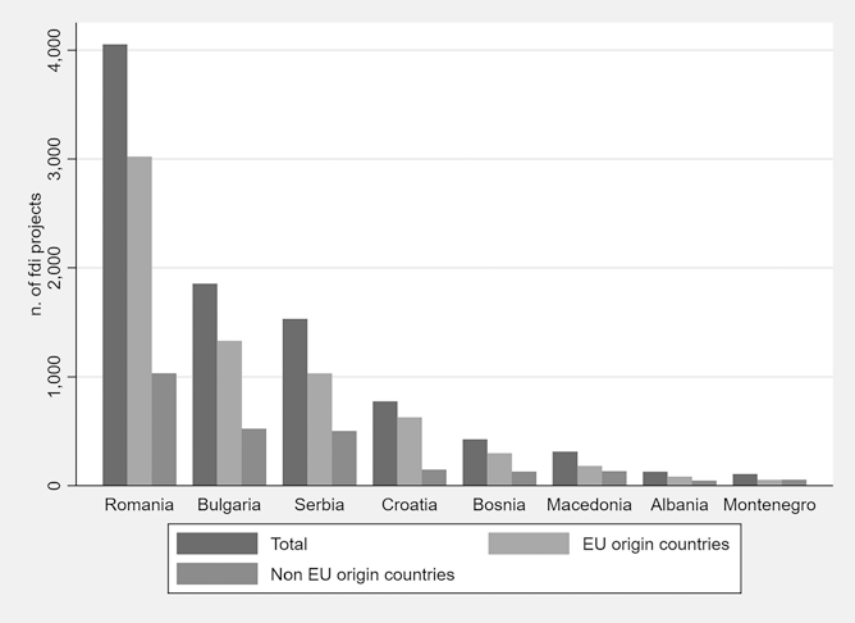

Fig. 6.2 FDI in Balkan countries by destination and origin of investors (2003–2019 total). Own elaboration on fDi markets data

can be explained by considering its preferential ties with Russia and China. In particular, Serbia is the only Balkan country to enjoy a free trade agreement with Russia and it is the main door for Chinese investors in the region.[6] Montenegro is the only destination where non-EU FDI are slightly more than those from EU origin countries, although only by a half percentage point. In all other countries, investments from European countries account for at least 65% of all FDI projects, reaching 75% in Romania and 81% in Croatia, except for North Macedonia where EU investments are 58%. The main European investor is Germany, accounting for more than a quarter of EU investments and almost 20% of the total number of FDI. It is followed by the United States, which is the

[6] Actually, Serbia is the only non-CIS (Commonwealth of Independent States) country to have a free trade agreement, signed in 2000, with Russia. See WTO Regional Trade Agreements database, http://rtais.wto.org/UI/PublicSearchByCrResult.aspx. For the very favourable conditions for Chinese FDI in Serbia, see Government of the Republic of Serbia, *Invest in Serbia. Opportunities for Investors from China*, September 2020.

Table 6.2 Summary statistics

Variable	Mean	Std. Dev.	min	max
Log gdp pc	8.63	0.45	7.46	9.71
Gdp growth	3.46	3.09	–7.32	10.43
Log population	15.20	0.96	13.32	16.89
Wage	0.63	0.3	0.14	1.55
Initial regulatory quality	–0.1	0.38	–0.62	0.56
Initial trade	74.79	14.6	53.71	95.28
Intra-firm agglomeration	0.43	2.25	0	56
Country-of-origin agglomeration	36.11	87.25	0	777
Industry agglomeration	92.36	166.67	0	1007
Common language	0.02	0.13	0	1
Same country	0.05	0.22	0	1
Weighted distance	2.33	2.69	0.07	18.11
EU accession	0.29	0.45	0	1
EU origin	0.72	0.45	0	1

Note: The number of observations is 73,480 for all variables. The total number of greenfield FDI projects is 9185

main non-EU investor, accounting for 31% of non-EU FDI and 9% of total projects.[7]

Table 6.2 reports the summary statistics for all the variables included in our baseline specification. The economic indicators highlight the heterogeneity of Balkan countries, with Croatia having a much higher GDP per capita level with respect to the other countries. Similarly, wages display a lot of variation across countries. Table 6.3 illustrates the years and destinations for which our main variable of interest, that is, the dummy indicating if the country has entered the EU accession approval phase, takes value 1. For Bulgaria and Romania, which ended negotiations in December 2004 and joined the EU in 2007, the EU accession dummy is equal to 1 from 2005 onwards. For Croatia, for which negotiations closed in June 2011 and membership officially started in 2013, the dummy takes value 1 from 2011.

Finally, the correlation matrix for our regressors is reported in Table 6.4.

[7] The destination country, origin country and industry distribution of the investments are similar to those computed using Balance of Payments data (Estrin & Uvalić, 2014), thereby confirming that the subsample of greenfield FDI we use is representative of the totality of FDI flows.

Table 6.3 Year in which the EU accession dummy switches to 1

FDI destination	EU accession
Albania	–
Bulgaria	2005
Bosnia-Herzegovina	–
Croatia	2011
Macedonia	–
Montenegro	–
Romania	2005
Serbia	–

4 Results

Table 6.5 reports the baseline results. In column 1 only the standard host country determinants are included, that is, market size and growth variables, wages, openness to trade and governance. As expected, GDP per capita and population size are positively and significantly related to the probability of receiving an FDI, although the coefficient of the other market measure, the GDP growth, is significantly negative. The wage variable indicates that foreign investors are attracted by relatively lower labour costs, fulfilling our expectation that firms are sensitive to cost reduction when investing in Balkan countries and in line with results from (Bevan & Estrin, 2004). The coefficients of trade openness and regulatory quality, both considered at the beginning of the period, are positive but not significant.

In column 2, we add our main regressor of interest, that is, the dummy for EU accession. The coefficient for this variable is positive but not significant, therefore appearing to contradict the hypothesis of a role for EU accession in attracting FDI.

The same holds when we add our three measures of agglomeration to our model (column 3). Both intra-firm and country-of-origin agglomerations have positive and significant coefficients, suggesting that the information about the destination country that the investing firms can access positively affects the probability of attracting an FDI. Instead, our proxy for the information spillovers arising from the agglomeration of foreign firms in the same industry, that is, "Marshallian" externalities, turns out

Table 6.4 Correlation matrix

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1) EU accession	1.00												
(2) Log gdp pc	0.50	1.00											
(3) GDP growth	–0.04	–0.28	1.00										
(4) Log population	0.59	0.22	0.06	1.00									
(5) Wage	0.06	0.80	–0.35	–0.12	1.00								
(6) Initial trade	–0.29	–0.01	–0.08	–0.71	0.35	1.00							
(7) Initial regulatory quality	0.69	0.48	–0.04	0.19	0.15	0.02	1.00						
(8) Intra-firm agglo	0.21	0.15	–0.02	0.19	0.04	–0.14	0.08	1.00					
(9) Country-of-origin agglo	0.45	0.30	–0.06	0.42	0.04	–0.31	0.19	0.43	1.00				
(10) Industry agglo	0.55	0.37	–0.07	0.52	0.05	–0.40	0.21	0.36	0.57	1.00			
(11) Common language	0.03	0.01	–0.02	0.01	–0.01	0.01	0.03	–0.01	–0.03	0.02	1.00		
(12) Same country	–0.09	0.03	–0.02	–0.06	0.15	0.14	–0.06	–0.01	–0.04	–0.07	0.27	1.00	
(13) Weighted distance	0.03	0.00	–0.02	0.01	–0.02	–0.02	0.01	–0.05	–0.02	–0.02	–0.09	–0.16	1.00

Table 6.5 Baseline results

	(1)	(2)	(3)	(4)	(5)
Log gdp pc	0.588***	0.561***	0.637***	0.491***	−0.565***
	(0.117)	(0.120)	(0.124)	(0.126)	(0.187)
GDP growth	−0.015**	−0.016**	−0.014*	−0.013*	0.008
	(0.007)	(0.007)	(0.007)	(0.007)	(0.008)
Log population	1.073***	1.051***	1.115***	1.097***	3.540***
	(0.028)	(0.035)	(0.037)	(0.037)	(1.165)
Wage	−0.728***	−0.693***	−0.772***	−0.900***	−0.561***
	(0.139)	(0.142)	(0.145)	(0.148)	(0.204)
Initial regulatory quality	0.049	0.018	−0.003	0.153**	–
	(0.058)	(0.065)	(0.066)	(0.069)	–
Initial trade	0.003	0.003	0.003	−0.004*	–
	(0.002)	(0.002)	(0.002)	(0.002)	–
EU accession		0.063	0.070	0.118**	0.147**
		(0.057)	(0.058)	(0.059)	(0.065)
Intra-firm agglo			0.191***	0.181***	0.178***
			(0.008)	(0.008)	(0.008)
Country-of-origin agglo[a]			0.331**	0.003	0.486***
			(0.162)	(0.167)	(0.176)
Industry agglo			−1.338***	−1.195***	−0.913***
			(0.099)	(0.101)	(0.117)
Common language				0.471***	0.361***
				(0.084)	(0.084)
Same country				1.304***	1.319***
				(0.068)	(0.070)
Weighted distance				−0.252***	−0.307***
				(0.073)	(0.075)
ALB					0.434
					(1.086)
BGR					0.076
					(0.084)
BIH					0.900
					(0.842)
HRV					1.729***
					(0.593)
MKD					2.727*
					(1.484)
MNE					6.175**
					(2.874)
ROU					−2.549**
					(1.240)
N	73,480	73,480	73,480	73,480	73,480

Standard errors in parentheses

*p<0.1, **p<0.05, ***p<0.01

[a]Country-of-origin agglomeration and Industry agglomeration have been divided by 1,000 for better result readability

to be negatively related to the location choice, indicating that foreign firms prefer to enjoy a sort of "first mover advantage" and to locate in countries where there are not yet many other foreign firms operating in the same industry activity.

In column 4, we add the bilateral variables measuring the geographical and cultural proximity in the origin-destination couple. The distance between the origin and destination countries is negatively related to the probability of receiving an FDI whereas a common language and a shared country history, measured by the *same country* dummy, seem to positively affect FDI flows. While the coefficients for the other control variables do not report remarkable changes, except for regulatory quality turning positive and significant, EU accession turns out to be associated with positive gains in FDI. The results of this richer specification are in line with the arguments of a positive effect of EU accession on location choice.

The positive effect of EU accession is confirmed when destination dummies are included in our last specification, in column 5, accounting for host country specificities that could bias our results. The positive coefficient of the EU accession variable, significant at the 5% level, points at a positive effect of joining the EU on FDI for Balkan countries, in line with the results by Bruno et al. (2021). The greater precision of this estimate suggests that the previous relatively noisy results for the EU accession dummy were due to destination-level heterogeneity.

Time invariant regressors, that is, *initial trade* and *initial regulatory quality*, have been excluded from this model in order to avoid perfect collinearity with the destination dummies. Adding the dummies leaves our main regressors mostly unaltered, except for the GDP per capita, which is now negative.[8] This last specification is the baseline for the analysis exploring origin heterogeneity and it is reported in column 1 of Table 6.6

In Table 6.6, column 2 reports results for EU investors, which represent more than 70% of the sample, while column 3 considers only non-EU investors. As for our main variable of interest, EU accession, some notable differences emerge between EU and non-EU investors. The positive effect of the EU status is there only for investments originating from

[8] This is unsurprising given that this variable display relatively little time variation, hence it is highly correlated with the country dummies.

Table 6.6 Origin country heterogeneity

	(1)	(2)	(3)
	All	EU	Non-EU
Log gdp pc	−0.565***	−0.494**	−1.066***
	(0.187)	(0.225)	(0.367)
GDP growth	0.008	0.002	0.022
	(0.008)	(0.009)	(0.015)
Log population	3.540***	1.966	5.727***
	(1.165)	(1.489)	(1.963)
Wage	−0.561***	−0.689***	−0.191
	(0.204)	(0.243)	(0.394)
EU accession	0.147**	0.259***	−0.099
	(0.065)	(0.074)	(0.136)
Intra-firm agglomeration	0.178***	0.150***	0.432***
	(0.008)	(0.008)	(0.030)
Country-of-origin agglomeration[a]	0.486***	−0.001	3.537***
	(0.176)	(0.192)	(0.588)
Industry agglomeration	−0.913***	−0.820***	−0.836***
	(0.117)	(0.142)	(0.214)
Common language	0.361***	0.465***	0.070
	(0.084)	(0.148)	(0.141)
Same country	1.319***	1.290***	1.712***
	(0.070)	(0.077)	(0.220)
Weighted distance	−0.307***	−0.888***	−0.232*
	(0.075)	(0.135)	(0.122)
ALB	0.434	−0.957	2.466
	(1.086)	(1.387)	(1.828)
BGR	0.076	0.249**	0.177
	(0.084)	(0.106)	(0.161)
BIH	0.900	−0.243	2.375*
	(0.842)	(1.077)	(1.414)
HRV	1.729***	0.835	2.932***
	(0.593)	(0.758)	(1.007)
MKD	2.727*	0.758	5.527**
	(1.484)	(1.902)	(2.486)
MNE	6.175**	1.997	12.075**
	(2.874)	(3.677)	(4.831)
ROU	−2.549**	−0.780	−4.836**
	(1.240)	(1.583)	(2.092)
N	73,480	52,976	20,504

Standard errors in parentheses

*$p<0.1$, **$p<0.05$, ***$p<0.01$

[a]Country-of-origin agglomeration and Industry agglomeration have been divided by 1,000 for better result readability

other European countries, while no effect is found for non-EU investors. Some specificities emerge also for country-of-origin agglomeration and language commonality. Country-of-origin agglomeration, which is positively related to FDI location for the whole sample, turns out to be a significant determinant only for non-EU investors, thereby suggesting that information advantages from previous investments of firms from the same origin countries are larger the lower the knowledge of the host country. On the contrary, common language only seems to be a significant attraction factor for firms from EU countries. As for the standard locations factors, the negative coefficient of *wage* results to be driven by EU investors.

5 Concluding Remarks

Foreign direct investments may be an important development opportunity for Balkan countries. This is especially true for Western Balkans, where the aftermath of the 1990s conflicts adds up to poor economic structures, obsolete production facilities and scarcity of natural resources, and where foreign capital inflows can help develop stronger and more stable macroeconomic environments.

In this framework, accession to the European Union has been regarded as a means of increasing FDI inflows in those countries, which have been quite modest so far. Accessing the EU may develop location advantages enjoyable by the investing firm, such as greater market size and trade integration as well as infrastructure development. Furthermore, joining the EU may reduce the costs and the uncertainty connected to the investment, decreasing the so-called liability of foreignness and incentivizing FDI location. On the other hand, competition with older EU members and possible substituting effects of trade may also cause a decline in FDI in new EU members. Previous studies attempting at empirically addressing this issue for CEE countries do not lead to univocal results, while the actual effect of the EU accession on FDI has not been analysed for Balkan countries. Assessing the role played by the EU membership on the attraction of FDI is, instead, extremely relevant and could serve as a useful

policy indication for Western Balkan countries, some of which have not even started the negotiation process for the accession.

Our paper aimed to fill this gap. Using conditional logit models on investment-level data, we explored the effect of the EU accession on the decision of multinational firms to locate in a Balkan country. We studied the location choices behind 9185 greenfield FDI locating in 8 Balkan countries from 84 origin countries worldwide over the 2003–2019 period.

We find that joining the EU is associated with positive gains in FDI from European investors, while non-European firms do not seem to be affected by the EU status of the FDI destination. These results, partially in line with those from the previous literature, point at the EU accession as a means of integration into the European value chain, as reinforced by the negative coefficient associated with the wage variable for European FDI. As previously found by Bevan and Estrin (2004), firms are sensitive to cost reduction when investing in the Balkans, and the EU accession seems to make low-cost Balkan destinations especially appealing for other EU firms.

Further research, along several directions, is needed to go beyond the results we obtained. Firstly, it would be interesting to disentangle the locational strategy of the two largest non-European FDI countries of origin, namely the United States and China. Secondly, a disaggregation by sectors, and notably between manufacturing and services investments, would highlight if the perceived benefits of EU accession are sector-specific. Finally, it would be interesting to assess whether the effect of EU accession actually starts at the end of the negotiation phase or whether the firms positively react to previous stages of the process, like official candidature to EU membership. We leave the analysis of these topics to future research.

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7

Innovative Foreign Direct Investments and the Knowledge Sources for Green and Digital Inventions: A Patent-Based Analysis

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1 Introduction

The COVID-19 pandemic and the socio-economic crisis that it has generated on a worldwide scale are asking policymakers to adopt recovery and resilient plans that could lead their countries and regions to move along different growth patterns than pre-crisis ones. The consequences that the Russia-Ukraine war, along with the interventions taken by third countries to curb it, are having on prices and availability of energy,

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agricultural and raw materials are making this structural change possibly more urgent. Following an evolutionary approach to resilience, this has brought to the front the opportunity of combining the green and the digital transitions in a "twin-transition", which is capable to make economies evolve along smart, sustainable and inclusive patterns of growth. On the one hand, greenhouse gas emissions and the entailed raise of global temperatures make the green transition necessary to "act forward". On the other hand, the digital transition towards more powerful and empowering digital technologies poses serious environmental threats—spanning from the depletion of rare materials to high energy consumption—and opportunities—from improving green efficiency to facilitating the development of new green technologies for that to happen. The interlinking of the green and the digital transition has been accordingly receiving increasing attention.

In Europe, this policy target was already at the core of the 2020 Industrial Strategy for a green and digital Europe, aimed at strengthening the competitiveness of European companies in global markets and to improve their innovative performance, especially in the green and digital technological fields (European Commission, 2020). Such a strategy, which is strongly integrated with other major European initiatives, like the European Green Deal and the European Digital Strategy, has been recently updated in the National Recovery and Resilience Plans of the

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NextGenerationEU. Indeed, several of its missions refer to the combined unfolding of the green and the digital transitions (Pilati, 2021). Also outside Europe, an increasing number of countries are approaching an integrated green and digital recovery. In the US, for example, a US$2.3 trillion plan[1] has been approved also to accelerate the green transition through infrastructural, innovation and skill investments, which are digital too. Similar initiatives have been taken in Asia. The recovery plan of South Korea, for example, included US$63 billion in green funding for smart grids and infrastructure for electric vehicles, and supporting new green digital solutions is also a key part of Singapore's Green Plan 2030.[2]

The above-described policy background refers to a scenario in which, as the COVID-19 crisis has shown, European and non-European countries are increasingly more globally integrated and in which global value chains make of the green and the digital transitions two interlinked processes that unfold within interdependent economies. In such a scenario, foreign direct investments (FDIs), in their well-recognised role of means of knowledge exchange across locations (Castellani & Zanfei, 2006), emerge as a pivotal leverage through which economies can source the knowledge necessary to develop and adopt green and digital technologies. Indeed, the ability to foster and sustain the digital and green transitions rests on the successful development and deployment of relevant technologies, which in turn depend on the capacity of firms to source relevant knowledge within and outside their resident location.

Taking the above-described scenario as a starting point, we study the role of foreign direct investment (FDI) flows in facilitating access to the knowledge base relevant for the development of green and digital technologies of European Union (EU) countries and regions. More precisely, we investigate the extent to which inward and outward innovative FDIs—that is, both greenfield foreign investments and cross-border mergers and acquisitions (M&As) with an innovative content—can constitute a channel through which European countries and regions are exposed to the external knowledge sources that can be combined with

[1] https://www.whitehouse.gov/briefing-room/statements-releases/2021/03/31/fact-sheet-the-american-jobs-plan/.

[2] https://www.greenplan.gov.sg.

local knowledge in the development of green and digital technologies. Technological knowledge sourcing is in fact an important channel for the enrichment of the knowledge base already available in European regions. FDIs lead to knowledge flows regarding combinations of management practices, work organizations and, especially for innovative FDIs, technological expertise.

In dealing with this research question, we refer and contribute to the geography of innovation literature, positioning in a still thin stream of studies on the role of extra-regional linkages for the local development of new technologies (Balland & Boschma, 2021). In this stream, FDIs have already received attention as one of the most important channels through which regions entertain relationships with the outer environment that can increase their innovation capacity (Zhu et al., 2017; He et al., 2018; Crescenzi et al., 2015; Castellani et al., 2022). In particular, recent studies have shown the role that FDIs have, though with important nuances, in facilitating the green (Castellani et al., 2022) and the digital transition (Zanfei et al., 2019). However, this role of FDIs has been so far recognized mainly indirectly, by generically assuming and alluding to, rather than measuring, their capacity of bringing foreign knowledge in the hosting regions. As an added value to this literature, we look at the knowledge-conveying role of FDIs more directly, by claiming that the regional occurrence of innovative FDIs, both inward and outward, could facilitate a specific mechanism of local knowledge accumulation: the actual use of foreign produced knowledge in the development of local inventions. As we will argue, this requires extending and refining our theoretical knowledge of the mechanisms through which FDIs affect regional innovation, also and above all in the digital and green domain.

In order to support our theoretical arguments, we compile a novel dataset and carry out an empirical investigation of the role of FDIs in shaping the knowledge base used in green and digital inventions in EU countries and regions. This analysis proceeds in two steps. We first identify EU green and digital patents, and analyse their evolution over time and geography. In doing so, we show how the distribution of the two technologies across EU countries changes in recent years, as well as the location of the knowledge base—captured by the country of the patents that EU green and digital patents cite—relevant for their development.

In the second step of our analysis, we rely on a gravity-modelling framework to understand whether the knowledge base of green and digital technologies developed in EU metropolitan and NUTS 3 regions correlate with innovative FDIs—namely EU innovative inward and outward greenfield FDIs and cross-border M&As.

