

9 De-globalisation, value chains and reshoring

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9.1 Introduction

This chapter aims to review the recent debate on de-globalisation and to present some preliminary evidence that reconsiders the value of a manufacturing activity in light of the current geopolitical turmoil and new technological availabilities (*The Economist*, 2009). This is somehow important as changes in the nature of markets and technology can significantly impact on firms' location decisions in relation to manufacturing activities (Chidlow et al., 2009; Chidlow et al., 2015; Li and Bathelt, 2018; Mudambi et al., 2018). More specifically, such location decisions can relate to the adaptation of a reshoring strategy, which involves bringing manufacturing production (or part of it) back from abroad.

Since the 1970s, the intensification of exchanges in trade, capital and knowledge has fostered the inter-connectedness of economies on a global scale. Pushed by a neoliberal rationale, Western companies started expanding part of their business functions, *in primis* production and manufacturing, beyond their national borders. This was operationalised in two ways: either by relocating production facilities to a foreign location (in-house offshoring); or by outsourcing some functions to foreign suppliers (outsourcing offshoring). These strategies required production and manufacturing processes to be sliced up into smaller segments and to be coordinated by the lead firm (Jabbour, 2012; Timmer et al., 2014). In the 1990s, the global value chains (GVCs) framework was used to describe the increasing adoption of this fragmented production model by MNEs (Benito et al., 2019; Gereffi and Korzeniewicz, 1994). Since then, the GVC framework has been widely adopted by international organisations such as the Organisation for Economic Co-operation and Development (OECD), the World Trade Organization (WTO) and the United Nations Conference on Trade and Development (UNCTAD) to monitor the impact of this global organisation of production on host (and less so on home) economies, as well as on trends in globalisation and international trade. Many studies have looked at how countries were involved in GVCs through backward and forward linkages¹ and the impact of this involvement on their socio-economic development (Baldwin, 2016; Los et al., 2015; Timmer et al., 2014; Wang et al., 2017). In

hindsight, the end of the 1990s and the beginning of the 2000s marked a time when globalisation and pro-globalisation forces peaked.

The global organisation of production in GVCs started to be challenged by the Global Financial Crisis (GFC) in 2008/2009 and following the collapse of the so-called Washington Consensus (Gereffi, 2014). The GFC brought to the fore not only the cost of having economies inter-linked and therefore at risk of shocks initiated elsewhere, but more crucially, it also highlighted the socio-economic cost of offshoring on home economies. The outcome has been a more critical approach to globalisation as businesses have also started to weigh the costs and benefits of coordinating worldwide production processes with changing markets and emerging new technologies. The current reconfiguration of GVCs is also led by geopolitical and trade forces, which this chapter only tangentially touches upon.

9.2 The world got smaller

The concept of modern globalisation is very recent. It was first introduced by the seminal work of Levitt (1983) for describing the novel phenomenon on the globalisation of markets. Since then, a large literature has flourished to try to define the concept and to identify key actors, drivers and operations, as well as discussing its benefits and costs and for whom.² The globalisation of markets was only the tip of the iceberg; however, the comfort of operating in a mature technological paradigm meant more aggressive price competition in domestic and international markets, forcing firms to seek cost reduction in production. At the same time, faster transport and easier communications really made the world a smaller place. In this context, multi-national enterprises (hereafter MNEs) saw the opportunity to extend their reach to markets that were global but fundamentally homogeneous, giving them scope to benefit from significant economies of scale (Baldwin, 2016).

Technology and the nature of competition constantly change the way in which the economy organises production and especially in the manufacturing sectors. The organisation of production had already moved away from the vertically integrated Fordist model (Chandler, 1962) to a stage-specialised and vertically dis-integrated flexible specialisation model from the 1960s onwards (Piore and Sabel, 1986). Networks of buyers and sellers replaced the factory model, as large firms became core buyers coordinating such networks (Saxenian, 1990). More generally, smaller and more specialised firms became parts of flexible and ever adjustable networks of buyers and suppliers located geographically closer to each other, thereby fostering agglomeration and external economies (Becattini, 1990 and Becattini et al., 2014; Porter, 1996), as well as flexibility, specialisation and innovativeness. These local production systems responded to a volatile and sophisticated demand eager for differentiated, innovative and fast-changing products. The introduction of new technologies such as electronics and mechatronics (with the transistor and microprocessor), as well as easily accessible telecommunications and computers since the 1960s allowed this reorganisation

of production. The technological changes described above are often referred to as being part of the Third Industrial Revolution (see Chapter 1 in this volume).