The results of the analysis indicate that, after a period of continued increase in the 2000s, the development of green technologies stagnated. By contrast, EU digital patenting showed marked increases after 2012. EU green and digital technologies concentrate in France and, even more markedly, in Germany. The technological knowledge base used for their development is nevertheless to a large extent located outside the EU, and in particular in the United States (US). Results of our econometric analysis show that inward innovative FDIs are significantly and positively associated with the backward citations of EU green and digital patents to foreign knowledge bases. This positive association, which is driven by the more recent EU patent activities and it is stronger for digital than for green innovation, suggests that foreign MNEs carrying out innovative activities in the EU create pipelines that allow EU territories to access knowledge developed in the parent R&D labs of such MNEs. By contrast, innovative outward FDIs are not associated with access to the foreign knowledge base used in the development of EU digital or green technologies. This result suggests the limited importance for the development of digital and green technologies of reverse knowledge transfer from the destination countries of EU FDIs to the home locations.

The rest of the chapter is structured as follows: Sect. 2 provides the theoretical background of our study and our contribution to it; Sect. 3 illustrates the data alongside the empirical analysis and discusses the results and Sect. 4 concludes.

2 Theoretical Background

Our analysis of the local development of new green and digital technologies positions in the economic geography literature, which in fact provides a picture of the globalized world economy as a set of locations with "local buzz" (Storper & Venables, 2004) connected by "global pipelines"

(Bathelt et al., 2004). Companies and multinational enterprises in particular are the key actors shaping such connections, serving as conduits for multidirectional knowledge flows between places (e.g. Cano-Kollmann et al., 2016; Crescenzi & Iammarino, 2017; Iammarino & McCann, 2013; Song, 2014). Indeed, while most interactions take place between agents within geographically delimited areas, creating in some cases clusters (or buzz) with especially dense activity, cross-local and cross-national connections (or pipelines) are key to allow combinations of different knowledge inputs and avoid cognitive lock-in (Balland & Boschma, 2021; Boschma, 2005; Giuliani & Bell, 2005; Zhu et al., 2017).

The tension between local and global forces has also been remarked by the literature about regional technological specialization and diversification, in which the latter has emerged to depend on the interlink between indigenous (related) capabilities and a wide set of extra-regional linkages, consisting of regional inflows of non-local actors and non-regional linkages of local actors (Balland & Boschma, 2021). Among the former, most of the attention has been attracted by FDIs, which have been argued to bring novel knowledge in the hosting region, which can spur the development of either more unrelated or related new technologies (He et al., 2018; Zhu et al., 2017). Indeed, this depends on the strategy (e.g. kind of FDI) pursued by MNEs and by the domain (e.g. green vs. non-green) of the relevant technologies (Crescenzi et al., 2015; Castellani et al., 2022).

FDIs are in fact an important tool for building pipelines and, eventually, promoting processes of mutual learning, technological transfer and innovation. The international business literature has shown that FDIs have a twofold innovation effect at the local level. The first one is direct and accrues from the capacity of MNC subsidiaries to innovate in the hosting region, usually exploiting a superior set of assets and thus to a higher extent than indigenous companies (Cantwell, 1989; Castellani & Zanfei, 2006; Guadalupe et al., 2012; Stiebale, 2016). The second effect is instead indirect and derives from the spillovers that the innovative activities of foreign subsidiaries have on local firms. These in turn innovate more benefiting from knowledge inputs of both disembodied nature (pure knowledge spillovers), for example, through research cooperation with MNCs, and embodied nature (rent spillovers), for example, through human capital mobility and supply-chain relationships with foreign

subsidiaries (Castellani et al., 2015; Crescenzi et al., 2015; Papanastassiou et al., 2020). In dealing with both mechanisms, it is generally claimed that regional innovation benefits from incoming FDIs (i.e. inward), thanks to the additional knowledge these are assumed to convey in the host region and of which local actors are expected to take stock. This is a reasonable assumption, which however does not make explicit the inner mechanism through which FDIs render foreign knowledge available at the local level and does lack a direct empirical testing of it, at least on a systematic (i.e. cross-country and cross-industry) basis.

As a way to contribute filling this gap, we extend the theoretical analysis of the FDI impact on regional innovation by maintaining that an important part of it passes through the extent to which FDIs of an innovative nature increase the knowledge base on which local inventions can draw. Following the Schumpeterian theory of recombinant innovations (Frenken et al., 2012; Weitzman, 1998), we posit that FDIs in activities with an innovation content—for example, greenfield FDIs in R&D and/or M&As of innovative companies—represent an important channel through which regional inventors can increase their exposure to novel external knowledge, which they can combine and recombine with the local one in their inventing activities. In turn, this is an exposure that local inventors can be expected to exploit by inserting in the prior art of their inventions the knowledge generated in the country where the MNC home-base is located. In the case of patented inventions, this would materialize in a higher propensity of local inventors to cite patents that have been applied in the country of the relevant MNC. Just to make an example, we could expect that innovative FDIs from US-based MNCs, which are directed to European regions, could increase the extent to which European regional patents cite US ones (i.e. filled in the US). Furthermore, and this is an additional extension of the standard theoretical background of the impact of FDI on local innovation, a similar argument can be put forward with respect to outward FDIs. Looking at inward FDIs, we may expect that foreign MNCs carrying out innovative activities in EU regions rely also on knowledge developed in their parent R&D labs and that translates into inventive outcomes of their home countries, on which they can be expected to draw (by citing them) for innovating in their hosting places. Conversely, outward innovative FDIs

by firms based in EU regions might serve to put them in contact with host countries' knowledge sources and with the relative inventive outcomes. Previous empirical studies showed that the offshoring of innovative greenfield FDI are positively associated with productivity and innovation growth at home (Belderbos et al., 2016; Castellani & Pieri, 2013). These outcomes could also rely (still by citing) for innovating in their home locations, for example, via reverse knowledge transfer (Branstetter, 2006; Criscuolo et al., 2005).

The previous arguments have a general expected validity, as they can apply to the effect of innovative FDIs on the development of any kind of technology at the regional level. However, given their distinguishing characteristics, we can expect them to hold true to a possibly larger extent with respect to our two focal technologies, that is, green and digital ones. On the one hand, green technologies have been found to be comparatively more "complex" than non-green ones (Barbieri et al., 2020), mainly due to the wider set of knowledge domains on which their inventions draw and on their more dispersed knowledge base. This is a peculiar aspect, which renders the role of innovative FDIs in extending the access to additional (foreign) knowledge important to retain. On the other hand, the new wave of digital technologies does also have special features, being "enabling" of structural transformations at the firm level and having, though to a different extent, the features of "General Purpose Technologies" (GPT) (Bianchini, Damioli, & Ghisetti, 2022; Martinelli et al., 2021). Because of these features, in the development of these technologies, the cross-fertilization of ideas across different knowledge domains is very pervasive and this also makes the FDI mechanism we are investigating of crucial relevance.

3 Empirical Application

3.1 Data and Definitions

We perform our analysis by combining the European Patent Office (EPO) Worldwide Patent Statistical (PATSTAT), the Financial Times' fDi Markets and the Bureau van Dijk's Zephyr datasets.

We measure green technologies by identifying *green patent applications* to the European Patent Office (EPO) through the OECD Envtech classification of environment-related technologies, in turn based on the Cooperative Patent Classification (CPC) and the International Patent Classification (IPC). As an established classification of digital technological fields does not yet exist,[3] digital patents are selected through a search query on titles and abstracts based on a list of keywords. This list coincides with that developed by Bianchini, Müller, and Pelletier (2022) building on the taxonomy and dimensions of the digital technology ecosystem identified by the OECD (2019), as well as on recent contributions on the patent mapping of AI (Baruffaldi et al., 2020) and of Industry 4.0 technologies (Martinelli et al., 2021). Accordingly, the keywords were selected to map the following categories of technologies: artificial intelligence, big data, Internet of Things, computing infrastructures, robotics and additive manufacturing.

Patent data are used to map the knowledge flows that represent our main dependent variable. More precisely, we use the *backward citations* of a focal green or digital patent as a measure of the knowledge base on which the relative green or digital invention draws. In order to do that, we allocate both citing and cited patents to the NUTS3 region and country of residence of the inventor. The address of the inventors is used in place of that of the assignees because the former is a better proxy of the location where the focal technology was developed. Patents developed in a specific location could be assigned, for internal strategies, to the headquarter of the company or to the ultimate owner.

As far as our main regressors are concerned, we investigate the extent to which innovative FDIs can be retained conducive of the knowledge flows at the basis of green and digital inventions. Following an established practice (Belderbos et al., 2016; Castellani & Pieri, 2013; Damioli & Marin, 2020), we define *innovative greenfield FDIs* as the investment

[3] Recent contributions that have relied on hierarchical patent classification systems (e.g. IPC, CPC) include Ardito et al., 2018; Fujii & Managi, 2018 and Corradini et al., 2021. Other scholars have adopted keyword inclusion/exclusion criteria applied to the text fields of patents or publications (Webb et al., 2018; Van Roy et al., 2020; Bianchini, Damioli, & Ghisetti, 2022), whereas recent contributions have used a combination of both methods (Baruffaldi et al., 2020; EPO, 2020; Martinelli et al., 2021; WIPO, 2019). However, the lists of keywords and technological classes adopted in these works are often heterogeneous and not always exhaustive.

projects MNE make for establishing foreign new activities or expanding existing ones in research and development (R&D) and design, development and testing (DDT). *Innovative foreign M&As* are instead the acquisitions of a foreign target company that made one or more patent applications in the 20 years before the deal completion (Aquaro et al., 2021; Damioli & Marin, 2020).

3.2 Descriptive Evidence

Digital and Green Inventions in the EU

While the urgency of the digital transformation and of the green transition recurs frequently in EU policy documents, the pace at which their underlying technologies are developed is different. As Fig. 7.1 shows, the number of EU applications in digital technologies has increased over the period 2003—2016, though with an irregular but smooth trend, marked by two consistent jumps in 2014 and 2016, in the latter case by

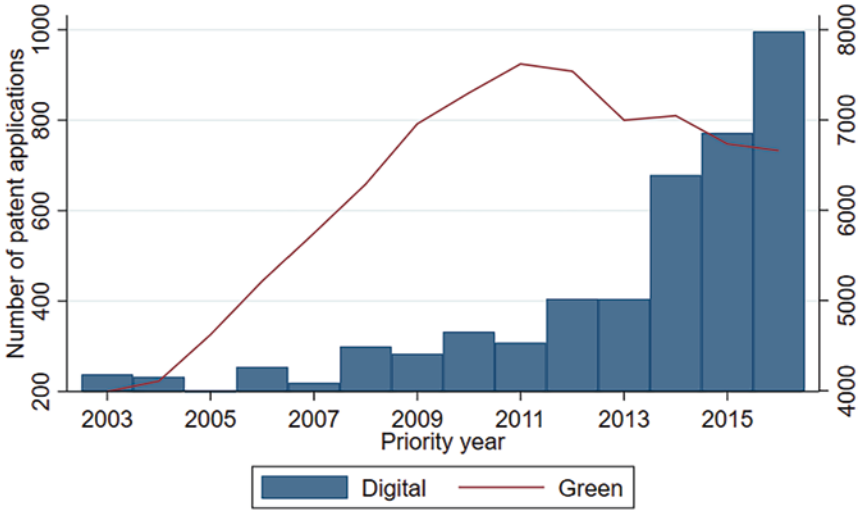

Fig. 7.1 Upward trend in the development of green and digital technologies in the EU, 2003–2016. (*Note*: Green patents on the secondary axis)

recovering from the decrease of 2015. A pattern of marked increases in the development of digital technologies is consistent with what has been detected worldwide in other studies (Van Roy et al., 2020; WIPO, 2019). The development of green technologies in the EU over the same period has increased more sharply until the last financial crisis (2011), following which it has embarked along a continuous slow down up to the latest years, which has been documented by other recent studies (Dechezleprêtre & Kruse, 2022; Kruse et al., 2022). As evoked by these studies, private incentives to develop new clean technologies might have decreased and, quite worryingly, this has been happening while the level of technology support policies to the green transition has also declined until 2016, for then experiencing a scattered increase, but without reaching the 2011-peak (Kruse & Atkinson, 2022).

The general European trend in digital and green technologies is the result of an interesting heterogeneity of patent application patterns across the EU countries (Table 7.1). Germany accounts for nearly half of green and digital patents in period 2003–2009, but its share declines significantly in the more recent period (2010–2016). This is particularly marked in digital technologies where the share of German patents drops from

Table 7.1 Green and digital EPO patent applications by EU country, 2003–2016

Country	Green		Digital	
	2003–2009	2010–2016	2003–2009	2010–2016
	(Number of applications)			
EU	36,932	49,908	1727	3897
	(% over total EU)			
DE	47.6	43.2	52.9	37.5
FR	16.7	17.7	13.0	18.5
IT	8.1	7.2	7.6	7.8
SE	4.4	5.6	8.5	10.8
NL	5.5	5.3	8.3	6.7
ES	2.9	3.4	3.4	5.5
DK	3.7	4.9	1.2	2.0
AT	3.1	3.6	3.0	2.0
BE	3.1	2.7	1.1	3.0
FI	2.4	3.1	0.9	3.1
Other EU	2.6	3.3	0.2	3.1

Note: Percentages may not total 100 due to rounding

52.9% to 37.5%. This reveals a process of catching-up in other EU countries, with national shares in 2010–2016 being similar in green and digital patent applications in most of them. Particularly strong increases in the share of digital patent applications are observed in France, which moved from a share of digital patent of 13% to 18.5%. In 2010–2016, Germany contributes relatively more (by 5.7 percentage points) to green than digital patenting. Conversely, Sweden's shares are larger in digital than green patent applications (by 5.2 percentage points in 2010–2016), making the Nordic country the third most important EU innovator in digital technologies.

The Geography of the Knowledge Sources of Green and Digital Inventions

Both digital and green technologies are developed through the interaction of actors (like firms, universities and research organizations) that are embedded in places marked by specific socio-economic and institutional features. A pivotal one is their constitutive knowledge sources, which geography of innovation studies have shown to vary across countries and, within them, across regional systems of innovation. In turn, both national and regional innovation systems are open ones, and their boundaries are crossed by external knowledge flows through which the local buzz can be combined with their participation to global pipelines.

If we consider backward citations of a focal patent as a proxy of the knowledge inputs that are searched and combined to obtain an invention, the location of the patents that are cited by digital and green EU applications reveal an interesting geography of their knowledge sources. Table 7.2 shows that for both kinds of technologies, these knowledge sources are mainly located outside of the EU. The percentage of non-EU patents cited in EU green innovations is above 50% in all EU countries, ranging from 52% in Germany to 70.7% in Belgium. A similar pattern emerges in digital patents where the percentage of non-EU patents cited ranges from 47% in Austria to 83% in Finland.

Tables 7.3 and 7.4 reveal that the percentage of non-EU cited patents is larger for digital (58.8%) than for green (56.3%) patent applications.

Table 7.2 Knowledge sources of EU green and digital inventions by area, 2003–2016

Country	Area cited in green patents			Area cited in digital patents		
	Domestic	Foreign, EU	Foreign, non-EU	Domestic	Foreign, EU	Foreign, non-EU
	%					
AT	8.2	37.7	54.0	10.6	42.2	47.1
BE	7.7	21.7	70.7	1.3	24.7	74.0
DE	38.7	9.2	52.2	38.8	8.6	52.7
DK	15.2	29.3	55.5	0.0	25.8	74.2
ES	7.8	31.2	61.1	6.3	23.9	69.8
FI	11.6	24.2	64.2	0.0	16.5	83.5
FR	20.2	21.3	58.5	28.2	9.3	62.5
IT	11.5	30.4	58.2	14.6	28.3	57.1
NL	10.0	25.7	64.2	8.2	27.4	64.5
SE	6.5	28.6	64.9	9.2	20.9	69.9
Other EU	7.3	27.8	64.9	0.0	18.3	81.7

Note: Percentages may not total 100 due to rounding

The US is the most important sources of knowledge for EU inventors in both green and digital technologies. In particular, the US account for 27.5% of the patents cited by green EU patent applications and 32.3% of the patents cited by EU digital ones. This pattern could be due to the mass of US patents susceptible of being cited as well as to their superior quality. However, irrespectively from that, it signals that the knowledge generated in the US innovation system is pivotal for the development of the two technologies at stake and that geographical distance is not a crucial impediment to benefit from knowledge inputs via citations.

Germany and Japan are other two important sources of knowledge for the development of digital and green technologies in the EU. German patents, in particular, are similarly important for both technologies, accounting for 27.9% of green and 27.1% of digital patents cited by EU patent applications. By contrast, Japanese patents are more important for green (15.6% of patents cited by EU patent applications) than for digital (11.1%) technologies.

Within-country citations also account for relevant shares of backward patent citations. Particularly high shares are detected in Germany (which record about 39% of domestic citations in both green and digital

Table 7.3 Knowledge sources of EU green inventions, by country, 2003–2016

Citing country	EU cited country												Non-EU cited country							
	AT	BE	DE	DK	ES	FI	FR	IT	NL	SE	Other	Total	CA	CH	CN	JP	UK	US	Other	Total
	%												%							
EU	1.1	0.8	27.9	1.2	0.7	0.7	6.2	2.1	1.3	1.0	0.5	**43.4**	1.3	1.8	1.2	15.6	3.7	27.5	5.5	**56.3**
AT	8.2	0.4	28.1	0.4	0.2	0.8	3.9	1.5	1.1	0.9	0.4	**46.0**	1.5	2.5	1.6	16.3	2.8	24.1	5.3	**54.0**
BE	0.4	7.7	11.6	0.4	0.3	0.5	4.6	1.3	1.5	0.5	0.4	**29.3**	1.2	1.0	0.7	12.0	4.9	40.6	10.3	**70.7**
DE	1.0	0.4	38.7	0.6	0.4	0.3	3.8	1.1	0.8	0.6	0.2	**47.8**	1.1	2.2	1.0	15.6	3.3	24.4	4.7	**52.2**
DK	0.5	0.4	18.4	15.2	2.0	0.6	3.4	0.7	2.0	1.0	0.3	**44.5**	1.4	1.2	1.9	12.4	4.1	28.4	6.1	**55.5**
ES	0.5	0.7	16.3	2.5	7.8	0.4	5.7	1.9	1.6	0.9	0.6	**38.9**	1.3	1.2	2.6	13.5	3.6	31.7	7.2	**61.1**
FI	1.0	0.4	12.3	1.2	0.1	11.6	4.0	1.2	1.4	2.3	0.3	**35.8**	2.4	1.4	2.1	15.3	3.0	31.8	8.1	**64.2**
FR	0.8	0.5	15.8	0.5	0.4	0.4	20.2	1.2	0.8	0.7	0.3	**41.5**	1.3	1.3	1.0	16.9	4.0	28.7	5.4	**58.5**
IT	0.8	0.8	20.1	0.4	0.5	0.3	5.6	11.5	0.9	0.6	0.3	**41.8**	1.3	1.6	1.2	16.2	3.8	28.0	6.1	**58.2**
NL	0.6	0.9	14.9	1.1	0.5	0.5	4.6	1.4	10.0	1.0	0.2	**35.8**	1.6	1.8	1.4	13.9	4.4	34.4	6.7	**64.2**
SE	1.0	0.3	19.0	0.8	0.2	0.8	4.2	1.2	0.8	6.5	0.3	**35.1**	1.7	1.3	1.2	20.7	4.0	31.3	4.8	**64.9**
Other EU	1.0	0.3	15.6	0.5	0.9	0.7	4.5	1.7	0.9	0.8	8.0	**35.1**	2.0	1.4	3.4	15.3	4.5	31.2	7.1	**64.9**

Note: Percentages may not total 100 due to rounding

Table 7.4 Knowledge sources of EU digital inventions, by cited country, 2003–2016

Country	EU cited country												non-EU cited country							
	AT	BE	DE	DK	ES	FI	FR	IT	NL	SE	Other	Total	CA	CH	CN	JP	UK	US	Other	Total
	%												%							
EU	0.8	0.4	27.1	0.5	0.6	0.7	5.0	2.0	1.0	2.4	0.1	**40.5**	1.2	2.8	2.1	11.1	3.8	32.3	6.2	**58.8**
AT	10.6	0.0	26.7	0.0	0.0	14.3	0.6	0.0	0.6	0.0	0.0	**52.9**	2.8	0.6	5.5	11.7	0.4	22.5	3.5	**47.1**
BE	0.6	1.3	17.8	0.0	0.0	1.3	2.5	1.3	1.3	0.0	0.0	**26.0**	1.3	4.4	5.0	11.4	5.7	42.5	3.8	**74.0**
DE	0.2	0.3	38.8	0.9	0.2	0.0	3.1	0.8	0.7	1.9	0.3	**47.3**	1.2	3.3	1.4	10.7	4.3	26.6	5.2	**52.7**
DK	0.0	0.0	15.7	0.0	0.4	0.0	3.5	0.0	0.0	6.2	0.0	**25.8**	0.0	3.1	4.1	13.8	2.6	44.5	6.0	**74.2**
ES	1.2	0.0	13.7	0.0	6.3	3.5	2.4	1.2	1.9	0.0	0.1	**30.2**	1.3	1.2	1.6	17.8	4.6	36.4	6.9	**69.8**
FI	0.0	0.0	9.4	0.0	0.0	0.0	4.7	0.0	0.0	2.4	0.0	**16.5**	4.7	4.7	0.0	7.1	0.0	59.8	7.1	**83.5**
FR	0.6	0.0	6.4	0.0	0.4	0.0	28.2	0.6	0.0	1.3	0.0	**37.5**	0.0	1.9	2.2	8.6	0.7	43.3	5.7	**62.5**
IT	0.7	1.6	21.6	0.0	0.7	0.0	1.5	14.6	1.4	0.7	0.0	**42.9**	1.3	4.3	2.1	6.0	4.6	30.0	8.9	**57.1**
NL	0.0	1.6	19.2	0.0	0.0	0.0	3.3	3.3	8.2	0.0	0.0	**35.5**	1.6	3.3	4.1	13.1	2.0	33.3	7.0	**64.5**
SE	1.0	0.0	15.5	0.0	0.5	0.0	2.1	1.3	0.5	9.2	0.0	**30.1**	0.8	1.0	0.7	14.6	5.2	39.7	7.8	**69.9**
Other EU	3.1	0.0	8.5	2.1	1.6	0.0	1.5	1.5	0.0	0.0	0.0	**18.3**	3.2	2.5	9.0	11.1	0.2	40.5	15.2	**81.7**

Note: Percentages may not total 100 due to rounding

technologies) and France (20% in green and 28% in digital technologies). Other countries, in general, play a relatively minor role in the development of both green and digital technologies in the EU.

Innovative FDI Patterns in the EU

Among the channels through which external knowledge can reach and be absorbed by systems of innovation across places (both national and regional), FDIs are of upmost importance. Indeed, through FDIs, MNCs can transfer knowledge and competencies of which host or home locations could be missing. And these could be crucial for their capacity of developing new technologies also in the digital and in the green domains.

As Fig. 7.2 shows, the flows of innovative FDIs have grown substantially in the EU over the period 2003–2016. The financial crisis that burst in 2009 has inevitably created a deep negative shock, which has reduced substantially the number of innovative foreign greenfield and, even more abruptly, innovative foreign M&As in and from the EU. Still, the shock has been completely reabsorbed afterwards and the same number has grown above the pre-crisis period both in outward and inward terms. In this last respect, Fig. 7.2 confirms that EU countries are more involved in inward than in outward flows, with the gap increasing over the period for innovative greenfield FDIs and remaining broadly unchanged for innovative foreign M&As. In 2016, inward greenfield FDIs have nearly reached the number of inward M&As, while outward greenfield ones remain detached along the flatter trend since 2003.

Tables 7.5 and 7.6 show origin and destination countries of innovative FDIs towards and from the EU. The EU receives more innovative greenfield FDIs from extra-EU countries (1743) than those it directs in extra-EU countries (1486). Similarly, the number of innovative foreign acquisitions of EU target companies made by extra-EU acquirers (1682) is larger than those of extra-EU target companies made by EU acquirers (1127).

Intra-EU greenfield FDIs are proportionally less (28% of total inward and 32% of total outward greenfield FDIs) than intra-EU foreign M&As (43% of total inward and 53% of total outward foreign M&As).

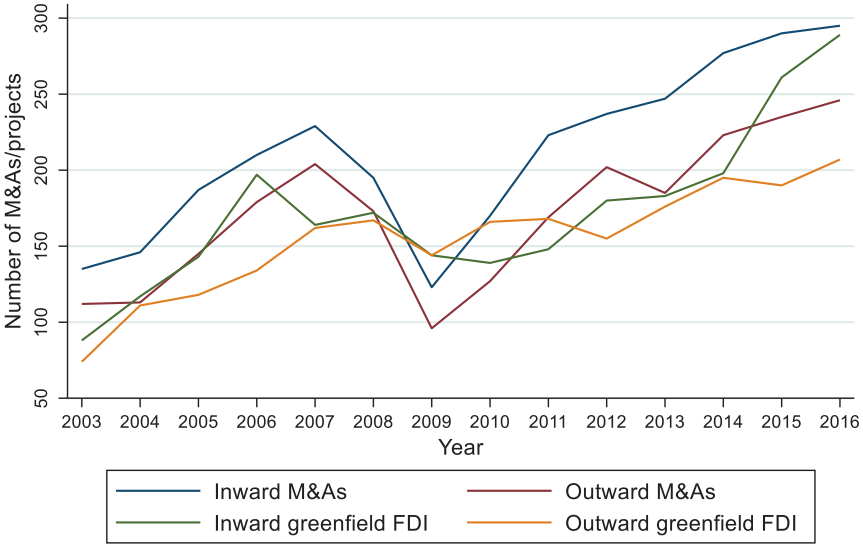

Fig. 7.2 Upward trend in innovative FDIs in the EU, 2003–2016

Relatively large fractions of inward greenfield FDIs into the EU are directed to Germany (17.4% of total inward FDIs), France (12.8%), Ireland (11.1%) and Spain (10.1%). Looking at the distribution of destination countries of foreign acquisitions of EU companies, companies located in Germany (31.6% of total inward M&As) are by far the favourite country of foreign acquirers, followed at large distance by France (12%), Italy (9%) and the Netherlands (7.6%). As for destinations, greenfield outward FDIs of EU countries are predominantly directed to non-EU countries (68.4%, or 1486 out of 2173), especially to the US (17.8%) and to emerging economies like China (16.8%) and India (14.3%). Destinations of foreign outward M&As show a different pattern, as target companies of foreign M&As made by EU acquirers are broadly balanced between EU (53.2%) and non-EU (46.8%) countries. The most prevalent target countries are the US (15.8%), Germany (14.3%) and China (11.7%).

Table 7.5 Innovative greenfield FDIs by destination and source country, 2003–2016

	Destination																				
Origin	DE	FR	IE	ES	PL	RO	BE	CZ	IT	NL	HU	Other EU	**Total EU**	US	CN	IN	UK	CA	Other non-EU	**Total non-EU**	**Total**
DE	.	3.3	1.5	5.1	1.9	2.7	0.7	2.3	0.7	0.6	3.1	7.8	**29.7**	18.8	19.1	15.2	5.0	1.3	10.9	**70.3**	**100.0**
FR	3.9	.	1.2	7.5	2.4	2.7	3.4	0.5	1.0	0.5	1.5	2.7	**27.2**	13.3	15.8	13.8	9.0	9.2	11.7	**72.8**	**100.0**
NL	7.4	3.9	1.5	4.4	3.9	2.5	3.0	1.5	0.0	.	0.0	4.4	**32.5**	20.2	16.7	15.3	11.8	1.0	2.5	**67.5**	**100.0**
SE	4.7	5.3	3.3	2.0	3.3	4.0	0.7	0.7	2.7	1.3	1.3	8.0	**37.3**	11.3	17.3	16.0	7.3	4.0	6.7	**62.7**	**100.0**
DK	5.3	5.3	2.6	2.6	5.3	1.3	0.0	2.6	1.3	1.3	0.0	11.8	**39.5**	23.7	14.5	15.8	1.3	2.6	2.6	**60.5**	**100.0**
IT	9.8	9.8	3.3	11.5	1.6	0.0	3.3	0.0	.	0.0	0.0	6.6	**45.9**	16.4	13.1	9.8	9.8	0.0	4.9	**54.1**	**100.0**
FI	5.1	3.1	1.0	1.0	6.1	1.0	0.0	1.0	0.0	0.0	4.1	8.2	**30.6**	15.3	24.5	16.3	7.1	1.0	5.1	**69.4**	**100.0**
BE	9.0	10.4	1.5	3.0	0.0	4.5	.	0.0	0.0	3.0	0.0	4.5	**35.8**	13.4	13.4	16.4	6.0	7.5	7.5	**64.2**	**100.0**
IE	1.3	2.6	.	5.1	3.8	1.3	0.0	2.6	3.8	1.3	2.6	3.8	**28.2**	30.8	3.8	9.0	20.5	2.6	5.1	**71.8**	**100.0**
Other EU	15.9	7.1	0.9	4.4	5.3	4.4	0.0	1.8	0.0	0.9	0.9	12.4	**54.0**	20.4	3.5	8.0	8.0	3.5	2.7	**46.0**	**100.0**
Total EU	**3.7**	**3.6**	**1.5**	**4.9**	**2.7**	**2.6**	**1.3**	**1.5**	**0.8**	**0.6**	**1.9**	**6.4**	**31.6**	**17.8**	**16.8**	**14.2**	**7.4**	**3.3**	**8.9**	**68.4**	**100.0**
US	15.0	13.9	18.7	7.4	7.5	3.7	4.6	4.0	3.5	3.3	2.6	15.9	**100.0**								
UK	13.7	12.3	11.3	12.7	9.8	5.4	2.5	3.9	2.9	2.5	2.0	21.1	**100.0**								
JP	35.8	19.2	4.2	9.2	0.0	0.0	10.0	2.5	4.2	4.2	0.8	10.0	**100.0**								
CH	24.0	20.2	9.6	6.7	3.8	0.0	2.9	2.9	5.8	3.8	1.9	18.3	**100.0**								
CN	30.3	11.1	4.0	2.0	3.0	2.0	3.0	2.0	11.1	7.1	1.0	23.2	**100.0**								
Other non-EU	28.1	7.9	6.7	8.2	8.6	3.0	3.0	1.5	2.6	5.6	2.6	22.1	**100.0**								
Total non-EU	**19.7**	**13.4**	**13.6**	**7.9**	**6.9**	**3.2**	**4.3**	**3.3**	**3.9**	**3.8**	**2.3**	**17.6**	**100.0**								
Total	**17.4**	**12.8**	**11.1**	**10.1**	**7.4**	**4.6**	**4.3**	**3.7**	**3.5**	**3.3**	**3.3**	**18.4**	**100.0**								

Table 7.6 Innovative foreign M&As by target and acquiring country, 2003–2016

	Target																	
Acquirer	DE	FR	IT	NL	SE	FI	ES	DK	BE	Other EU	**Total EU**	US	UK	CH	RU	Other non-EU	**Total non-EU**	**Total**
DE	.	8.3	7.1	6.9	2.8	2.8	3.1	3.1	2.4	9.2	**45.6**	19.9	11.6	10.2	0.2	12.5	**54.4**	**100.0**
FR	13.9	.	7.8	2.5	2.2	1.7	8.6	1.9	4.5	6.1	**49.3**	18.9	11.4	4.2	0.6	15.6	**50.7**	**100.0**
NL	17.7	6.1	5.8	.	3.2	2.3	2.3	1.9	5.5	10.3	**55.0**	15.8	11.9	1.9	1.9	13.5	**45.0**	**100.0**
SE	15.7	2.6	4.9	4.1	.	10.4	0.7	8.6	1.1	4.1	**52.2**	14.6	16.0	3.4	0.4	13.4	**47.8**	**100.0**
IT	19.5	11.7	.	2.6	4.5	3.9	8.4	0.6	0.0	9.1	**60.4**	18.2	7.8	4.5	0.0	9.1	**39.6**	**100.0**
BE	19.2	16.0	4.8	16.8	0.8	4.0	0.8	1.6	.	4.8	**68.8**	8.0	12.0	2.4	0.0	8.8	**31.2**	**100.0**
AT	50.0	6.7	0.8	2.5	0.8	1.7	0.8	2.5	0.8	9.2	**75.8**	4.2	5.8	6.7	0.8	6.7	**24.2**	**100.0**
IE	7.6	2.5	3.4	1.7	0.8	1.7	1.7	0.0	3.4	0.8	**23.7**	39.8	26.3	0.8	0.0	9.3	**76.3**	**100.0**
Other EU	14.1	7.3	4.9	2.3	6.0	2.8	1.3	1.5	1.3	15.4	**57.1**	9.6	8.9	1.7	8.3	14.5	**42.9**	**100.0**
Total EU	**14.3**	**6.2**	**5.2**	**3.8**	**3.0**	**3.4**	**3.2**	**2.6**	**2.4**	**9.0**	**53.2**	**15.8**	**11.7**	**4.2**	**2.3**	**12.8**	**46.8**	**100.0**
US	33.6	13.8	8.6	8.6	8.5	3.9	4.4	4.8	4.0	9.8	**100.0**							
UK	29.2	12.8	8.2	10.0	8.2	3.7	4.1	6.8	2.3	14.6	**100.0**							
CH	46.7	7.8	7.8	4.8	5.4	3.6	4.8	5.4	3.6	10.2	**100.0**							
JP	36.1	13.9	12.5	9.7	8.3	4.2	2.8	0.0	5.6	6.9	**100.0**							
CA	39.0	18.6	6.8	6.8	5.1	5.1	0.0	3.4	5.1	10.2	**100.0**							
CN	50.8	8.5	6.8	8.5	5.1	1.7	3.4	0.0	1.7	13.6	**100.0**							
NO	15.7	5.9	0.0	11.8	35.3	5.9	2.0	19.6	0.0	3.9	**100.0**							
Other non-EU	37.3	10.6	9.5	5.3	2.7	3.4	8.4	6.8	4.6	11.4	**100.0**							
Total non-EU	**35.3**	**12.3**	**8.4**	**8.0**	**7.8**	**3.8**	**4.7**	**5.5**	**3.7**	**10.6**	100.0							
Total	**31.6**	**12.0**	**9.0**	**7.6**	**6.8**	**5.0**	**5.3**	**5.2**	**4.1**	**13.4**	100.0							

3.3 Innovative FDIs and the Knowledge Sources for Green and Digital Inventions: Econometric Analysis

According to the rationale that we have proposed in the theoretical background (Sect. 2), inward and outward FDIs (either as greenfield or M&As) could act as pipelines conveying in EU regions knowledge inputs that are produced in other countries. In so doing, they can be expected to facilitate the use (i.e. citation) of foreign inventive outcomes as prior art knowledge for the development of local green and digital technologies.

To estimate the relationship between innovative FDIs and the knowledge sources of green and digital inventions, we estimate the following gravity equation:

$$\begin{aligned} \text{backcit}^{c}_{i,j,t} = {} & \alpha + \beta_0 IgFDI_{i,j,t-1} + \beta_1 OgFDI_{i,j,t-1} \\ & + \beta_2 IM\,\&\,A_{i,j,t-1} + \beta_3 OM\,\&\,A_{i,j,t-1} + \beta_4 X'_{i,t-1} \\ & + \beta_5 C'_{j,t-1} + \beta_6 DIST_{i,j} + \gamma_t + \varepsilon_{i,j,t} \end{aligned} \tag{7.1}$$

where $\text{backcit}^{c}_{i,j,t}$ stands for the number of citations in technology c (either digital or green) that patents of EU region i make to patents filed in the foreign country j in year t. $X'_{i,t}$ and $C'_{j,t}$ are control variables referring to EU region i and country j, respectively, namely their *GDP*[4] and the stock of patents filed by them under the Patent Co-operation Treaty (PCT). $DIST_{i,j,t-1}$ is a dyadic variable referring to the geographical distance between foreign country j and EU region i,[5] and γ_t are year fixed effects. Innovative FDIs are defined by four dummy variables: $IgFDI_{i,j,t-1}$, which is equal to one if the number of inward greenfield FDI projects in EU region i and originating from foreign country j is greater than 0, and 0 otherwise; $OgFDI_{i,j,t-1}$, equal to 1 if the number of outward greenfield FDI projects in foreign country j originating from EU region i is greater than 0, and 0 otherwise; $IM\,\&\,A_{i,j,t}$, which is equal to 1 if the number of inward M&As targeting a company based in EU

[4] We retrieve data on GDP at the EU regional level from the Cambridge Econometrics database and at country level from the World Development Indicators database.

[5] Data by country pairs on distance were obtained from the CEPII database. Data for region-country pairs were manually computed.

region *i* and originating from foreign country *j* is greater than 0, and 0 otherwise; *OM* & $A_{i,j,}$, which is equal to 1 if the number of outward M&As targeting a company based in foreign country and originating from EU region *i* is greater than 0, and 0 otherwise.

We estimate our equation by means of the Pseudo-Poisson Maximum Likelihood estimator separately for digital and green patents. We run our regressions for the period 2003–2016, for which we have data on both patent applications and citations and on FDIs. Furthermore, in order to explore our focal relationship over time, we split our sample into two temporal windows, namely 2003–2009 and 2010–2016.

Table 7.7 reports our regression results for the estimates of Eq. (7.1). Model estimates show that in the period 2010–2016, conditional on GDP and patent stocks of citing regions and cited countries and on their geographical distance,[6] inward innovative greenfield FDIs are significantly and positively associated with backward foreign citations in digital and green EPO patents made by EU-based inventors. This relationship appears stronger and more robust in the case of digital technologies. In this case, inward innovative M&As are also correlated with backward citations. Furthermore, despite a non-significant relation between inward FDI and backward citations in the first half of the period (2003–2009), the association is overall significant across the 2003–2016 period. In the case of backward citations of green patents, beside a lower elasticity, our findings support a statistically significant association only with greenfield investments limited to the more recent period (2010–2016). Conversely, outward FDIs are not statistically significant for the backward citations of both green and digital technologies.

Overall, our econometric evidence supports the view that inward FDIs act as important pipelines allowing regions in the EU to access sources of knowledge abroad. Conversely, results do not support the hypothesis that innovative outward FDI act as pipelines to access foreign knowledge sources and stimulate reverse knowledge transfers.

[6] For what concerns the control variables, model estimates suggest the expected associations, that is, a positive association of foreign backward citations with GDP of origin regions, GDP of country destinations (only for green patents) and patent stocks of origin regions and destination countries, as well as a negative association with geographical distance.

Table 7.7 Innovative FDIs and knowledge sources for green and digital inventions—regression estimation

	Backward citations of digital patents			Backward citations of green patents		
	2003–2016	2003–2009	2010–2016	2003–2016	2003–2009	2010–2016
	(1)	(2)	(3)	(4)	(5)	(6)
Inward innovative greenfield FDIs	0.257**	0.147	0.304**	0.010	-0.096	0.113**
	(0.027)	(0.449)	(0.023)	(0.813)	(0.176)	(0.026)
Outward innovative greenfield FDIs	-0.018	-0.562**	0.097	-0.015	0.026	-0.025
	(0.889)	(0.025)	(0.494)	(0.762)	(0.742)	(0.678)
Inward innovative M&As	0.215*	-0.162	0.334**	-0.019	-0.121	0.050
	(0.090)	(0.532)	(0.022)	(0.662)	(0.110)	(0.296)
Outward innovative M&As	0.129	0.240	0.085	0.034	0.032	0.017
	(0.348)	(0.385)	(0.582)	(0.462)	(0.658)	(0.757)
Regional GDP (Location i, in log)	1.313***	1.134***	1.331***	1.329***	1.387***	1.277***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Country GDP (Location j, in log)	-0.001	-0.058	0.044	0.338***	0.430***	0.249***
	(0.981)	(0.520)	(0.551)	(0.000)	(0.000)	(0.000)
Geographical distance (in log)	-0.499***	-0.301***	-0.567***	-0.461***	-0.401***	-0.511***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Regional patent stocks (Location i, in log)	0.214***	0.163*	0.210***	0.583***	0.537***	0.633***
	(0.000)	(0.052)	(0.000)	(0.000)	(0.000)	(0.000)
Country patent stocks (Location j, in log)	0.110***	0.272**	0.080***	0.122***	0.107***	0.135***
	(0.000)	(0.012)	(0.003)	(0.000)	(0.000)	(0.000)
Observations	70,052	26,200	43,852	795,743	376,931	418,812
Pseudo R-squared	0.487	0.498	0.488	0.717	0.738	0.698

Note: Time dummies included in all regressions. P-values in parentheses: *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$

4 Conclusions

Several policy initiatives in and beyond Europe are pushing for the design of new patterns of development to cope with major shocks and challenges the humankind has to deal with nowadays. The development and interlinkage of environmental and digital technologies are the core of these efforts. By shaping knowledge linkages between places, FDIs constitute a leverage of primary interest through which economies can source the knowledge required to develop, adopt and combine green and digital technologies.

In this study we provide evidence of EU green and digital technological trajectories, and assess whether innovative FDIs contribute to them. In particular, we first show how the distribution of the two technologies across countries changes in recent years, as well as the location of the knowledge sources relevant for their development, which we capture using the patent citations of EU green and digital patent applications. We then rely on a gravity-modelling framework to understand whether the foreign knowledge base of green and digital technologies developed in EU metropolitan and NUTS 3 regions correlate with EU innovative FDIs—namely innovative inward and outward greenfield FDIs and cross-border M&As.

EU digital and green technologies show contrasting levels and growth, while geographical patterns are more similar. On the one side, in 2003–2016 for each digital patent application to the EPO there were about 15 (15.4) green ones. Moreover, after a period of steady increase in the 2000s, the development of green technologies shows clear signs of stagnation. By contrast, EU digital patents showed no or moderate increases up to 2012, and a marked increase thereafter. On the other side, Germany and, to a lower extent, France are by far the countries with more patent applications in both technological domains, with a relative specialization of the former in green technologies and of the latter in digital technologies. There are nevertheless signs of recent catching-up of other EU countries, especially in digital technologies, with Germany share of total EU patent applications falling by about 15 percentage points from 2003–09 to 2010–2016 and other countries, namely France

and Sweden, increasing their share. Overall, the evidence is consistent with green technologies being (on average) more mature than digital ones.

The knowledge base for the development of both green and digital technologies, which we measure through the patents cited by EU patent applications, is mainly located outside of the EU. Non-EU patent citations account for about 59% EU digital patent applications and about 56% of the green ones. We also find strong geographic concentration of technological knowledge sourcing, with the United States, Germany and Japan accounting alone for about 70% of citations of both EU digital patent applications (32% US, 27% Germany, 11% Japan) and EU green ones (28% Germany, 27% US, 16% Japan).

Preliminary findings of gravity models show that inward innovative FDIs, both inward greenfield FDIs and inward M&As, are significantly and positively associated with the knowledge base of digital technologies. This positive association, which is driven by more recent EU digital patent activities, suggests that foreign MNEs carrying out innovative activities in the EU act as pipelines allowing the EU to access sources of knowledge abroad. This association is strongest in the last decade and in digital rather than green patent activities. These findings are consistent with a relative weakness of the EU in the development of the more advanced digital technologies that have picked up in the last decade. Innovative inward FDIs can facilitate access to foreign digital technologies that can help catching-up of the EU in these technologies. Finally, outward FDIs from EU regions are not associated with citations to technologies developed in the host countries. This result suggests the limited importance for the development of digital and green technologies of reverse knowledge transfer from the destination countries of EU FDIs.