Production processes that were already disintegrated and parcelled underwent another radical reorganisation from the 1980s onwards. Globalisation kicked in and firms, especially large buyers seeking cost efficiency to compete in global markets, started to move labour-intensive functions to lower labour-cost countries in Asia and China in particular. Indeed, this could not have taken place without the concomitant opening of China and Asia to the global economy as an attractive location to produce to export. The location decision choice of MNEs in relation to different portions of the supply chain created worldwide and complex global value chains (, Dicken, 2015; Feenstra, 1998; Gereffi, 1999; Krugman et al., 1995). Indeed, each stage of the production process was associated with varying degrees of value creation to which different costs were apportioned. Low and high-value added functions were geographically separated and for the first time the production process was unbundled (Baldwin, 2016), i.e. geographically dispersed contributing to an international fragmentation of production. Indeed, low-value-added functions were located in developing and emerging economies to benefit from raw materials or lower labour costs. In contrast, high-value-added functions (high-end design, R&D and product development) largely remained anchored in high-cost and high knowledge-intensive locations (Mudambi, 2007).

For decades, the operations of global value chains through ‘offshoring’ and foreign direct investment have redesigned the architecture of manufacturing activities worldwide. This created a thick web of exchanges between the East and West and transformed the economic and social profile of places, reshaping their identities (Mudambi, 2008; Mudambi and Venzin, 2010; Storper and Scott, 1995). There has always been a strand in the international business literature suspicious of the uneven distribution of the benefits of globalisation (Bailey et al., 2010; Chomsky, 2016), but their arguments were sidelined by an overwhelming enthusiasm for and obsession with globalisation (by hyper-globalists). This zeal for globalisation came to an end in 2008 with the GFC.

9.3 The de-globalisation debate

Economies and societies face unprecedented changes every time a worldwide economic and political shock occurs. Recently, the 2008 GFC profoundly disturbed the status quo of advanced economies and their societies: firstly, it was followed by a deep and somewhat long economic recession across Europe and the US which left firms uncertain about accessing finance and therefore investments (Gereffi and Luo, 2014); secondly, austerity and unemployment led to the emergence of populist movements in Western countries, and, in the EU, to a resentment towards European tight fiscal policies (Rodrik, 2018a); finally, protectionist policies and a reduction of outward investment from advanced countries – especially to developing countries – has stalled globalisation as it was perceived before.

In addition to these three aspects, there is one more whose importance has increased recently: technological change. There is a wave of new technologies that is emerging and the expectation is that they will change production models, the nature of sectors, markets and the terms of trade (Galvin et al., 2018). Some large firms and MNEs have been first-movers and actually driving the whole narrative on digitalisation and automation, together with innovative micro-firms in these frontier technologies at the other end of the spectrum. The more substantial impact on the form of supply chains is still to come. There is evidence that MNEs are reorienting their internationalisation strategies by changing the parameters of their production location choices.

The fallout from the GFC and the emergence of new technologies has had the unexpected consequence of stalling globalisation as firms have reassessed the true benefits of internationalisation. As GVCs appear to be shrinking and international investments fall, the world seems to be becoming a smaller place (Baldwin, 2016). Indeed, in the last decade the aggressive pro-globalisation narrative has been replaced by a more pragmatic and balanced view which has exposed the weaknesses and the risks inherent in globalisation and global value chains (Bailey and De Propriis, 2014a), leading to a long-overdue and more open debate on the heterogeneous effects of globalisation across places, industries, communities and people.