These findings provide valuable new evidence on the role of innovative FDIs for the achievement of the objectives of the new industrial strategy, the European Green Deal and the European Digital Agenda, and provide new insights into the potential leverage that foreign sources of knowledge can have on the development of digital and green technologies in the EU, as well as into the issues of technological vulnerability due to foreign dependency. While the primary focus of the study is on Europe, the results of the analysis aim to have a broader impact by providing novel empirical evidence on an issue of general interest as it emerges, for

example, in the 2030 Agenda for Sustainable Development (UN, 2015)—a "Roadmap for redefining sustainable development as a people and planet agenda: A prosperous and fair world within the planetary boundaries" (TWI2050, 2019, p. 7).

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Part III

Global Value Chains

8

Assessing Value Capture in GVCs: Conceptual Issues and Evidence at the Country Level

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1 Introduction

An extensive and expanding literature has documented, and reflected upon, the increasing fragmentation of production on a global scale that has taken place since the 1980s. This process has led to a growing trade in intermediate products and services as well as a surge in cross-border investments, especially in the form of vertical foreign direct investments (FDIs) and interfirm alliances involving actors from all over the world, engaged in different production stages (UNCTAD, 2011, 2013). International economics, economic geography and international business literature devoted great attention to the resulting worldwide dispersion of

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inter- and intra-firm webs of production and trade that have been referred to in multiple ways, including global commodity chains (Gereffi, 1999; Gereffi & Korzeniewicz, 1994), global value chains (GVCs; Kaplinsky, 2000; Gereffi et al., 2001), global production networks (Coe et al., 2008; Henderson et al., 2002) and global factory (Buckley, 2009a, 2009b; Buckley & Strange, 2015).

Notably, the rise of GVCs prompted firms to increasingly specialize in specific value chain functions, which are conceived as the full set of business activities—from those concerning the conception of goods to the ones relating to their fabrication and commercialization—carried out to develop and bring a product to market (Bernard & Fort, 2015; Feenstra, 1998; Sturgeon & Gereffi, 2009). The result has been the emergence of an ever finer international division of labour that occurs mainly at the level of individual production stages within sectors, also called "tasks" (Grossman & Rossi-Hansberg, 2008).

This transformation, together with the increasingly uneven distribution of value across actors performing different business activities, has been often associated with the "smile curve", first proposed at the beginning of the Nineties by Stan Shih (1996). The smile curve simply illustrates that firms performing the most upstream (e.g., R&D, design and testing) and downstream (e.g., marketing, sales and after-sale services) functions of the value chain, mostly based in developed economies, tend to reap much larger shares of value than actors from developing economies, which mainly perform fabrication activities at the lower segment of the curve (Mudambi, 2008; Shin et al., 2012). Notably, this conception has largely informed the debate on the economic upgrading of countries in GVCs, with special reference to the opportunities for emerging economies to climb the value ladder thanks to the knowledge spillovers and technology transfer they may benefit from due to interactions with MNCs and their foreign affiliates (Gereffi, 1999; Humphrey & Schmitz, 2002; Pahl & Timmer, 2020; Rojec & Knell, 2018).

However, a major lack of micro-data has largely prevented measuring the specialization of economies across GVC functions, its evolution over time and its association with value capture dynamics. Empirical evidence on this matter is mainly based on case studies either on the GVC of specific products (e.g., Ali-Yrkkö et al., 2011; Ali-Yrkkö & Rouvinen, 2015;

Dedrick et al., 2010; Linden et al., 2009; Xing & Huang, 2021) or on industry-based measures of "upstreamness" aimed at computing the supply chain position of sectors in terms of distance from final demand (Antràs et al., 2012; Meng et al., 2020; Rungi & Del Prete, 2018). Yet, while case studies can hardly provide general results, sectoral measures based on input-output statistics disregard the business activities undertaken for the realization of products and services, thus failing to detect the value chain functions performed by firms and countries (de Vries et al., 2021).

This contribution draws insights from previous works the authors have conducted at different levels of geographical disaggregation and with distinct focus and purposes (Coveri et al., 2022; Coveri & Zanfei, 2022a, 2022b), and combines them to illustrate an analytical strategy aimed to overcome the limitations of extant empirical studies on GVCs and value capture. In particular, we use data on the geographical location of inward FDIs in different value chain functions to compute indicators of 'Functional specialization in FDI' with the aim of offering an empirical assessment of the modern division of labour at a global scale. Moreover, we provide illustrative evidence on the evolution of the FDI-based functional specialization patterns for economies belonging to three major regional blocks, namely North America, East and Southeast Asia, and the EU27 and UK economies—hereafter referred to as "Europe" (Baldwin & Lopez-Gonzalez, 2015). This enables us to deliver an empirical assessment of the upgrading and downgrading trajectories experienced by both advanced and emerging countries over a relatively long period of time. In line with the smile curve hypothesis, we eventually offer descriptive and promising evidence on the negative association between, on the one hand, the specialization of economies in the production compared to upstream and downstream GVC stages and, on the other hand, their capability to capture value in GVCs.

The remainder of this chapter is organized as follows: Sect. 2 provides a background to this contribution, briefly reviewing the theoretical and empirical literature on the smile curve; Sect. 3 describes the data and methods employed; Sect. 4 provides empirical evidence on functional specialization and its link with value capture opportunities and Sect. 5 summarizes our main results and concludes by emphasizing the implications of the analysis offered and avenues for future research.

2 The Smile Curve: Conceptual Aspects and Empirical Evidence

The stylized representation of the international division of labour envisioned by the smile curve hypothesis is such that advanced economies mainly carry out pre-production (i.e., upstream functions such as headquarters, research, design and development) and post-production activities (i.e., downstream functions like branding, marketing, sales and after-sales services), while less developed economies tend to specialize in production functions such as manufacturing and assembly operations. This is supposed to reflect different value capture opportunities in GVCs across countries, with high-income economies specialized in functions at the upper ends of the value chain that can seize much greater returns than lower-income economies specialized in fabrication operations.

Consistently, the steepness of the smile curve reflects the unequal distribution of value across actors performing different stages along the value chains. As summarized by Durand and Milberg (2020), this is largely determined by the uneven degree of market competition across GVC segments. On the one hand, actors performing fabrication activities are subject to a high and increasing global competition, largely due to the growing involvement of low- and middle-income countries, especially China and India, in global production networks orchestrated by MNCs. This generates indeed a strong downward pressure on the remuneration of production activities, leading to a squeeze in the profit margins of firms mostly performing these functions (Baldwin & Evenett, 2015; Kaplinsky, 2000; Milberg & Winkler, 2013; World Bank, 2020).

On the other hand, the increasing role played by intangibles in GVCs provides MNCs—largely based in high-income countries—with the capability to seize large monopoly rents from the control of the most intangible-intensive segments of the value chains (i.e., the most upstream and downstream GVC stages).[1] This is mainly due to the high economies of scale intangibles give rise to, because of the very low variable costs to be sustained for their deployment once the initial fixed costs to develop

[1] Examples of intangible assets include patents, copyrights, trademarks, databases and software, as well as branding and marketing functions (Corrado et al., 2005, 2021; Haskel & Westlake, 2018).

or acquire them have been incurred. A second reason is due to the large appropriability of the rents they provide to their owners because of the high and increasing protection that intellectual property—such as patents, designs and copyrights, brands, trademarks and marketing strategies—enjoys, especially since the introduction of the Trade-Related Aspects of Intellectual Property Rights (TRIPS) agreement (Buckley et al., 2022; Chen et al., 2021; Durand & Milberg, 2020; Jaax & Miroudot, 2021; Pagano, 2014; Teece, 1986, 1998; Van Assche, 2020).

As for the empirical evidence on the smile curve, an important advancement was recently provided by Timmer et al. (2019), who computed a measure of 'functional specialization in trade' based on the amount of value added which can be traced back to workers employed in different functions for the production of exported goods and services. Consistently with the smile curve, they find that a positive correlation exists between the GDP per capita of economies and their specialization in R&D functions, while a negative relationship emerges between the former and the specialization of countries in fabrication activities. In a subsequent work, Buckley et al. (2020) show that in the last decades the value captured by both pre- and post-production functions has increased faster than that accruing to fabrication activities, hence providing evidence on the "deepening" of the smile curve. Finally, Stöllinger (2021) performed a cross-sectional analysis on the specialization of manufacturing industries in terms of FDIs in different business activities and the value added to gross output ratio, finding a negative relationship between the relative specialization of industries in production activities and the latter.

In what follows, we offer complementary evidence to that provided by these works, extending the analysis on both the cross-sectional and longitudinal dimensions of specialization of economies in different value chain activities and its association with value capture in GVCs. Our contribution to this literature is twofold. First, we offer an empirical assessment of the international division of labour predicted by the smile curve hypothesis. In doing this, we also question whether major upgrading or downgrading trajectories have been followed by world economies with different levels of economic development, and report evidence on the changing functional specialization of countries belonging to the North American, Asian and European production networks. Second, we provide a

descriptive analysis aimed at illustrating whether the relationship between the functional specialization of economies and their capability to capture value in GVCs conforms to that predicted by the smile curve hypothesis.

For this purpose, we compute indicators of functional specialization based on high-quality proprietary data on inward FDIs distinguished according to the GVC function they are aimed to perform. These indicators, together with the dataset used, are briefly described in the next section.

3 The fDi Markets Database

fDi Markets is an online database provided by fDi Intelligence—a specialist division of Financial Times Ltd—which collects detailed information on announced cross-border greenfield investments (i.e., new wholly owned subsidiaries, including joint ventures whenever they lead to a new physical operation) covering all sectors and countries worldwide from 2003 onwards. Information on investment projects is drawn from several publicly available sources, including nearly 9000 media sources, over 1000 industry organizations and investment agencies, as well as data purchased from market research and publication companies. The detected projects are cross-referenced against a plurality of sources and over 90% of projects are validated with company sources (Castellani et al., 2013; Castellani & Pieri, 2013).

A distinctive feature of the fDi Markets database consists in reporting the main business activity—that is, the value chain function like R&D, design and development, manufacturing, sales and marketing and support—each FDI project is aimed to perform. As we will show in the next subsection, this is the key information we will use to compute our indicator of functional specialization of the economies. In particular, we classify value-adding functions in the three canonical stages of the value chain, that is, the upstream, production and downstream segments (Baldwin & Evenett, 2015; Mudambi, 2008; Porter, 1985) following the 'sequential ordering' of business activities inspired by Sturgeon (2008) and adapted

from Crescenzi et al. (2014).[2] Then, we compute the Balassa's (1965) index of revealed comparative advantage based on inward FDIs in these three GVC stages. We call this 'functional specialization in FDI' (FS). Following Stöllinger (2021) and Zanfei et al. (2019), this indicator is therefore an inward FDI-based specialization index which captures for the *i*-th country in a given year the relative attractiveness of investments in the *a*-th stage of the value chain. Formally, it is calculated as follows:

$$FS_i^a = \frac{\frac{FDI_i^a}{\sum_a FDI_i^a}}{\frac{\sum_i FDI_i^a}{\sum_i \sum_a FDI_i^a}} \tag{8.1}$$

where the share of inward FDIs related to a given GVC stage over total inward FDIs received by a given economy (the numerator) is normalized according to the share of inward FDIs in the same stage over total inward FDIs for the world as a whole, namely the global average (the denominator).[3]

Notably, cross-border capital flows have represented a key driver of modern international dispersion of value-adding functions and contributed to the growing involvement of low- and middle-income countries in GVCs (UNCTAD, 2013). By revealing how capable countries are to attract foreign capital in specific functions compared to others, this metric likely reflects actual comparative advantages of economies as defined by currently available technologies and factor endowments (Baldwin &

[2] According to the classification adopted, *upstream functions* include headquarters activities, R&D, design and testing, education and training, and ICT-related infrastructure operations; *production functions* include fabrication, recycling and extraction activities; finally, *downstream functions* include activities mainly related to marketing and advertising, sales and after-sale services, and logistics, distribution and transportation.

[3] As criteria for value estimation are not made explicit, we perform our investigation relying on the number of FDI projects rather than on the value of capital involved. Consistently, several empirical works using fDi Markets have been performed exploiting the number of FDI projects rather than the data on capital investment (Castellani et al., 2013; Castellani et al., 2016; Castellani & Pieri, 2013, 2015; Crescenzi et al., 2014, 2015; Ramasamy et al., 2012). Note also that a limitation of fDi Markets concerns the inclusion of greenfield investments only (as well as major extensions of existing projects), while it does not cover information on mergers and acquisitions (M&As).

Evenett, 2015; Hausmann & Rodrik, 2003; Nachum et al., 2000; Waldkirch, 2011). Accordingly, we contend that the functional specialization in FDI can provide a good proxy for the position occupied by countries in the international division of labour.

4 Empirical Evidence

4.1 Assessing the Functional Division of Labour Using FDI Data

This section exploits our FS indicator to provide a broad empirical overview of the functional division of labour at a global scale and the evolving functional profiles of the economies composing three major global production networks, namely North America, East and Southeast Asia and Europe (Baldwin & Lopez-Gonzalez, 2015; Stöllinger et al., 2018). Recent contributions have indeed shown that countries belonging to each of these three macro-regions have stronger GVC linkages in terms of both trade (Stöllinger et al., 2018; Xiao et al., 2020) and FDI flows (Zanfei et al., 2019) as compared to economies belonging to a different macro-regional block.[4] Recent studies using similar indicators based on FDI have highlighted differences in functional specialization across individual countries and between broad aggregates of advanced and developing economies (Stöllinger, 2021), and between the most developed regions by comparing North American and EU patterns (Coveri & Zanfei, 2022a). Building on these studies, we here focus on different national aggregates within macro-regions of the world to capture both similarities and differences in specialization patterns. We first of all unpack North America to compare the functional specialization of the USA and Canada with that of their low-wage neighbouring country, that is, Mexico. As for East and Southeast Asia, we compare the functional specialization of Japan and the Four Asian Tigers with that of China and

[4] This is largely due to common free trade and investment-related agreements (i.e., NAFTA and ASEAN in the case of North American and Southeast Asian economies), to a political and economic union (i.e., the European Union in the case of the Europe) as well as to their geographical proximity (Inomata, 2013; Xiao et al., 2020).

the Southeast Asian economies.[5] Finally, the European economies are classified into four groups, namely Core, Finance, South periphery and East periphery.[6]

Figure 8.1 reports, for each macro-region, the functional specialization of the country groups by either pooling observations across all years from 2003 to 2018 (top graphs, panels *a*) or accounting for yearly data in a dynamic perspective (bottom graphs, panels *b*).[7] Looking at graphs pooled over the whole period, Panel 1a highlights that Mexico is highly specialized in the production stages of GVCs (the FS index is higher than 1.6), while reporting an FS index lower than one in downstream and upstream functions. As expected, we find that the opposite holds for the USA and Canada. Notably, Panel 1b shows that this functional division of labour has deepened over time. Except for the last two years, the FS in production activities of Mexico has steadily increased over the period, while its specialization in upstream functions has been around 0.5 from 2003 to 2012 and has further decreased since 2013. The opposite is true for the USA and Canada, which increased their FS in upstream activities since 2010 while reducing their specialization in production operations over the 2003–2008 period and even further from 2011 to 2018.

Panel 2a shows that a clear functional hierarchy also exists in the case of economies belonging to the East and Southeast Asian production network. In fact, the Four Asian Tigers report a remarkably high

[5] The Four Asian Tigers include Hong Kong, Singapore, South Korea and Taiwan. The Southeast Asian region encompasses Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Thailand, Timor-Leste and Vietnam. Except Timor-Leste, all these countries belong to the Association of Southeast Asian Nations (ASEAN).

[6] The country composition of each group is the following: *Core* includes Austria, Belgium, Denmark, Finland, France, Germany and Sweden; *Finance* includes Cyprus, Ireland, Luxembourg, Malta, Netherlands and the UK; *South periphery* includes Greece, Italy, Portugal and Spain; *East periphery* includes Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia. This classification of European economies is adapted from Grabner et al. (2019).

[7] In order to avoid biases in the computation of our FS index, our sample includes countries which received a number of total inward FDIs (three-year moving average) larger than zero in each year. Moreover, we exclude tax havens and countries resulting in extreme outliers in terms of number of inward FDIs (largely because they are 'Oil and Gas' producers), that is, Aruba, Bahamas, Bahrain, Bermuda, Cayman Islands, Equatorial Guinea, Iceland, Kuwait, Macau, Norway, Oman, Puerto Rico, Qatar, Saudi Arabia, Seychelles, Switzerland, Trinidad & Tobago and the United Arab Emirates.

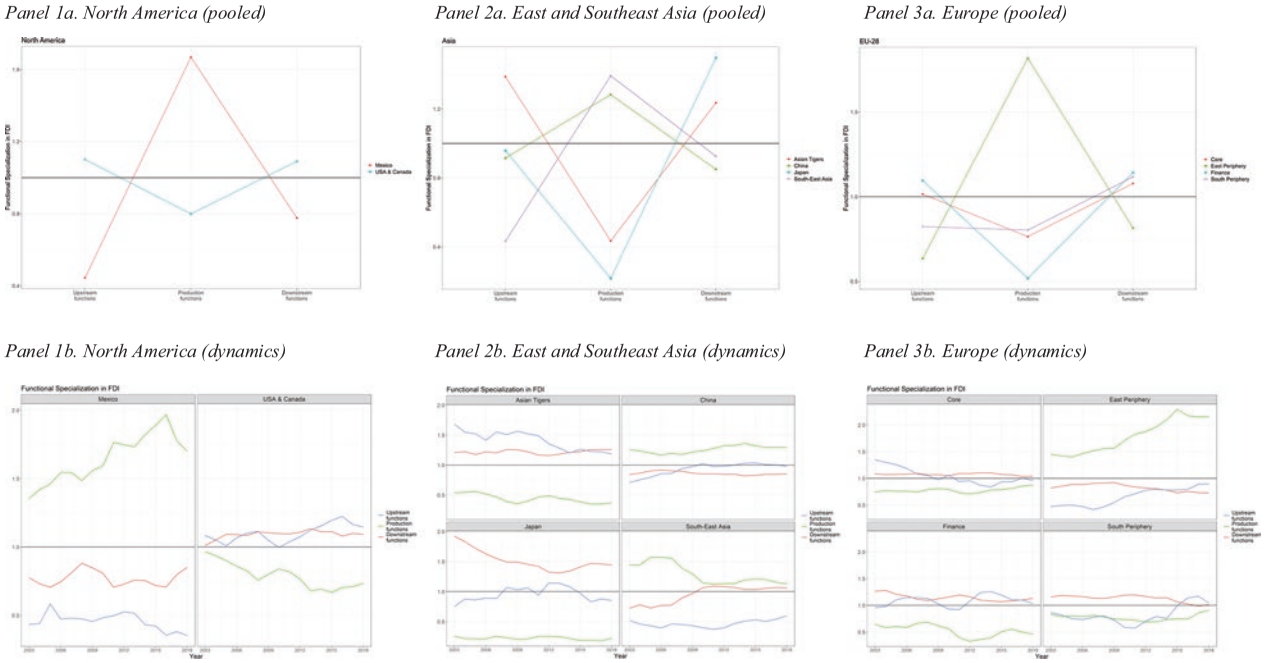

Fig. 8.1 Functional specialization in FDI for North America, East and Southeast Asia and Europe, 2003–2018. (Source: Authors' elaboration based on fDi Markets data. Note: Panels 1a, 2a and 3a report the functional specialization in FDI of economies computed over the whole period of investigation. Panels 1b, 2b and 3b report the three-year moving average of the FS of economies from 2003 to 2018)

specialization in the most intangible-intensive functions at the upper ends of the value chains. Similarly, Japan results strongly specialized in downstream functions, while its FS index in upstream activities is slightly lower than one. Both these economies show an FS index in production stages lower than 0.5. Conversely, China and especially the Southeast Asian economies report a remarkable specialization in production functions, while resulting despecialized in upstream and downstream activities. Nonetheless, while Southeast Asia shows a very low specialization in upstream functions, China reports an FS index equal to about 0.9 in these activities. As highlighted by Panel 2b, China has indeed followed a functional upgrading trajectory by increasing its specialization in upstream activities since 2003, which led this country to consolidate an FS index in these activities equal to one since 2010. This appears to be true also for Southeast Asian economies, although to a lower extent. Since 2007, the latter countries have moved along GVCs by reducing their specialization in production and increasing their specialization in downstream functions, while slightly improving their specialization in upstream functions since 2012 (but in 2018 this was still about 0.5). Finally, the Asian Tigers show a rather steady functional profile over the period, maintaining an FS index higher than one in upstream and downstream functions and lower than 0.5 in production operations, while Japan has consolidated its specialization mainly in downstream activities (with an FS index in upstream activities oscillating between 0.8 and 1.15).

Finally, a clear division of labour seems to emerge when comparing across European economies. The East periphery is the only country group specialized only in production stages (with the FS index resulting equal to about 1.8 in these activities). Conversely, the other three groups of countries (Core, Finance and South Periphery) are despecialized in this GVC segment. As expected, Core and Finance economies exhibit an FS index higher than one in the two most intangible-intensive stages of the value chain, while the South periphery is specialized in downstream but not in upstream functions. Nonetheless, when looking at the evolution of the FS index over time, interesting functional patterns emerge. Panel 3b shows indeed that the economies belonging to the East periphery have remarkably increased their specialization in production stages over the period under investigation; at the same time, these economies have also

steadily increased their specialization in the most upstream functions since 2008. Such patterns might signal their ability to upgrade their technological capabilities to develop higher value-adding functions alongside manufacturing operations. A similar upgrading trajectory seems to have been pursued by economies of the South periphery in the post-Great Financial Crisis period, which reports FS index in upstream activities higher than one since 2015.

Overall, our findings are consistent with the idea that the spatial division of labour spurred by the rise of GVCs is featured by low- and middle-income "factory economies", mainly performing fabrication and assembly operations, and advanced "headquarter economies", mainly carrying out the most upstream and downstream stages of GVCs (Baldwin, 2013; Baldwin & Lopez-Gonzalez, 2015).[8] Most notably, while a substantial heterogeneity is observed in the dynamics of functional specialization within these three major global production networks, the evidence provided also shows that functional hierarches are rather persistent over time.

4.2 Functional Specialization and Value Capture in GVCs

In order to offer suggestive evidence on the relationship between the functional specialization of macro-regions and their capability to capture value in GVCs, in this section we introduce an indicator of Relative Functional Specialization (*RFS*). This is a composite index aimed at jointly accounting for the level of functional specialization of the economies in upstream, production and downstream stages of the value chain. In logarithmic terms, the *RFS* index is computed as follows:

$$\ln\left(RFS_{i,t}\right) = \ln\left(1 + FS_{i,t}^{production}\right) - \ln\left(1 + FS_{i,t}^{upstream} + FS_{i,t}^{downstream}\right) \quad (8.2)$$

[8] This is consistent with evidence on the "functional specialization in trade" provided by Timmer et al. (2019), who found that advanced countries have steadily despecialized in fabrication operations, instead increasing their specialization in the most knowledge-intensive activities such as R&D, management and marketing.

where $FS_{i,t}^{a}$ is the index of functional specialization in FDI as computed by expression (1) and related to the *a*-th GVC stage.[9]

As for a proxy of value capture in GVCs, we follow Kowalski et al. (2015) and measure value capture in GVCs by using data provided by the UNCTAD-Eora GVC Database (Casella et al., 2019) on the domestic value added embodied in exports (DVA) per capita (Koopman et al., 2014; Los et al., 2016). This indicator can be regarded as a measure of the gains that countries capture domestically from trade in GVC, since it focuses on the amount of value added that is retained by domestic actors involved in export chains. More precisely, it includes the value added captured by domestic firms directly exporting, together with value added generated by all other domestic firms indirectly contributing to exports of the former; by the same token, it excludes value added imported from abroad, that is, the value-added content coming from foreign producers which are embodied in imported intermediates used by domestic, direct and indirect, exporting firms. In this sense, the domestic value added in exports measures the value added captured by domestic firms participating in the country's export chains.

Figure 8.2 shows the relationship between the RFS index and the DVA per capita at the macro-regional level. As expected, a negative association emerges, suggesting that higher specialization of countries in the most intangible-intensive segments of the value chain is associated with higher value capture in GVCs. Figure 8.3 reports the same descriptive exercise at the country level, considering economies belonging to the macro-regions under investigation. Once again, a strongly negative relationship results between the functional specialization of economies in production compared to upstream and downstream functions and the amount of value added seized domestically by economies.[10]

[9] The RFS index was first computed by Stöllinger (2021). We added a constant equal to one to both the numerator and denominator to allow the calculation of the RFS index also for those observations reporting zeroes at the denominator (i.e., showing a FS equal to zero in both upstream and downstream GVC stages).

[10] Coveri and Zanfei (2022b) investigate the link between the RFS index and the DVA per capita by means of a fixed-effects model—including several control variables—on a balanced panel dataset of 102 countries over the period 2003–2018. Estimate results confirm that a higher specialization in production compared to upstream and downstream functions is negatively associated with value capture in export chains.

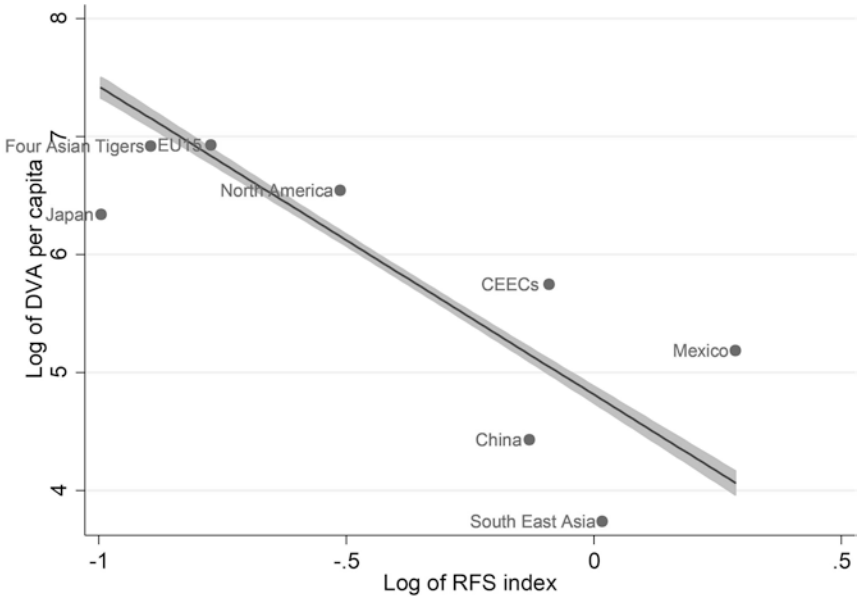

Fig. 8.2 Relationship between RFS index and DVA per capita at macro-region level, average 2003–2018. (Source: Authors' elaboration)

5 Conclusions

The "slicing up" of value chains across countries has given rise to a finer international division of labour which increasingly occurs at the level of individual value-adding functions (Sturgeon, 2008; Sturgeon & Gereffi, 2009; Timmer et al., 2014). A major driver of this process has been the massive growth of cross-border investment flows, which has contributed to the growing involvement of low- and middle-income countries in GVCs. In this context, the 'smile curve' has gained increasing attention as a sort of stylized fact able to summarize the most salient features of the modern international division of labour and the associated distribution of value along GVCs.

In this chapter we offered a brief review of the building blocks of the 'smile curve economics' and provided evidence on the functional specialization of economies belonging to the three major regional blocks, namely

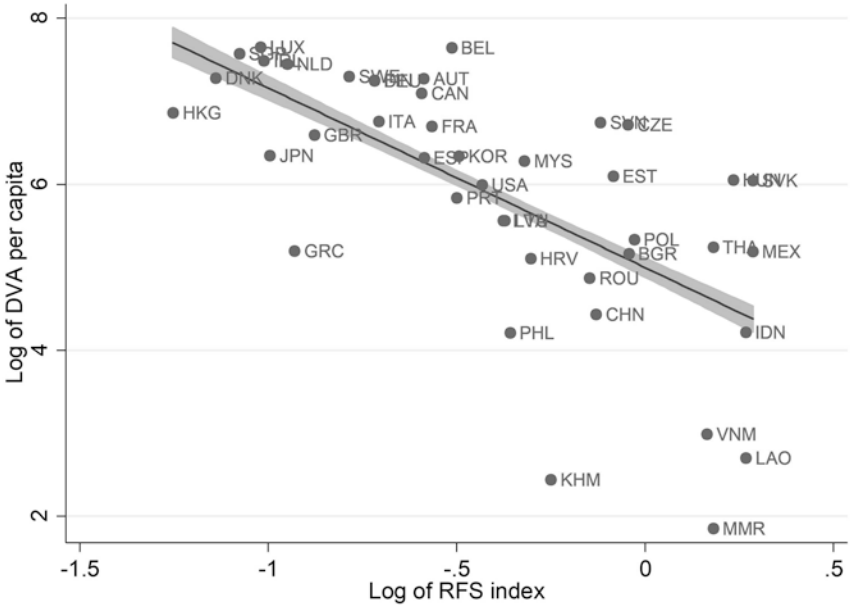

Fig. 8.3 Relationship between RFS index and DVA per capita at country level, average 2003–2018. (Source: Authors' elaboration)

North America, East and Southeast Asia and Europe. Lastly, we merged our indicators on functional specialization in FDI together with data on trade in GVC in order to provide descriptive evidence on the relationship between the functional position of countries and their capability to capture value in GVCs.

Three main findings emerge from our empirical investigation. First, as predicted by the smile curve, the most upstream and downstream value chain functions are mainly performed by the most developed countries, while production operations at the lower end of the value chain are mainly the prerogative of less developed world macro-regions. Second, the observed specialization patterns largely consolidated over the period under investigation, although a substantial heterogeneity emerged in the dynamics of functional specialization within the three global production networks considered. Third, and consistently with the predictions deriving from the smile curve, we provided evidence suggesting that higher

specialization in the intangible-intensive segments of the value chain is associated with greater value capture opportunities in GVCs.

Finally, several implications can be drawn from our contribution, which in turn open up promising avenues for future research. Here we would like to highlight two that we consider particularly meaningful. A first implication of our analysis is that, although GVCs have enabled an increasing number of low- and middle-income countries to join the global capitalist space, this has so far only partially changed the economic and technological hierarchies across world economies. On the one side, a clear division of labour emerges within each of the three macro-regions we focused on, with high-income countries that have largely consolidated their specialization in the most intangible-intensive functions while less developed countries appear greatly specialized in production operations. On the other side, countries like China and economies belonging to the Southeast Asia and to the East and South periphery of Europe seem to have experienced forms of functional upgrading, especially by increasing their specialization in the most upstream or downstream GVC stages. This asks for further research aimed to disentangle the developmental policies and the economic, technological and institutional conditions which have allowed these countries to improve their domestic capabilities and move up the value ladder, while others failed to follow a similar path (e.g., Mexico).

A second implication which can be drawn from our investigation concerns the role played by intangibles in GVCs. The evidence that we provided on the strongly positive association between the specialization in the most intangible-intensive functions and the value added captured domestically by countries points out to the monopoly rents that actors controlling the pre- and post-production stages of the value chain can reap at the detriment of tangible-intensive producers, whose profit margins are squeezed and investment opportunities frustrated. In fact, the cumulative character of intangibles coupled with the high appropriability of rents they give rise to (especially due to the increasing protection of intellectual property rights like patents, brands and designs) can insulate those controlling these crucial assets—that we showed being mainly based in high-income economies—from potential competitors from emerging economies. This is likely to hinder the opportunity for the

latter to enter the most profitable segments of GVCs, thus contributing to perpetrating income inequality across countries. This aspect should be more fully considered in future research aimed at deepening the distributional and developmental impacts of the current intellectual property regime on low- and middle-income economies involved in GVCs.

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9

The Relationship Between Global Value Chains, Green Technologies, and Air Pollution: Initial Evidence for EU Regions

Federico Colozza and Carlo Pietrobelli

1 Introduction

The 13th goal of the Sustainable Development Goals (SDGs) includes all the "climate actions to combat climate change and its impacts," and to improve the atmospheric conditions. Among all atmospheric pollutants, two of the most dangerous ones are represented by NOx (Nitrogen Oxides) and SOx (Sulfur Oxides) particles (Wang et al., 2021); the latter are the consequences mostly related to industrial processes that have an

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impact on a wide range of elements, including the atmosphere and the soil. The literature widely debates these issues (OECD, 2013) and also highlights the possible connection between the environment and the economic development of regions and countries (Dinda, 2004; Georgiev & Mihaylov, 2015; Fujii & Managi, 2016).

In the last three decades, the pursuit of ever-better economic opportunities has pushed industrial organizations to delocalize: this process has built fragmented and functionally integrated chains of production and commercialization, also known as Global Value Chains, in which firms and industries contribute to the final productions by assembling parts and components (Gereffi & Korzeniewicz, 1994). However, along these chains, economies do not only share components and parts, but also knowledge and information (Morrison et al., 2008). In short, the higher the level of integration in these value chains, the greater the benefits of participation might be (Jurowetzki et al., 2018; Lema et al., 2019), often through the possible upgrading opportunities within GVCs (Humphrey & Schmitz, 2002; Pietrobelli & Rabellotti, 2011; Gereffi, 2019). The extent to which this mechanism of knowledge diffusion may work in countries, regions, and, more in general, territories is highlighted in a huge literature (Pietrobelli & Rabellotti, 2011; Jurowetzki et al., 2018; Fagerberg et al., 2018; Colozza et al., 2022) that also stresses the limits that GVC governance, and the context prevailing in host countries, may pose on such processes. More recently, other studies claim that no matter whether on economic development or on complexity (Colozza & Pietrobelli, 2021; Boschma, 2022; Colozza et al., 2022), the participation in higher value-added activities is a positive factor, especially when the knowledge shared is less common. However, there is still little understanding of whether GVCs may work to foster the so-called greening process across EU regions.

To this end, in this chapter, we seek to lay out whether GVC integration and green technologies influence NOx and SOx emissions in EU

NUTS-2 regions.[1] We carry out our analysis in two stages. First, we assess to what extent GVC participation may affect green technologies in EU regions. Second, we study the influence of green patents and GVCs on air pollution. We also examine whether backward and forward participation in GVCs plays different roles in this process.

With this research, we seek to provide preliminary evidence on the mechanisms of environmental upgrading across EU NUTS-2 regions. We examine this process for the period 2005–2007. In particular, we provide some preliminary evidence on the dynamics of green technologies, GVCs, and air pollution in EU NUTS-2 regions, using some precautions (such as, for instance, Perpetual Inventory Method) to provide solid results. Our original findings show that not only the participation in GVCs is increasingly correlated to green patents in EU regions, but also that more and more regions are relying on offshoring productions, at the same time concentrating air pollution in fewer regions.

This chapter is organized as follows. In the next section, we discuss the literature. We then explain the method to construct our variables (Sect. 3). Hence, we present our methods and preliminary results (Sect. 4). Finally, we discuss some preliminary conclusions (Sect. 5).

2 Global Value Chains, Green Technologies, and Air Pollution

Nowadays, there is compelling evidence on the importance of countries' and regions' integration in GVCs to receive knowledge and information, and trigger economic upgrading processes (Colozza et al., 2022). Besides, in addition to the general influence that GVCs may have on knowledge diffusion (Jona-Lasinio et al., 2019), and on the ensuing opportunities for learning and development, this mechanism may work also for sharing

[1] The Nomenclature of Territorial Units for Statistics (NUTS) was established by Eurostat to provide a single uniform breakdown of territorial units for the production of regional statistics for the European Union. The NUTS is a five-level hierarchical classification (three regional levels and two local levels). Specifically, the NUTS subdivides each Member State into a whole number of NUTS 1 regions, each of which is in turn subdivided into a whole number of NUTS 2 regions and so on (Eurostat, "Reference and Management of Nomenclatures").

"green" knowledge. This may occur both directly, in terms of technologies (Glachant et al., 2013), or indirectly, by fostering competition in green strategies (De Marchi et al., 2013; De Marchi et al., 2020). Essentially, while GVC integration may lead some economies to upgrade production techniques to become more competitive (De Marchi et al., 2020), other countries may exploit these channels to learn and adopt green technologies (Dechezleprêtre et al., 2013). For instance, De Marchi et al. (2013) suggest that the presence of opportunities embodied in GVCs is likely to help economies share green techniques and support industrial companies in keeping or gaining new competitive advantages.

An additional perspective is highlighted by Poulsen et al. (2018), which suggest that participation in GVCs would reduce emissions of air pollutants (in the case study of the maritime sector), through an upgrading mechanism that involves new adaptations of techniques and methods in firms to improve their reputation, and also providing incentives for buyers and suppliers to do the same (Nadvi, 2008). Glachant et al. (2013) also offer new evidence on the mechanism of green technologies diffusion across world economies. The literature argues that this would be especially true for economies that internationalize their productions, leveraging channels of knowledge transfer that may facilitate investments in R&D (Castellani & Pieri, 2013).

A new contribution that is especially relevant to our present aims is the paper by Wang et al. (2021), who find that when OECD economies increase their productivity, they reduce pollutants emissions not only through green patents but also by exploiting GVC connections. However, despite a great deal of advantages, it goes without saying that GVCs also imply various substantial environmental limitations.[2] These are related to the claims of the "pollution haven" hypothesis (Duan et al., 2021), which demonstrates a negative impact of GVC participation on the emissions of pollutants in the atmosphere: indeed, polluting activities might be offshored in other places, rather than in the territories that participate in GVCs (Ponte, 2020).

In contrast, there are no doubts about the effect of green patents on air pollution. Here, for a long time the literature has underlined the role of

[2] See among the many, Lopez & Islam (2008); Yasmeen et al. (2019); Ponte (2019); Duan et al. (2021).

environment-related technologies as elements of air pollution abatement (Jaffe et al., 2003), in specific sector-sector relations[3] (Nameroff et al., 2004), in specific countries (Shen et al., 2020), and in assessing the quality of such technologies (Töbelmann & Wendler, 2020). Within a supply-chain approach, Costantini et al. (2017) also examine the role of green technologies in reducing air pollutants emissions in EU regions. Their research produces evidence not only on the effects of green technologies in the sector-sector relationship, but also on the presence of spill-over mechanisms. Moreover, Sarfraz (2021) shows how green technologies tackle down emissions of air pollutants and discuss in-depth the several opportunities related to green knowledge.

To the best of our knowledge, no study yet exists that analyzes the connection between GVCs, green technologies, and air pollutants emissions for the EU NUTS-2 regions. In sum, the purpose of this preliminary study is to answer the following questions: (1) Does participation in GVCs allow EU economies to share green knowledge? Is there a relationship between GVCs and green patents? (2) Is integration in GVCs related to the emissions of air pollutants? Does backward participation have a special role in this regard?

3 Variables Construction

This chapter builds on a novel dataset for EU NUTS-2 regions, especially for GVC participation and emissions of NOx and SOx particles. We collect data from the Regional Input-Output Database (RIOD) tables (Thissen et al., 2018) for the calculation of the GVCs participation indicators, from the European Environmental Agency (EEA) and Structural Business Statistics (SBS) datasets (Eurostat) to calculate respectively the emissions of air pollutants and manufacturing specialization, and the OECD dataset for green patents (y2 category). We compute these variables for the period 2005–2007.

[3] Namely, they analyze the relationship between the adoption of green technologies in specific sectors and the emission of air pollutants from the same activities.

3.1 Air Pollutants (AP) Emissions

We consider two of the most dangerous particles: Nitrogen and Sulfur Oxides (NOx and SOx), being also the subject of other studies (Wang et al., 2021). We extract the data for the EU NUTS-1 level and for the period 2005–2007, from Eurostat (Environment European Agency, EEA). The first step in the construction is to generate a sum-variable of the air pollution for each country i and time t, and for each sector s (Eq. 9.1):

$$AP_{i,\,s,\,t} = NOx_{i,s,t} + SOx_{i,s,t} \tag{9.1}$$

Then, following the intuition of the "Commodity Balance approach" (Isard, 1953), we assign the yearly values of national air pollution to each region, matching the source's sector of pollution with the sectors that contribute to these emissions in each region. To this end, we rely on sectoral employment data (Structural Business Statistics) which include data about 54 sectors and for the period of interest.

Then, we select two different data: (1) National data on air pollutants emissions, from 78 sectors, which we call source-of-emission (soe); and (2) Regional data on employment composition, for 27 sectors (selecting only those connected to the sources of emission), which we call sector-of-interest (soi) (Table 9.1).

We build our yearly regional data by following the Eq. 9.2:

$$AP_{r,t} = \frac{\sum_{soe=1}^{78} AP_{i,soe,t}}{\sum_{soi=1}^{27} Empl_{i,soi,t}} \tag{9.2}$$

Where we distribute the AP emissions, at the country level, for each sector-of-emission following the presence of the same sector in region i.

As a result, we have data on regional emissions of air pollutants (NOx+SOx), which indicate, as shown in Fig. 9.1, the highest emissions of air pollutants from the Spanish east coast to the Italian west coast,

Table 9.1 Composition of Soe and Soi

Group	Kind	Code (*main components*)	# of sectors
Soe	Emissions	NFR1A1A—NFR1A2G8 (*Combustion in man. industries*); NFR1A3A1_1—NFR1A3A2_2 (*Aviation*); NFR1A3B2—NFR1A3B3 (*Road transport, commercial*); NFR1A3D1_1—NFR1A4A2 (*Commercial transport*); NFR1B1A—NFR2L (*Industrial productions*); NFR5D1—NFR5D3 (*Wastewater handling*).	*78*
Soi	Employment	CA—CB (*Mining and quarrying*); DA15—DN36 (*Manufacture*); E1—F45 (*Electricity, gas and water supply, construction*); I60—I62 (*Transport: land, water and air*).	*27*

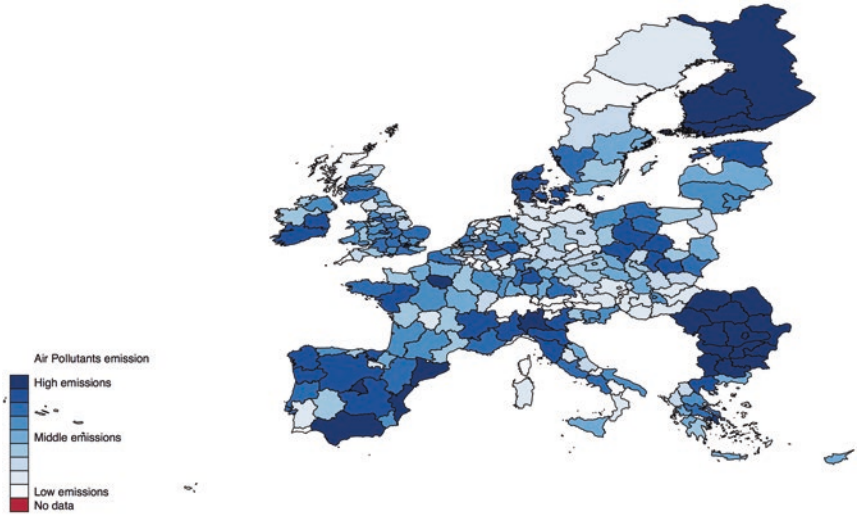


Fig. 9.1 Air pollutants emission for EU regions. (Source: Authors' elaboration)

including Emilia Romagna and Lombardy, Ile-de-France, and some Poland regions.[4]

It is interesting to know that we exclude the emissions from energy savings, located in power plants, since in our analysis we are interested in the evaluation of the environmental upgrading in production processes from GVCs knowledge.