Policy makers and leading scholars have started to shift their attention from the benefits that globalisation delivered to MNEs in the form of offshoring large parts of their value chains, to the costs entire communities were left to pay economically and socially in hollowed-out home regions (Bailey and Turok, 2016). Indeed, a first consequence of globalisation was the relocation of labour-intensive manufacturing operations away from historical industrial regions in the US and Europe (and especially the UK), causing deep unemployment and contributing to increasing levels of inequality in advanced societies (Davis, 2013; Davis and Cobb, 2010). A second and more systemic concern with manufacturing hollowing-out was that it weakened the ability in the European and US economies to promptly respond to external shocks, such as the 2008 GFC. The demise of manufacturing activities resulted in a loss of skills, competences and tacit knowledge across a sufficiently diversified suite of sectors, reducing economic diversity and eroding systemic economic resilience. Such *malaise* led to a revived interest around manufacturing and what forms of manufacturing could be relocated in countries such as the US or the UK to 'rebalance' their economies (Ancarani et al., 2015; Bayley and De Propriis, 2014b; Gray et al., 2013; Kinkel, 2014; Tate et al., 2014). Opportunities for repopulating manufacturing industries were explored by the EU Commission (EU Commission, 2014) and by the Obama administration (White House Administration, 2012).

This renewed interest in manufacturing initiated a reflection on what manufacturing really meant in the 2010s. The outcome of the relationship between technological changes and sustainability concerns flourished in a new competitive context. A fast-moving debate on an emerging new manufacturing

model shaped by a range of new technologies (considered as part of the Fourth Industrial Revolution) triggered a process of profound production reorganisation which could also result in a reconfiguration of global value chains. The OECD suggests that the Fourth Industrial Revolution has the potential to restore the competitiveness of advanced economies (OECD, 2017). The ambition and vision by policy makers to strengthen the presence of manufacturing across EU regions or US states was received positively by businesses, which were themselves sensing a change in the wind. The running ‘offshoring train’ that lots of firms had jumped on now started to slow down.

This offshoring slowdown spurred a rethink of businesses’ strategies towards more regional and arm’s-length controlled operations (Bailey and De Propriis, 2014b). This trend was also recorded by macro-economic indicators such as foreign direct investment (FDI) (see Section 9.3 for more details). Firms are not the only actors playing a role in reducing the intensity of globalisation; society as a whole is involved. Protests on climate change, air pollution, gas emissions, but also movements for better labour conditions in developing countries, are leading the phenomenon of de-globalisation. Society as a whole is becoming more interested in issues relating to the Sustainable Development Goals (SDGs) and following a path that diverges from the neoliberalism position which was dominant for more than three decades (Lawrence and Almas, 2018).

9.4 The reorganisation of global production

As social dynamics are changing, so too is the global production system. The role of technology is of primary importance in this transformation. At the 2019 World Economic Forum, economists and policy makers discussed issues relating to the theme of ‘Globalisation 4.0: Shaping a New Architecture in the Age of the Fourth Industrial Revolution’ (Schwab, 2018). Industry 4.0 and its technological development profoundly shape sectors such as health, mobility, services, finance and manufacturing. Especially in manufacturing, Industry 4.0 triggers changes in shortening the process of product development, and the identification of new markets, flexibility, organisational hierarchy and efficiency (Lasi et al., 2014). Heavy investments in technological development by advanced economies paid off in terms of offering new solutions in the realm of robotics and AI together with other digital technologies such as cloud computing, big data and the sharing economy. This wave of technological change is often referred to as the Fourth Industrial Revolution (Lasi et al., 2014).

This revolution started in the early 2010s and its exponential growth is influencing actors across society. The production process paradigm in particular is shifting from mass-production to mass-customised production as new production technologies open up the opportunity to reduce the impact of labour cost on the overall production costs (Brettel et al., 2014; Rodrik, 2018). In so doing, the decision to locate low-value and high-labour content tasks in low labour cost countries might no longer be a mainstream value chain strategy.

New technologies to engage in the production process are not the only factors which influence the boundaries of a global production process (Schotter et al., 2017; Strange and Zucchella, 2017); other factors can play a role as well. Firstly, developing countries are still competitive in term of labour wages, but the gap with advanced countries is narrowing and eroding the short-term cost benefit of locating a business function there (Tate et al., 2014). Secondly, China – once the factory of the world – is heavily investing in the high-technology (AI and robots) and infrastructure sectors (the One Belt One Road Initiative) to support and foster its internal economic and demographic growth (Swaine, 2015). In the 2000s, its goal was hosting different types of manufacturing sectors by offering investment incentives and tax reduction. In the 2020s, its focus is to become a leader in green and sustainable technology (Ju and Yu, 2018). Thirdly, rising South-South trade and consumption in the Global South will prompt a reorganisation of GVCs (Horner and Nadvi, 2018). Finally, there are political uncertainties pervading Western economies, such as a weak EU and the the US-China trade war (Inglhart and Norris, 2016). These exogenous factors of a macro-political scale have an important effect on the organisation of manufacturing processes in MNEs and small and medium-sized enterprises (SMEs).