3.2 Global Value Chain Participation

Following the value-added approach (Montalbano et al., 2018), we evaluate the participation in Global Value Chains by computing the shared value added in forward and backward linkages on gross exports (Borin & Mancini, 2019), based on RIOD tables (Thissen et al., 2018). As Eq. 9.3 shows, we follow established literature (Colozza et al., 2022; Montalbano et al., 2018) and sum the backward and forward linkages, considering the degree of participation as the ratio on gross exports:

$$GVC\ \text{index}_{r,t} = \frac{\text{backward}\ GVCs_{r,t} + \text{forward}\ GVCs_{r,t}}{\text{Gross Export}_{r,t}} \tag{9.3}$$

Where the backward and forward components are computed as follows (Eqs. 9.4 and 9.5):

$$GVC\_\text{backward}_r = \frac{V_r \left(I - A_{rr}\right)^{-1} \left[\sum_{j \neq r}^{G} A_{rj} B_{jr} E_{rs} + \sum_{t \neq r}^{G} V_t B_{tr} E_{rs}\right]}{u_n E_{rs}} \tag{9.4}$$

$$GVC\text{forward}_r = \frac{V_r \left(I - A_{rr}\right)^{-1} A_{rs} \left(I - A_{ss}\right)^{-1} \left[\sum_{j \neq s,r}^{G} Y_{sj} + \sum_{j \neq s}^{G} A_{sj} \sum_{l \neq r,s}^{G} B_{js} Y_{sl}\right]}{u_n E_{rs}} \tag{9.5}$$

[4] We compute this variable for the period 2000–2010, although here we analyze only the time span 2005–2007. Interestingly, in the map we represent the geographical distribution (simple average by regions) of air pollution per capita for the complete period 2000–2010.

We use the same notation employed in Borin and Mancini (2017):

- V_r: value added shared from the region r;
- $B_{rr} = (I - A_{rr})^{-1}$: Leontief inverse, that indicates the amount of input that the region *r* needs to produce an additional unit of the good for the same region in this case; an *rs* subscript indicates the amount of input that the region r needs to produce an additional unit of the good for region *s*;
- E_{rs}: export from the region r to the region s;
- Y_{rs}: final goods from the region *r* consumed in region s.

In other words, if on the one hand, the backward component represents the foreign value-added embodied in the intermediate and final exports of region *r*, on the other hand, the forward component represents the domestic value-added embodied in the final exports of the region *r*. As a result, we have participation indexes for the EU NUTS-2 regions.

3.3 Green Technologies

Our third variable of interest is represented by the adoption of green technologies in the EU NUTS-2 regions. The definition of "green patents" is strictly related to the environmental impact of those technologies. Haščič and Migotto (2015) present a list of green technologies, and we rely on their work for defining our measure of "green patents."

We extract data from OECD Reg-Pat for NUTS-3 regions and for three years (2005–2007), and we refer to "applicant's regions" to consider the innovativeness of firms in each region, whatever the location of their research facilities is.

Since green patents are expressed in absolute values, we consider per capita green patents, in order to give a regional weight to each observation. Moreover, following RAMON (Eurostat), we create the NUTS-2 observations. In conclusion, relying on Perpetual Inventory Method (Braun et al., 2010; Costantini et al., 2017; Meinen et al., 1998), we calculate the stock of patents by considering a depreciation rate of 20% and an initial growth rate of 15%. In the next section, we present some descriptive statistics of our dataset.

Table 9.2 Descriptive statistics

Variable (log)	Mean	Std. dev.	Min	Max	Obs
Air pollution per capita					
Overall	-3.421789	0.5455337	-6.93311	-1.982248	*N* = 729
Between		0.5306808	-5.28666	-2.018354	*n* = 243
Within		0.1290145	-5.233008	-2.500495	*T* = 3
Green patents PIM					
Overall	-11.84842	1.478124	-15.92311	-6.137361	*N* = 654
Between		1.454729	-15.41213	-6.253355	*n* = 218
Within		0.2740324	-13.41966	-10.25563	*T* = 3
GVCs index					
Overall	3.91929	0.1669416	3.412084	4.253636	*N* = 717
Between		0.1662919	3.415358	4.215879	*n* = 239
Within		0.017139	3.856529	4.001922	*T* = 3
Backward GVCs					
Overall	-0.0004946	0.2174042	-0.9307788	0.4912888	*N* = 717
Between		0.2156479	-0.8796115	0.4692047	*n* = 239
Within		0.0298409	-0.1051223	0.1158218	*T* = 3

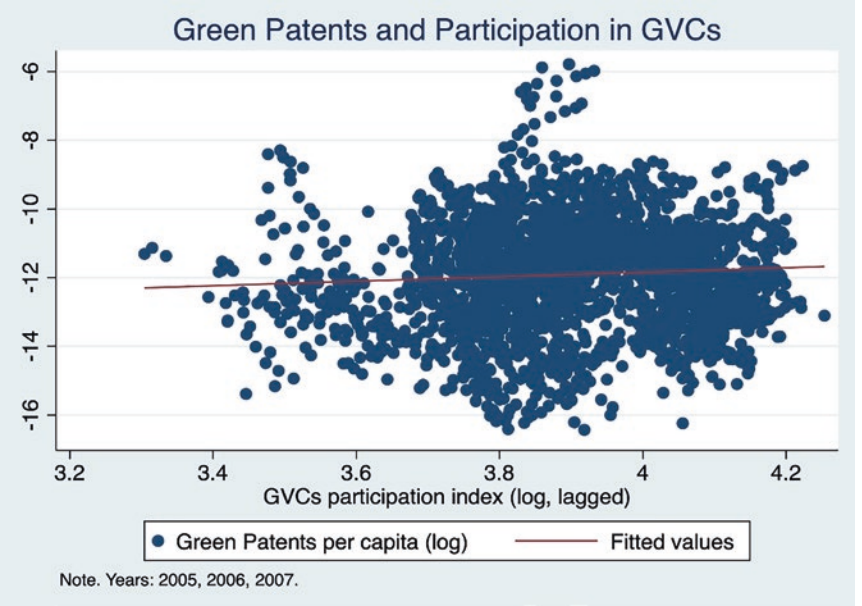
Source: Authors' elaboration

3.4 Descriptive Statistics

Table 9.2 describes our dataset, with means, standard deviation, minimum and maximum values of our variables, as well as the number of observations (N), regions (n), and years (T).

4 Methods and Some Preliminary Evidence

We propose three different steps in our analysis. First, we address whether GVCs participation allows EU regions to transfer green knowledge, embodied in the adoption of green patents. Second, we examine the simple correlation between air pollution per capita, green patents and participation in GVCs. Third, we test whether these phenomena are increasingly concentrated in specific regions, preliminary testing for a possible sigma convergence, that is, the fall in the dispersion of air pollution and backward GVCs.



Graph 9.1 Green Patents and GVCs participation (period: 2005–2007, authors elaboration)

Does participation in GVCs allow EU economies to share green knowledge? Is the haven hypothesis met? Are pollutant emissions concentrated in same contexts? In Graph 9.1, we plot on the y-axis the number of green patents per capita and on the x-axis the participation in GVCs, during the period 2005–2007.

As the distribution in Graph 9.1 shows, in the period 2005–2007, GVCs appear to be positively related to green technologies. This scatterplot demonstrates that EU regions that strengthen their participation in GVCs, in year t-1, are more likely to adopt green technologies in year t. The second element of interest concerns the distribution of participation rates in GVCs: all things considered, EU regions experienced quite homogeneous participation, with values between 3.3 and 4.2.

However, the hypothesis of pollution haven, as briefly mentioned in the introduction, could imply an offshoring process of pollution activities, creating areas selling final goods with low levels of pollutants, but

Table 9.3 Correlations of per capita air pollution

Variables (log, lagged)	Year 2005	Year 2006	Year 2007
Green patents per capita	-0.0894	-0.0885	-0.0823
GVCs index	-0.1421	-0.2095	-0.2544
Backward GVCs index	-0.0599	-0.1187	-0.1519

Source: Authors elaboration

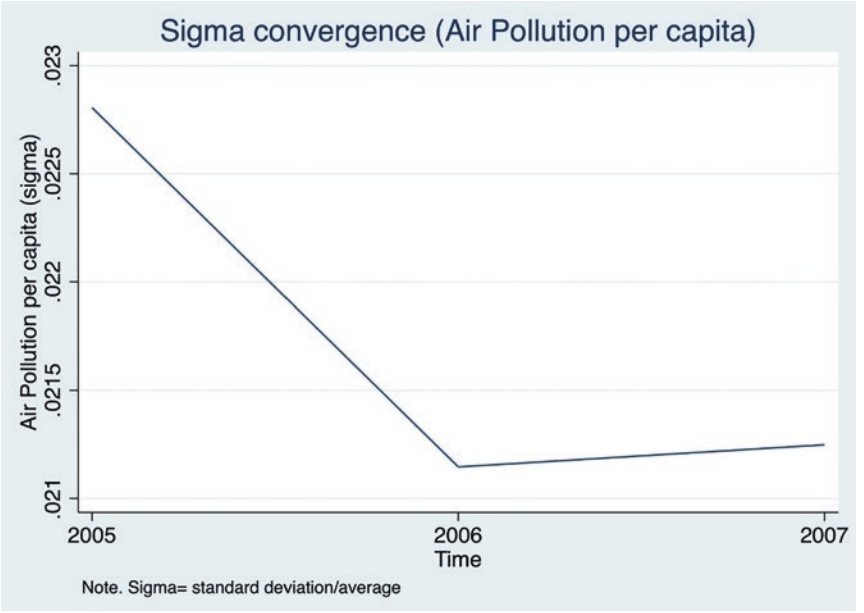
relying on components and goods produced in other places, with higher environmental impacts.

We seek to find some early proof on whether this "offshoring" mechanism occurred also in EU regions for the period 2005–2007, and whether green technologies play a role in this process as well. In Table 9.3, we examine the evolution of correlations between green patents per capita, overall GVCs participation, and backward GVC indexes with air pollution per capita.

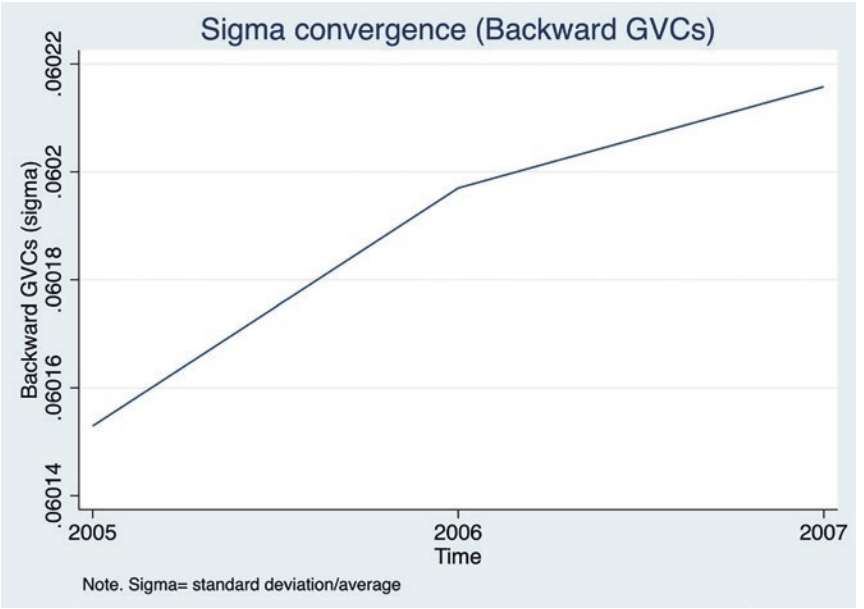
Table 9.3 suggests interesting patterns in the EU regions. First of all, we notice an expected negative and stable correlation between green patents and per capita air pollution (first row), suggesting that green patents are more numerous when per capita air pollution is lower. Moreover, when we analyze the correlation between GVCs and per capita air pollution (second row), we find a negative and increasing correlation between these two phenomena, that is, participation in GVCs is larger as per capita air pollution decreases, and this trend is growing. In addition, the third row allows us to examine the relationship between backward participation (the dependence of economies on productions delocalized in other places) and per capita air pollution. Again, the correlation coefficient suggests a negative relation between backward participation and per capita air pollution, and this negative relationship has become increasingly stronger in these years.

What is more, to provide further signals on the pollution haven hypothesis, we examine the territorial dispersion of air pollution per capita and backward GVCs across EU regions. In doing so, we study this aspect through the analysis of the presence of sigma convergence: that is, considering the pattern of the average standard deviation for both air pollution and backward GVCs.

The above Graphs 9.2 and 9.3 show two different patterns of dispersion across EU regions. If, on the one hand, the dispersion in per capita



Graph 9.2 Sigma convergence AP per capita



Graph 9.3 Sigma convergence backward GVCs (authors' elaboration)

air pollution falls during the period 2005–2007 (Graph 9.2), on the other the dispersion in participation in GVC backward participation increases (Graph 9.3). In other words, these two graphs demonstrate the presence of sigma convergence for air pollution, and sigma divergence for participation in backward GVCs—namely, while the pollution is increasingly concentrated in fewer regions, the number of regions that leverage offshore productions increases.

5 Interpretation and Concluding Remarks

The mechanism of green-upgrading along Global Value Chains has been hardly evaluated for EU NUTS-2 regions so far (De Marchi et al., 2020). In a broader context, the GVCs literature has been stressing how this process may work, even though the empirical evidence is scant, let alone policy recommendations.

In this chapter we make an early attempt to shed new light on the relationship between Global Value Chains, green technologies, and air pollutants emissions. We select the period 2005–2007 to provide early evidence on how and whether this mechanism works for EU regions. First, we analyze the positive relation between GVCs and green technologies, showing that GVCs confirm their role as green knowledge pipelines. Then, after analyzing the correlation between per capita air pollution, green technologies, and backward participation in GVCs, we find that backward participation is negatively related to air pollution. To this end, we analyze sigma convergence to show that while AP is more concentrated in some EU regions, backward participation is more widespread. In other words, while few regions suffer from increasing pollution, the number of regions dependent on offshoring productions is also growing.

This initial evidence paves the way for additional, more rigorous econometric work that will be carried out soon and for a larger number of years. Up to now, research leads us to suggest the idea that GVCs represent today an exclusive "green-island" for economies that have the chance to enter these international channels, but their access is unevenly distributed, also in Europe. Moreover, our initial findings appear to

suggest the hypothesis of "pollution haven," which, however, should be confirmed through a more appropriate econometric analysis.

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10

Global Value Chain Resilience and Reshoring During Covid-19: Challenges in a Post-Covid World

Enrico Marvasi

1 Introduction

Covid-19 hit the world at the beginning of 2020. The death toll was immense.[1] It was the biggest economic shock in over a decade, with severe negative impacts on world GDP and trade. Global Value Chains (GVCs) faced supply disruptions and bottlenecks. The fear of scarcity of medical supplies and other strategic goods fired a debate on export bans and reshoring, with the idea that global interconnectedness and exposure to shocks had become excessive. Despite the initial downturn, GVCs displayed an incredible level of resilience. Also thanks to massive fiscal and monetary policy interventions, global trade and GDP were

[1] More than 500 million confirmed cases and 6 million deaths worldwide as of 28 June 2022, according to the WHO (https://covid19.who.int). Also thanks to GVCs and international cooperation, vaccine development has been incredibly rapid, with almost 12 billion doses administered as of 28 June 2022.

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unexpectedly fast to get back to their pre-covid levels with a V-shaped recovery. Yet, the pandemic signed a historical event that changed our perception of the world economy and its development, and posed crucial questions about the future of globalization. Moreover, Covid-19 was not alone as it was preceded by events like Brexit and the US-China trade war, which also crucially changed the international scenario, and it was followed by the outbreak of the war in Ukraine, which brought intensified geopolitical tensions, further GVC disruptions and a renewed political attention towards securing energy supply and strategic goods. Against this backdrop, the challenges ahead are many, and a reconfiguration of GVCs seems underway.

This chapter contributes to the debate on GVC resilience during Covid-19 and discusses some of the main challenges that firms will have to address in a post-covid world. The first part of the chapter (Sect. 2) briefly tracks the evolution of GVCs in the last decades, highlighting how Covid-19 hit a world economy that had been in a slowing down phase for at least a decade. Firms were already dealing with slow growth and increased uncertainty; and Covid-19, despite its big impact, does not seem to have induced dramatic structural changes. The second part of the chapter (Sect. 3) provides some evidence and discusses the impact of the covid-shock through GVCs for countries, sectors and firms. The empirical focus is on new firm-level data from Italy, the first western country to be hit by Covid-19. The analysis reviews the findings from recent studies carried out at different levels of analysis, showing how countries, sectors and firms more integrated into GVCs were initially hit more severely, but also recovered faster from the shock. GVCs, thus, played a dual role: on the one hand, they contributed to the international transmission of shocks, but, on the other hand, they facilitated the recovery thanks to diversification and fast reaction of GVC firms. During Covid-19, GVC firms and MNEs performed better than other firms in terms of sales and closures, and there is no evidence of substantial waves of covid-induced reshoring. The third part of the chapter (Sect. 4) discusses some of the main challenges that firms and GVCs will have to face in a post-covid world. The crucial issues regard exposure to risk and diversification in order to increase resilience and robustness. GVCs may become more regionalized, but this does not need to happen at expense of

diversification. GVC reconfiguration also poses a trade-off between security, for example reached through redundancy and inventory, and efficiency. Moreover, there is a fundamental difference between temporary and permanent shocks as well as between idiosyncratic and systemic shocks; and firms will have to find ways to manage the different types of risk. Finally, the conclusion (Sect. 5) stresses how firms will have to pursue new strategies to increase flexibility and agility, and how governments can play an important role in helping firms and GVCs to build resilience, especially at a higher systemic level, where individual incentives may be more lacking.

2 Hyperglobalization and Slowbalization

The structural changes that have led the economy to where it is today will be the basis for the reconfiguration of GVCs. Embedding the Covid-19 shock into a historical process allows to clarify in what phase of globalization the shock arrived and, in light of the long-run trends and structural changes, what further developments might be more likely in the future.

Since the second half of the 1980s and essentially up to the Great Financial Crisis (GFC) of 2008, the process of economic integration was so rapid and widespread that it has been called the era of hyperglobalization (Rodrik, 2011). The trade-to-GDP ratio went from about 20% in the 1990s to over 30% in 2007 (WTO data). GVC-related trade went from less than 40% to more than 50% of total trade (World Bank, 2020). Today, GVCs contribute to the vast majority of world trade.

Thanks to specialization, scale economies and knowledge spillovers, GVCs are generally regarded as positive contributors to productivity growth and development (Amiti & Konings, 2007; OECD, 2013; Pahl & Timmer, 2018). However, GVCs tend to be procyclical (Di Stefano, 2021; Hoeckman, 2015). Interconnectedness also facilitates shock propagation depending on the type of shock (Acemoglu et al., 2016; Carvalho & Tahbaz-Salehi, 2019) and implies a greater degree of synchronization of economic activity between countries (Cigna et al., 2022; Gaillard & de Soyres, 2020). When the GFC hit the world economy in 2008, the propagation of the shock through GVCs was fast, the collapse of trade was

larger than that of GDP and, crucially, almost simultaneous across several countries, especially those more integrated into GVCs, leading to the 2009 "great trade collapse" (Baldwin, 2009). With the GFC, the hyperglobalization that led to the "Age of Global Value Chains" came to a halt (Antràs, 2020).

After the GFC, trade rapidly recovered to its pre-crisis level, but not to its pre-crisis trend. The world economy had entered a phase of slow globalization, or *slowbalization* (Antràs, 2020; The Economist, 2019). The post-GFC scenario was one of increased uncertainty. The World Uncertainty Index (WUI) increased by 100% between 2008 and the 2012 eurozone debt crisis (Ahir et al., 2022). Scepticism towards the benefits of globalization became increasingly relevant, with mounting calls for protectionist measures (Baldwin & Evenett, 2009).

The structural aspects that may have contributed to the slowdown include the shift to a new equilibrium, characterized by the integration of some emerging economies, primarily China (Constantinescu et al., 2020a), and the attainment of historically low tariffs making further liberalization relatively difficult (Baldwin, 2016). Moreover, the new technological advances, such as robotization and 3D printing, were not distinctly trade-enhancing (Antràs, 2020; Laplume et al., 2016; Seric & Winkler, 2020a).

Since the GFC, other events contributed to casting doubt on the possibility that trade and GVCs could rapidly return to their previous trend. With the eurozone debt crisis, followed by Brexit and by the US-China trade war, the World Uncertainty Index further increased by another 50 percentage points between 2012 and 2016, that is it went from 100 to 200 and then to 250 between 2008, 2012 and 2016 (Ahir et al., 2022). In 2020, with the outbreak of Covid-19, the world economy had been characterized by high levels of uncertainty for about a decade. The pandemic, thus, not only was of a very different nature relative to the GFC, but it was also very different in timing as the GFC hit the economy after decades of hyperglobalization, while Covid-19 arrived after a decade of slowbalization.

3 The Covid-Shock on Countries, Sectors and Firms

The impact of Covid-19 was unprecedented. In just two months since February 2020, world industrial production went down by 15% and world trade decreased by almost 17% (Giglioli et al., 2021, on CPB World Trade Monitor data). The economic activity of some sectors had to be almost completely halted to contain the spread of the virus. The sudden interruption of international supplies caused severe bottlenecks to GVC activity, also creating enormous organizational strain to transport, shipments and logistics (Frohm et al., 2021). Despite the strength of the shock, and although GVC disruptions are causing troubles still today at the time of writing (summer 2022), world production and trade demonstrated an incredible degree of resilience, with a very fast rebound back to pre-covid levels in just a few months. How GVCs were impacted, what was their role in the transmission of the shock, how they reacted, and whether and how they contributed to the rebound are crucial questions. In this section, we briefly review the main channels through which the covid-shock impacted GVCs by looking at countries, sectors and firms.

3.1 Country-Level GVC Participation and Resilience

Countries participate in GVCs with different intensity and modality. We can investigate whether GVC participation is in fact related to the intensity of the economic downturn suffered by economies. To this end, we need a measure of GVC participation and a measure of the covid-induced economic downturn. A standard measure of aggregate GVC participation can be obtained from multi-regional input-output tables (Koopman et al., 2014). By tracking how value-added produced in different locations contributes to gross exported values, we have a precise way to measure GVC-related trade as the value of goods and services that are processed in at least two countries (Borin & Mancini, 2019). GVC participation represents the intensity with which countries participate in global production and is measured by GVC-related trade as a share of

exports.[2] The second measure that we need regards the covid-induced economic downturn. Based on the idea that GDP growth forecast updates largely reflect the newly available information, and given that the Covid-19 outbreak was truly unexpected and exogenous, Giglioli et al. (2021) propose a simple way to proxy the covid-shock. In particular, they take the GDP growth forecast revisions by the IMF released in October 2019 (pre-covid), April 2020 (first wave of Covid-19) and October 2020 (second wave). Considering GVC participation and this measure of the covid-shock together is insightful (Fig. 10.1). During the first wave of

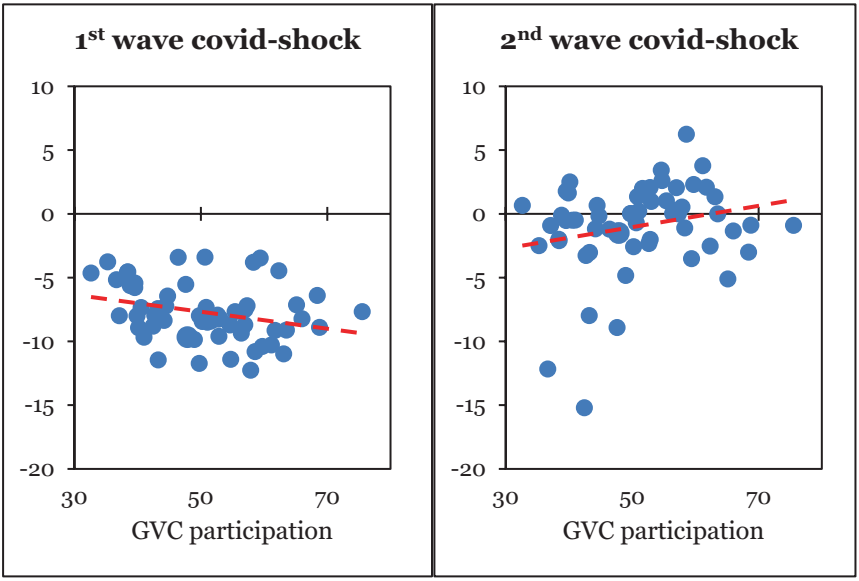

Fig. 10.1 GVC participation and the first- and second-wave covid-shocks. (Source: Giglioli et al. (2021) on ADB and WEO-IMF data. Note: the Covid-19 shock is measured as percentage of GDP. For the first wave, it is computed as the difference between the IMF 2020 GDP growth projections made in April 2020 and in October 2019. For the second wave, it is computed as the difference between the IMF 2020 GDP growth projections made in October 2020 and in April 2020. The correlation between the variables is 0.289 (p-value = 0.029) for the first wave and 0.228 (p-value = 0.087) for the second wave)

[2] It is worth recalling that the GVC participation, although normalized for each country's exports, also tends to be negatively correlated with GDP.

Covid-19, GDP growth forecasts were strongly revised downward across all countries. But, more importantly, there is a clear negative correlation between GDP growth forecast revisions and GVC participation: with the outbreak of Covid-19 and in the next few months, countries that were more integrated into GVC suffered more in terms of GDP. In other words, GVCs exposed countries to the covid-shock and acted as a transmission channel. During the second wave, however, the sign of the correlation flips: now higher GVC participation is associated with larger positive forecast revisions. That is, during the second wave of Covid-19, countries more integrated into GVCs were also more likely to recover from the initial downturn. This is even more apparent if we consider the difference between the two waves, that is the rebound from the initial covid-shock, in relation to GVC participation (Fig. 10.2). The clear positive correlation between the rebound and GVC participation is immediately suggestive of what we may call GVC resilience. Thus, the aggregate evidence shows that GVCs both (1) exposed countries to the covid-shock and acted as a transmission channel, and (2) contributed to resilience and recovery of economies. All these results also hold when using actual GDP growth rather than forecast updates.

3.2 Sectoral Heterogeneity

GVCs in different sectors present distinct characteristics. Covid-19 had differentiated effects on the various sectors in relation to the intensity of face-to-face interactions and other sectoral specificities. In discussing these impacts, as well as the impact on firms in the next subsection, we focus on Italy.[3] According to official statistics, the impact of the covid-shock on the Italian economy has been a GDP contraction of about 9%, a number aligned with the IMF growth forecast revisions

[3] A few recent studies provide suggestive evidence for this country (Ayadi et al., 2021; Di Stefano et al., 2021; Giglioli et al., 2021, 2022; Giovannetti et al., 2020). Italy is among the top world exporters, its GVC participation is relatively high and has increased over time reaching almost 50%. Moreover, Italy was the first western country to be hit by Covid-19 and the first to introduce stringent restrictions on mobility. The first Covid-19 case was registered on the 17th of February 2020, and by the end of March many activities had been restricted. Between March and April 2020, Italian exports dropped by 45.8% and imports by 32.2% (Giglioli et al., 2022).

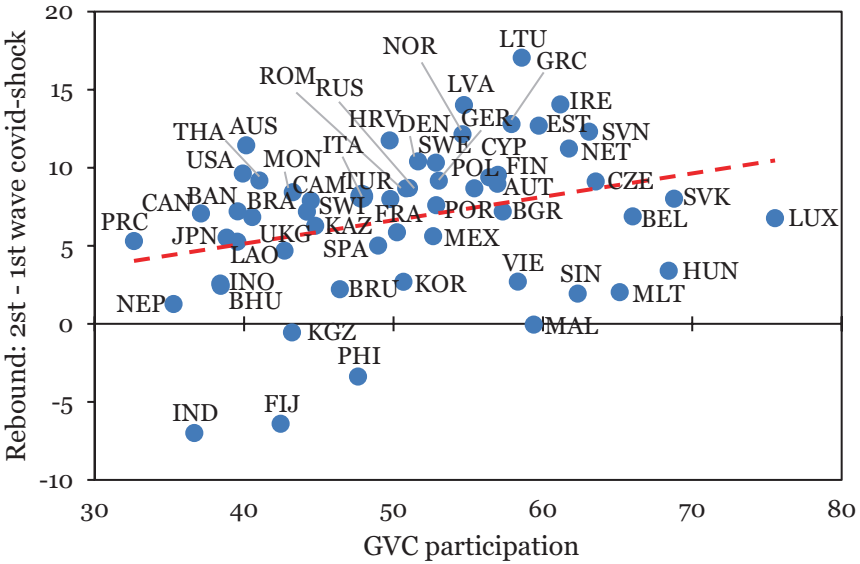

Fig. 10.2 The resilience of GVCs. (Source: Giglioli et al. (2021) on ADB and WEO-IMF data. Note: the rebound from covid-shock is measured as percentage of GDP. It is the difference between the second-wave and the first-wave shocks. For the first wave, the shock is computed as the difference between the IMF 2020 GDP growth projections made in April 2020 and in October 2019. For the second wave, it is the difference between the projections made in October 2020 and in April 2020. The correlation between the variables is 0.311 (p-value = 0.019). See the appendix for country codes)

reported in Fig. 10.1 (Istat, 2021b). The Bank of Italy's Business Outlook Survey of Industrial and Service Firms shows very clearly how firms operating in different sectors suffered very heterogeneous turnover decreases (Giovannetti et al., 2020). In Fig. 10.3, we see that large turnover reductions affected nine out of ten firms in face-to-face intensive service activities such as Hotels and Restaurants, but less than two out of ten firms in essential industries such as Food and Beverage. In general, differently than during the GFC, the covid-shock impacted the service sectors more severely than manufacturing; this is of course in part due to the fact that some services are more likely to rely on interpersonal interactions and some of them have been regarded as non-essential by policy measures. Other data sources confirm this sectoral evidence. For instance, data from

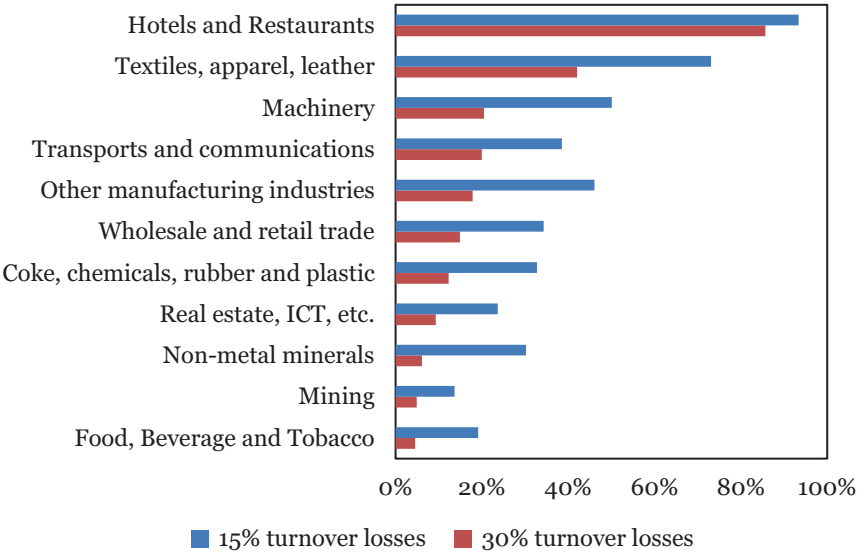

Fig. 10.3 Sectoral shares of Italian firms with turnover reductions above 15% and 30% in 2020. (Source: Giovannetti et al. (2020) on Bank of Italy's Business Outlook Survey of Industrial and Service Firms)

the World Bank Enterprise Surveys (WBES) on Italian firms provide a similar sectoral ranking by turnover reductions. In Hotels and Restaurants, turnover decreased by 88.8% on average (round 1 of the survey was conducted in June 2020), while it decreased by 40.8% in Food and Beverages (Giglioli et al., 2021). Thus, some sectors saw simultaneously enormous and very widespread turnover reductions, while in other sectors average reductions were relatively smaller (but still large in absolute size) with very large ones concentrated among a minority of firms.

Sectoral turnover reductions can be related to export intensity of firms or to GVC participation. From round 1 (June 2020) to round 2 (December 2020) of the surveys there is an increase in the correlation between sectoral turnover changes and either export as a share of turnover or sectoral GVC participation (Giglioli et al., 2021). In Fig. 10.4, we clearly see that, also at the sectoral level, GVC participation is positively correlated with turnover growth during the second phase of Covid-19. Again, this finding is suggestive of a certain degree of GVC resilience.

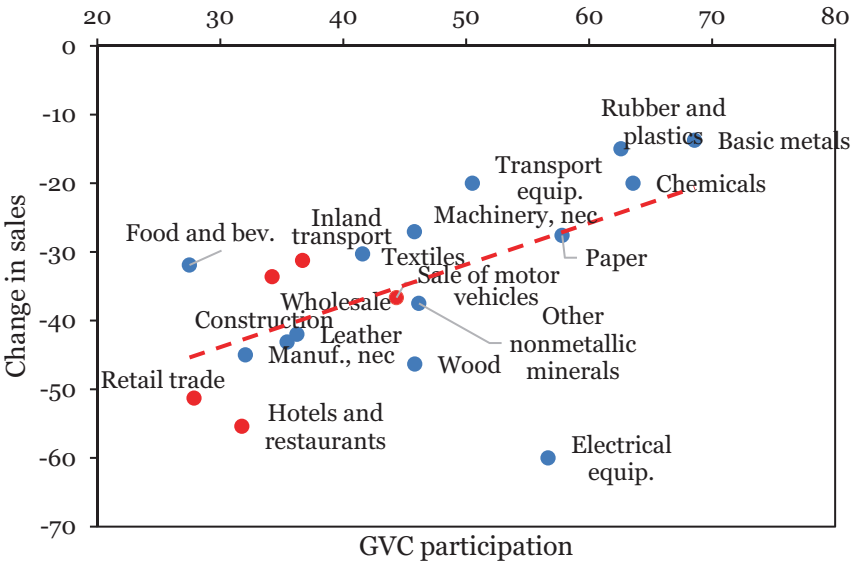

Fig. 10.4 Sectoral changes in sales and GVC participation in Italy during the second wave. (Source: Giglioli et al. (2021) on WBES and ADB)

The sectoral evidence adds elements of complexity to the analysis. Some sectors, mostly services, were hit more because of their intrinsic characteristics (i.e. higher face-to-face intensity and lower tradability). There is heterogeneity both in the intensive (size of turnover reductions) and in the extensive (how widespread across firms) margin; and GVCs likely played an active role both in transmitting the shock and in contributing to resilience.

3.3 Firms' Reactions and Reorganization of GVCs

Firms are heterogeneous even within narrowly defined product categories, with larger and more productive firms more likely to operate internationally (Melitz, 2003; Wagner, 2012). This heterogeneity may lead to apparently counterintuitive results. In fact, larger and more productive firms are not only more likely to be in a GVC, but they are also typically more innovative and more equipped to face negative shocks. Using the

WBES, in Fig. 10.5, we see that the likelihood of covid-induced closure (self-reported by surveyed firms) drops with the size of the firm. This evidence is confirmed also by other data sources (Istat, 2021a). Moreover, within each size category, except among large firms, internationalized firms are less likely to interrupt their activity because of Covid-19, even during the early phase of the pandemic.

Figure 10.6 reports the shares of firms with large turnover losses (i.e. above 30%, which, according to the Italian law DL "sostegni" n. 41/2021, was the threshold to be eligible for compensation) by type of internationalization for rounds 1 and 2 of the WBES. During the early phase of the pandemic (round 1), the intensity of internationalization does not appear closely related to the probability to suffer turnover reductions; that is, internationalization did not shield firms. Considering that more internationalized firms also tend to be larger and more productive (for Italy see, e.g., Agostino et al., 2019; Giovannetti et al., 2015; Giovannetti &

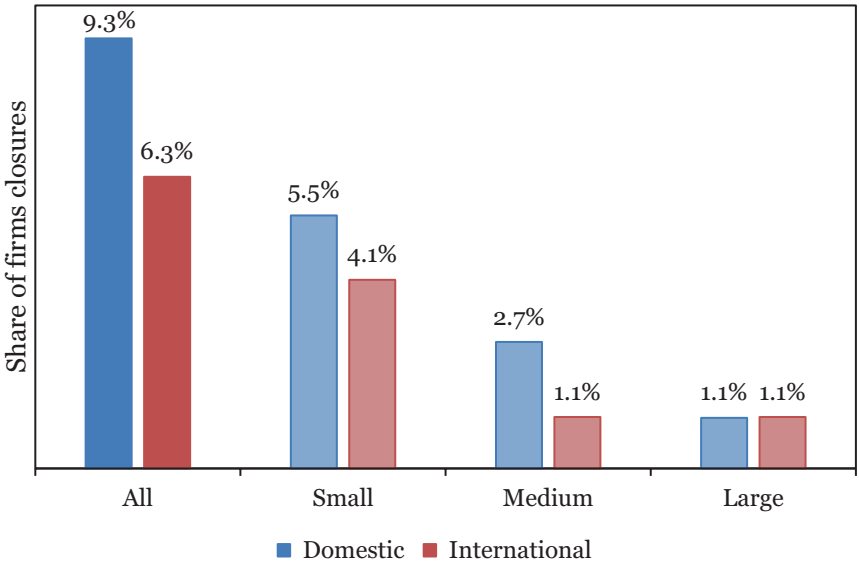

Fig. 10.5 Shares of covid-induced firm closures among Italian firms. (Source: Giglioli et al. (2021) on WBES (round 1)). Note: small: 5–19 employees; medium: 20–99; large: 100 and above. Internationalized firms are either exporters and/or importers

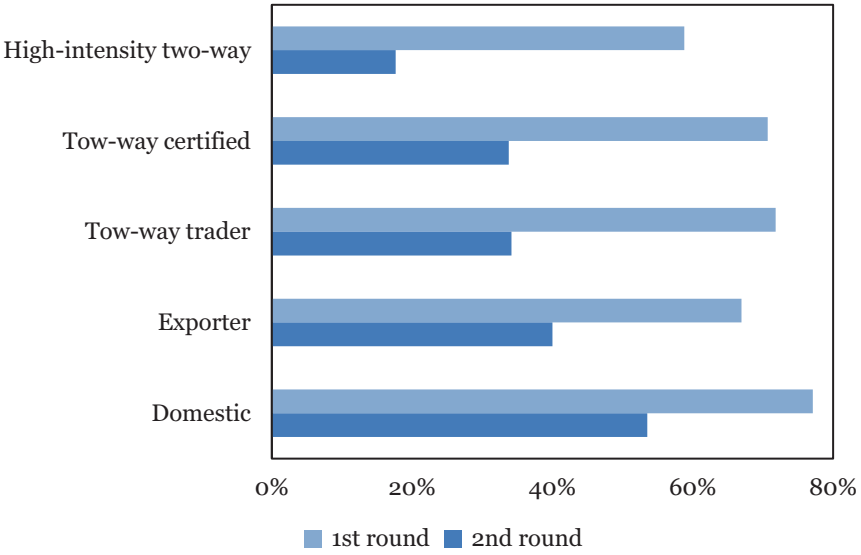

Fig. 10.6 Share of Italian firms with turnover reduction above 30%. (Source: Giovannetti and Marvasi (2022) on World Bank Enterprise Survey. Note: two-way traders are firms that both import and export. Two-way certified traders are those with an internationally recognized certification (e.g. ISO). High-intensity refers to firms that export more than 50% of their turnover and directly import more than 50% of their intermediate products)

Marvasi, 2018), the fact that they did not perform better in the first wave is consistent with GVCs having facilitated shock propagation at the firm level. As we have seen from the sectoral and country-level findings, however, the figure changes during the second phase of the pandemic. In fact, in round 2 of the WBES, there is a clear ranking by internationalization intensity: more deeply internationalized firms are much less likely to register large turnover reductions. Importantly, this evidence holds also controlling for sector and other firm characteristics (Giglioli et al., 2021; Giovannetti et al., 2020). Again, these findings point towards a GVC-specific role both in the initial transmission of the shock and in the resilience of firms. Being a purely domestic firm is found to actually have exposed firms to domestic shocks; furthermore, being disconnected from the international market also provided fewer options once the foreign economies started to recover. The micro-level evidence adds one crucial

element of complexity: the covid-shock through GVC participation is confounded by the fact that GVC firms not only are more exposed to foreign shocks, but are also on average larger, more productive and generally better equipped to face shocks.

The idea that internationalized firms managed to cope better with Covid-19 is further corroborated by several other statistics (Giglioli et al., 2021, 2022). For instance, they were less likely to resort to wage integration measures, especially in round 2 of the WBES. Moreover, internationalized firms were faster to adapt and make use of smart or remote working: by June 2020 (WBES round 1) only about 30% of domestic firms declared to have started or increased the use of remote working, while more than 80% of deeply internationalized firms (high-intensity two-way traders) had already made use of it. Similarly, in the early phase of the pandemic (WBES round 1), more internationalized firms were faster to resort to online activities such as e-commerce.

Importantly, the fact that GVC firms seem to have suffered less from the covid-shock overall does not imply that they were lightly impacted nor that they needed not to take action in order to revise their internationalization strategies. Faced with disruptions, firms may have had to close foreign plants, switch to alternative suppliers or repatriate some activities. With the outbreak of Covid-19, even media and policy makers became rapidly concerned with exposure to foreign shocks, and many started to advocate for reshoring or similar policies that could apparently reduce risks.[4] To this regard, the Bank of Italy's Business Outlook Survey of Industrial and Service Firms contains useful information.[5] Among Italian firms having production facilities abroad, more than 85% did not

[4] The term reshoring has been used with slightly different meanings in different contexts. Reshoring can be used in a strict sense to indicate the repatriation of foreign production activities (pure reshoring), or in a broad sense to indicate a general reorganization of international production including *backshoring* (moving production back home, i.e. pure reshoring), *nearshoring* (moving production closer to home) or *farshoring* (moving production farther from home). Moreover, the foreign activities involved may include owned subsidiaries or external suppliers. Recently, due to geopolitical tensions, the neologism *friendshoring* has been used to indicate the relocation of activities towards foreign countries with more stable geopolitical relationships with the home country.

[5] The survey answers have been collected by the Bank of Italy in the spring of 2021. The sample includes about 5000 industrial and service firms with 20 or more employees, and is representative of the Italian economy. For detail, see https://www.bancaditalia.it/pubblicazioni/indagine-imprese/index.html and https://www.bancaditalia.it/pubblicazioni/sondaggio-imprese/index.html.

close foreign plants in the last three years nor intend to do so (Fig. 10.7). Only 7% of multinationals actually closed foreign plants: 2.9% completely stopped foreign production, 2.6% reshored back to Italy and 1.5% moved to a different foreign location. That is, only very few multinationals chose to undo or drastically modify their internationalization patterns. In a recent paper, Di Stefano et al. (2021) investigate this evidence further, and rationalize it with a multi-period theoretical model showing that high sunk costs are likely to be a major factor in determining the high degree of hysteresis or "stickiness" of GVC activity, especially against temporary shocks (Antràs, 2020). Considering external foreign suppliers as opposed to owned subsidiaries—the former typically entailing lower (sunk) fix costs and investment, thus being a more flexible strategy than direct foreign production—corroborates the evidence above. Among Italian firms having foreign suppliers, 90% did not reduce their numbers nor intend to do so; and only 3.8% substituted foreign suppliers with domestic ones (Fig. 10.8). In line with the aggregate

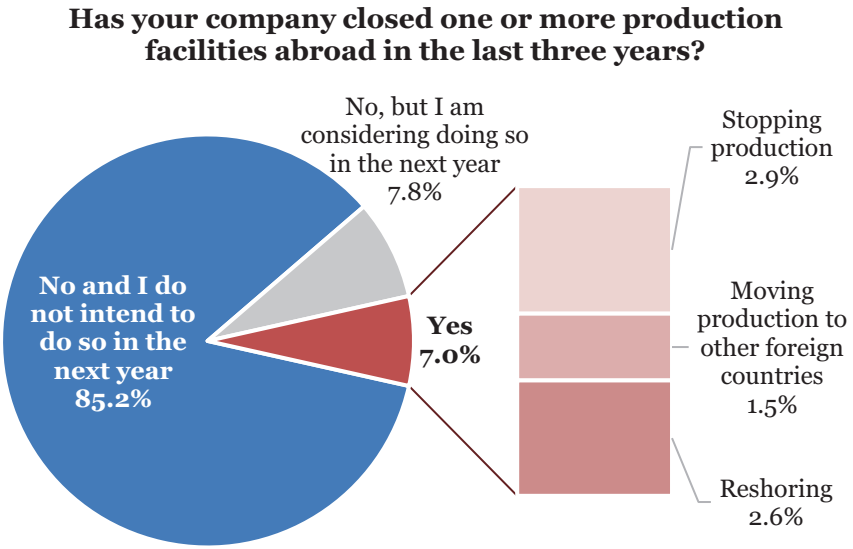

Fig. 10.7 Reshoring and plant closures among Italian multinationals. (Source: adapted from Giovannetti et al. (2020) on Bank of Italy's Business Outlook Survey of Industrial and Service Firms)

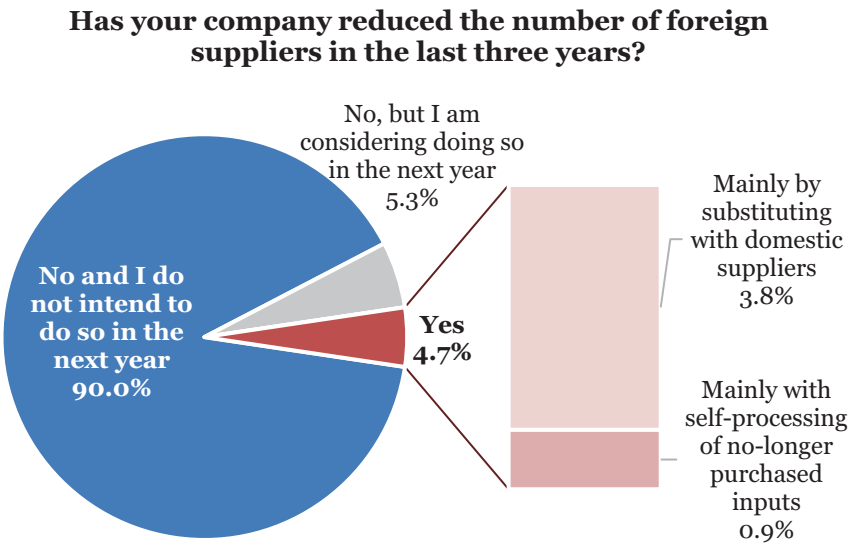

Fig. 10.8 Reorganization of foreign suppliers among Italian multinationals. (Source: Adapted from Giovannetti et al. (2020) on Bank of Italy's Business Outlook Survey of Industrial and Service Firms)

country and sectoral evidence, also from the firm-level perspective, GVCs show a high degree of robustness against shocks.

All in all, the available data suggest that GVC reconfigurations have not been massive, at least as an immediate reaction to Covid-19 alone. The covid-shock impacted and propagated along GVCs through several channels and in heterogeneous ways. GVC firms had to face bottlenecks, policy changes, unexpected shifts in demand and a high level of uncertainty while finding new ways to remain competitive. How GVCs will adapt to the new scenario and what challenges they will face in the future are open issues that we discuss in the next section.

4 Challenges in a Post-Covid World

After a decade of slowbalization and increased uncertainty, Covid-19 was a major disruption that exposed risks and fragility of certain GVC configurations. Firms were severely challenged in their internationalization strategies, and responses could not be limited to minor adjustments, but rather required new levels of awareness regarding the risks and new approaches towards international competitiveness. In this section, we discuss the challenges for GVCs in a post-covid world. The main issue regards the opportunity to change current GVC configurations, which in turn depend on what kind of fragilities emerged and how well GVCs handled disruptions. The pandemic made clear that the degree of exposure to foreign shocks of firms and countries was very high and could have negative impacts on economic activity. Whether it was in fact too high, what could be done to reduce it and at what cost are open issues.

4.1 Reducing Exposure

Diversification

Interconnectedness implies a certain degree of exposure to foreign shocks. However, the fragility of the entire system depends on the particular configuration of the network of bilateral relations (Acemoglu et al., 2012, 2016; Carvalho & Tahbaz-Salehi, 2019). With Covid-19, one crucial issue was the excessive reliance on and, thus, exposure towards specific suppliers and markets. China is the main example of this as, for instance, it provides about 25% of all the intermediate inputs used in high-tech exports of the US, Japan, Korea and Mexico (Javorcik, 2020). During the early phase of Covid-19, between February and June 2020, French firms more exposed to the lockdown in China experienced larger sale reductions (Lafrogne-Joussier et al., 2022). In the Mediterranean area, countries with lower country-sector GVC diversification were exposed to larger average GDP contraction by their supply and demand partners (Ayadi et al., 2021). Greater diversification of suppliers and markets would allow spreading the risk across many partners to balance out

specific idiosyncratic shocks (Unctad, 2020). Evidence from the impact of natural disasters shows the positive effects of diversification, and suggests that GVCs may in fact adjust in this direction: after the 2011 earthquake in Japan, the motor vehicle sector reacted by increasing diversification of suppliers (Matous & Todo, 2017). But diversification is costly as it entails a higher number of collaborations and larger coordination costs. The trade-off between exposure and diversification poses a challenge in terms of efficiency. Alternative suppliers may not be as productive or reliable, while having a few highly productive suppliers enhances economies of scale and lowers coordination costs. Firms, thus, have clear economic incentives to limit the number of suppliers. Furthermore, individual firms may have limited information on the risks, which tilts their perceived incentives towards excessive exposure.

Effective diversification requires two elements: first, substitutability between suppliers must be high; second, shocks must not be positively correlated. Substitutability allows to switch from one supplier to the other. This is much easier when inputs are standardized, while for highly complex and customized inputs it can be hard and very costly to find alternative suppliers (IMF, 2022). Moreover, substitutability may imply a redundant replication of activities. Replicating segments of the supply chain in different geographical regions (e.g. double sourcing) obviously leads to a duplication of (fix and sunk) costs as well as lower exploitation of scale economies, with clear efficiency costs (Unctad, 2020). Furthermore, even when some degree of duplication or redundancy is feasible, it might not be enough to reduce exposure if the duplicated activities or the alternative suppliers share similar economic conditions making their shocks positively correlated. In this situation, the costs of diversification are not matched by the gains in terms of risk reduction. Therefore, even if diversification is a possibility, it requires a complex evaluation of efficiency versus redundancy. This is a challenge that GVC firms will have to address.

Resilience and Robustness

Substitutability and redundancy both help reduce exposure but they have different implications on how they allow firms to respond to shocks. Substitutability allows to quickly respond, adapt and adjust when there is a shock. Redundancy allows to continue operations with only minimal adjustments and possibly no reconfiguration at all, since the alternatives are already there and ready to operate. Inventory stocks operate in a similar manner and, in fact, also played a similar role during the pandemic. Firms with low inventories were more sensitive to input supply disruptions and suffered more relative to firms that could count on large inventory stocks (IMF, 2022). Not surprisingly, the covid-shock did not propagate because of low diversification by itself, but because the type of diversification revealed insufficient in terms of either substitutability or redundancy or inventory stocks. Among French firms, in the early phases of the pandemic, the shock propagation has been found to be stronger among firms with low levels of inventory, while substitution away from China was limited even among diversified firms (Lafrogne-Joussier et al., 2022). This evidence points towards a low degree of immediate substitutability among GVC suppliers, which is consistent with the idea that customized inputs and a strong degree of input specificity make the propagation of idiosyncratic shocks through GVCs easier (Barrot & Sauvagnat, 2016). In more complex GVCs, redundancy and inventory stocks may thus be relatively more valuable, while in more standardized GVC substitutability could be more effective. These differences are embedded into the concepts of resilience and robustness used in the risk management literature. Resilience is the ability to quickly return to the normal level of operations after a disruption. Robustness is the capacity to maintain the level of operations throughout a crisis (Brandon-Jones et al., 2014; Miroudot, 2020a). Different types of GVCs are likely to present different combinations of resilience and robustness. International linkages characterized by large specific investment and sunk cost, and by low substitutability, tend to make GVCs more robust and less responsive to environmental changes (Antràs, 2020; Constantinescu et al., 2020b). However, as seen above, the general evidence on how gross world trade

and GVC-related trade reacted to the covid-shock shows that on aggregate GVCs have been incredibly resilient, collapsing in the early phase of the pandemics to quickly return to pre-pandemic levels within a few months. The challenge for GVCs is to find the right balance between resilience and robustness.

Regionalization

Regionalization aims at reducing exposure to geographically distant economies outside the home region. A more extreme way to reduce foreign exposure is through reshoring, that is by closing plants abroad and moving them back to the home economy or by shifting to domestic suppliers (Unctad, 2020). While the cost of regionalization primarily stems from the diminished productivity gains and learning possibilities as well as from the reduced possibility to exploit wage and production cost differentials between countries, the advantages include lower transport costs, easier coordination of GVC activities and possibly lower geopolitical uncertainty. Strongly regionalized GVCs imply less scope for diversification and substitutability between suppliers and markets either because the pool of potential partners is smaller or because shocks can be region specific, a possibility that seems more likely exactly when regions are more deeply integrated (Arriola et al., 2021). The costs of reshoring relative to regionalization extend to the complete loss of previously made specific investments and to the renunciation of any international spillover, while the additional benefits may include superior input quality and a "Made in" effect (Barbieri et al., 2020). With reshoring, the economy disconnects from foreign shock propagation through GVCs, while with regionalization foreign shocks can still be transmitted. One crucial difference is that while diversification is still possible under regionalization, reshoring provides protection from foreign shocks at the cost of increasing the already high exposure towards domestic shocks. This is because there exists a "home bias" in the sourcing of intermediates, so that in practice greater diversification is typically obtained by sourcing more inputs from abroad, not less. Worldwide firms largely source intermediate inputs in the home economy, up to 82% in western countries (Lan

et al., 2022). Sectors that were hit more severely by the covid-shock such as hospitality, finance and health care happen to also be those with the greatest room to diversify (IMF, 2022). Despite contributing to shock propagation, GVCs also provided diversification, reduced vulnerability and contributed to resilience when domestic production was disrupted (Eppinger et al., 2020; Espitia et al., 2022). In a world of reshoring where GVCs were renationalized, the GDP contraction would have been even larger than the observed one (Bonadio et al., 2020). Thus, while regionalization and reshoring might be possible ways to reconfigure GVCs, they are costly choices, and there is the danger of increasing risk exposure rather than reducing it. Hence, a strong reversal of globalization is probably unlikely and undesirable. Yet some degree of regionalization and reshoring may be an option especially under long-run structural changes in the economic environment towards more uncertainty, more restrictive trade policies, lower-wage differentials or diffusion of new less-trade-enhancing technologies such as 3D printing and robotization (Artuc et al., 2018, 2019; Dachs & Seric, 2019; Seric & Winkler, 2020b). Additive manufacturing and industry 4.0 technologies may reduce the benefits of locating in distant (low-cost) countries (Antràs, 2020; Laplume et al., 2016; Seric & Winkler, 2020a) and thus favour regionalization and reshoring (Castellani et al., 2022; Dachs et al., 2019; Gray et al., 2013; Hannibal & Knight, 2018).

4.2 Understanding the Nature of Shocks

Temporary and Permanent Shocks

Fix and sunk costs, and specific investments make GVCs sticky and less responsive to change (Antràs, 2020; Constantinescu et al., 2020b). History and past decisions matter and carry a weight onto current economic incentives. The incentive to undo previously made choices is low because the upfront costs have already been paid while changing the current patterns implies new additional investments. This makes the status quo relatively more appealing even against adverse shocks. Furthermore, in the presence of uncertainty firms may choose to postpone investment

decisions (Constantinescu et al., 2020b). Trade policy uncertainty has been shown to have reduced US investment by about 1.5% in 2018 (Caldara et al., 2020) and led Chinese firms to reduce investment and R&D expenditures, and make lower profits (Benguria et al., 2022). In evaluating the possibility to afford costly decisions that have an impact on future economic incentives, firms must carefully consider their time horizon. This implies that the nature and type of shocks are crucial. Temporary shocks can have long-lasting effects, but to trigger them they often need to be exceptionally large in magnitude. If the relevant time horizon is long enough (and if the discount factor is not so big that future payoff is nearly irrelevant), temporary shocks may even not produce significant impacts at all. On the contrary, permanent shocks do not have to be particularly large to yield long-run implications, and small permanent shocks might be enough to induce behavioural changes. Firms are more likely to change their internationalization strategy if they perceive a shock as permanent, for example a long-lasting policy shift (Antràs, 2020). Even the anticipation of a permanent shock may be enough as, for instance, "tariff scares", that is threats to raise tariffs in the future, can reduce trade even if they never actually materialize (Crowley et al., 2018). Whether the covid-shock per se was or was perceived as permanent by GVC firms, and whether it was large enough, is ultimately an empirical issue. The shock has been obviously severe and long-lasting enough to spur some permanent effects for at least some firms, but it is unclear whether it had permanent effects on GVCs as a whole, given the high degree of resilience observed in the data. Evidence on manufacturing trade and output of French firms suggests that the shock has been largely perceived as temporary, at least in the early months of the pandemic (Lafrogne-Joussier et al., 2022). The average US and UK firm perceived more downside risk at the beginning of the pandemic, but by 2021 the upside risk started to dominate, that is firms began to be more concerned about facing a strong rebound in sales rather than a strong contraction; at the same time, however, dispersion of the distribution of one-year-ahead own-sales growth rate forecasts increased, reflecting heterogeneity of exposure and perception, with some firms more concerned with downside risk and others with upside risks (Bunn et al., 2021). Similar evidence that on average the perceived downside risk increased dramatically

with the outbreak of Covid-19, but then the perception shifted towards upside risk, has been found among Italian firms as well (Fiori & Scoccianti, 2021). Because the impact and the response to temporary and permanent shocks can be very different, the challenge ahead for GVC firms is to understand what kind of scenario is more likely in a post-covid world.

Idiosyncratic and Systemic Shocks

The actions aimed at mitigating risks from temporary and permanent shocks largely regard individual firms and their own cost and benefit trade-offs. A different challenge, however, stems from the possible misalignment between individual incentives and systemic risk. Evaluating this issue requires a broader perspective. We stressed that diversification is not effective when shocks are positively correlated. Against exceptionally correlated shocks, or simultaneous ones or against a global shock, there is not much that individual firms can do. In this case, the issue is systemic and is hardly incorporated into individual incentives. Consider the case of many independent firms that unknowingly select and diversify across the same set of suppliers (e.g. the pool of suppliers might be limited) so that each supplier sells to all the buyers. From an individual perspective, this scenario is one of high diversification since buyers and suppliers are individually diversified. But this is not enough against systemic shocks, because, in this example, the network structure is such that a single shock to, say, one supplier impacts all the downstream buyers simultaneously. Moreover, if all the buyers try to substitute towards the same alternative supplier, it may be impossible to satisfy the demand spike, resulting in a big systemic disruption. While this is a very specific example, it illustrates well how firms' individual diversification can be ineffective when systemic factors are ignored. In the example, diversification is in fact effective against idiosyncratic disruptions of single buyer-supplier links, but not against disruptions of nodes (i.e. either buyers or suppliers with all their links). It is easy to imagine that with multiple tiers of suppliers, the complexity of the system and the information gap drastically increase. Automobile manufacturers have on average about 250 direct suppliers, but the number grows to 18,000 when indirect suppliers are included;

similar evidence applies to aerospace and technological companies (Baumgartner et al., 2020). In complex networks such as GVCs, disruptions can easily be magnified and there is a crucial difference between idiosyncratic and systemic shocks (Acemoglu et al., 2012, 2016; Barrot & Sauvagnat, 2016). GVC firms tend to be aware of idiosyncratic shocks that might affect specific sectors or single suppliers in given countries, and have a clear incentive to consider this information (Baldwin & Freeman, 2022). But individual firms ignore how all other firms are interconnected and cannot possibly internalize this systemic information; or they may lack the incentive to do so. The result is a misalignment between individual and social trade-offs, with asymmetric information causing firms to bear too much risk, a negative externality that increases exposure to systemic shocks. This is another challenge that GVCs will have to face in the years ahead. In this case, Governments may play a crucial role in closing the information gap and helping individual firms internalize systemic risk in order to make more strategic decisions (IMF, 2022).

5 Conclusion

This chapter provided an overview of GVC resilience during Covid-19 and discussed some of the challenges ahead. The future of globalization and GVCs remains unclear in a world increasingly characterized by volatility, uncertainty, complexity and ambiguity (VUCA) (Bennett & Lemoine, 2014; van Tulder et al., 2019). The Covid-19 pandemic did not halt globalization, but it hit the world in a slowing down phase and probably accelerated some existing trends. GVCs demonstrated an incredible level of resilience; and GVC firms, despite being exposed to foreign shocks and having been severely hit, also proved to be the best at mitigating risks (Sheffi, 2015). Recent evidence shows that firms did not undo their international production networks, and reshoring (either of own subsidiaries or of suppliers) was only chosen by a small minority of multinationals in the aftermath of Covid-19. Nonetheless, with the new geopolitical tensions brought about by the war in Ukraine, the possibility of a reinforcement of regional blocks does not look remote. Despite its

great impact, Covid-19 was largely perceived as temporary; on the contrary, trade policy changes, the surge of inflation and the last geopolitical developments are expected to have long-lasting effects which are very likely to induce firms to revise their internationalization strategies. Globalization is not going to end, but some reconfiguration of GVCs is underway. In the new type of globalization, security and resilience matter more than mere efficiency as businesses need to find reliable partners in countries linked by stable relationships. Firms and policy makers need to be aware of the situation and carefully evaluate costs and benefits. The idea that resilience can be obtained by increasing the reliance on domestic production does not find support in the facts. The academic literature and the available evidence show that policy proposals to reduce the dependence on foreign suppliers are probably misguided (Baldwin & Freeman, 2022; IMF, 2022; Miroudot, 2020b). Redundancy and larger inventories are possible strategies but also costly ones. Recent news report that the largest 3000 firms globally have increased inventories from 6% to 9% of world GDP since 2016; and there is wide use of dual sourcing and longer-term contracts (The Economist, 2022). Firms should primarily point towards solutions that enhance flexibility and agility in order to mitigate risks with minimal efficiency losses. This is more likely to be attained through collaboration, also at the international level, rather than in isolation (Scholten & Schilder, 2015). Toyota, for instance, used a combination of actions to increase resilience: standardization of components allowed shared inventories, enhancing flexibility across sites; new technologies were used to build an integrated database of suppliers and components; reliance on single locations was reduced through regional diversification; moreover, specialized single-source suppliers were asked to locally diversify production sites and to hold extra inventory (IMF, 2022).

Against this backdrop, while firms are reorganizing autonomously, governments and policy makers are looking for actions. Moves towards protectionism or reshoring, with no consideration for GVC complexity, are short-sighted as long-term policies. Where there seems to be more room for successful policy interventions is in creating the right environment for GVC firms to take actions towards diversification, flexibility and agility. Government regulation contributes to shaping the economic

incentives of individual firms. Through appropriate regulation, governments can help share information and take into account systemic factors that are hardly internalized by individual agents. Trade facilitation measures, eliminating red tape, or transparent certification procedures can contribute to reducing policy uncertainty and giving firms more viable options to diversify and reconfigure their network. Similarly, information sharing and regulation favouring actions to mitigate systemic risk that private agents would have little incentive to undertake, including on environmental issues, can be an additional source of resilience. The idea of "stress tests" in which companies need to show that their operations reach a minimum level of resilience goes in this direction (Miroudot, 2020b; Simchi-Levi & Simchi-Levi, 2020). Even more, these stress tests, or more generally policies aimed at increasing general GVC resilience, should go beyond firms and adopt a GVC perspective (Gereffi & Sturgeon, 2013). Implementing these policies is challenging because their success depends on policy makers having the right vision as well as on fruitful international cooperation. On the former, promoting dialogue with the private sector is important, and scholars from a range of disciplines can play a relevant role in informing the debate on GVCs (Kano et al., 2020). The current possibilities to increase international cooperation are instead uncertain, especially in multilateral environments. In the meanwhile, GVC firms need to prepare to face the new challenges in a post-covid world.

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