Some of the tangible examples of this fragile and kaleidoscopic scenario are Brexit, steel tariffs in the US and the reorganisation of the automotive supply chain in Germany and the wider European automotive industry. The first effect could lead towards an increase in supply chain complexity, and transportation and logistics costs in the near future in the UK (*Financial Times*, 2018a, 2018b). The second effect is the possibility of bringing back production from abroad inside US borders or establishing a closer relationship with domestic or Mexican suppliers (*The Economist*, 2018). The third example concerns losing ground in the automotive industry, as electric cars start to gain momentum and the German (and European) automotive business model is highly oriented towards petrol and diesel cars (Bormann et al., 2018).

From this brief list of tangible examples, new opportunities are arising, and among these, there is a chance that advanced economies might host again manufacturing activities, which are becoming increasingly higher value added, albeit less labour intensive. (Vanchan et al., 2018). Manufacturing functions are becoming higher in value than before, as they are no longer the mere assembly part of the value chain, but part of an integrated process that feed from innovation and meet consumers' need with reduced lead-time. This requires access to a highly skilled labour force and technological capabilities which advanced economies have. This is what in part is driving the current de-globalisation wave.

Having recognised that de-globalisation is a broader social movement created by a discontent with globalisation, this chapter continues to explore de-globalisation with some data at the macro-level before introducing the concept of manufacturing reshoring.

9.5 Some evidence of de-globalisation

In this section we piece together evidence on de-globalisation by looking at three trends: 1) recent trends in FDI³ in terms of volume, geography, sector and operations; 2) the current reorganisation of GVC into shorter and more compact value chains; and 3) current firms' strategies to reshore production functions back to the home economy. We will discuss each of these in turn.

9.5.1 FDI trends

In the last few years, outward and inward global FDI has stagnated partly due to a contraction in the *volume of outward FDI* from advanced economies and inward FDI to developing economies. Figures 9.1a and 9.1b below show that inward and outward global FDI peaked in 2007, before dropping dramatically afterwards in 2008–2009, especially from advanced economies, and has not recovered to pre-crisis levels (for more evidence, see UNCTAD, 2018, Figure 9.5, p. 10). The lack of growth in FDI return on investment (ROI) in developing and transition economies in the period 2016–2017 and the rise of investments in asset-light forms of production suggest that an international production reorganisation is under way, especially in terms of a regionalisation of FDI (UNCTAD, 2017, 2018).

There is also evidence of a *changing geography of FDI*. Looking at regional levels of FDI in the period 2016–2017, inward FDI fell by 69% in Europe and 65% in North America, contributing to a total drop in inward FDI of 59% in 2017 with respect to the previous year in advanced economies. In the same period, there was no variation in inward FDIs into developing economies, as East and South Asia recorded a slight increase of 2%, while a negative figure was registered for West Asia and Africa of 21% and 27% respectively. Latin America and the Caribbean performed well by attracting 8% more FDI in 2017 than in the previous year (Figure 9.2). Equally, outward FDI fell by \$800 billion, reaching \$1 trillion in 2017 (\$1.8 trillion in 2007). Outward FDI from advanced economies – despite a recovery in 2015 – in 2017 was still well below the pre-crisis level in 2007, especially in terms of European and US FDI. Overall these two trends negatively impacted on the global picture, as FDI from other parts of the world is not compensating in value (see Figure 9.3).

The changing geography of FDIs seems to occur at the same time as a shift in the sectors and modes of entry. By distinguishing FDI according to sector destination, Table 9.1 shows that overall, there has been an increase in Announced Greenfield FDIs in the manufacturing sector in 2017. Sector data show that advanced countries invested much less abroad in particular in the primary (raw materials), energy and services sectors. However, it is noticeable that advanced countries were the favourite destination for more FDI in manufacturing sectors (with a 34% increase); chemicals and chemical products, electrical and electronic equipment, and motor vehicles sectors are leading the trend in this regard. The bottom part of Table 9.1 shows data on the destinations

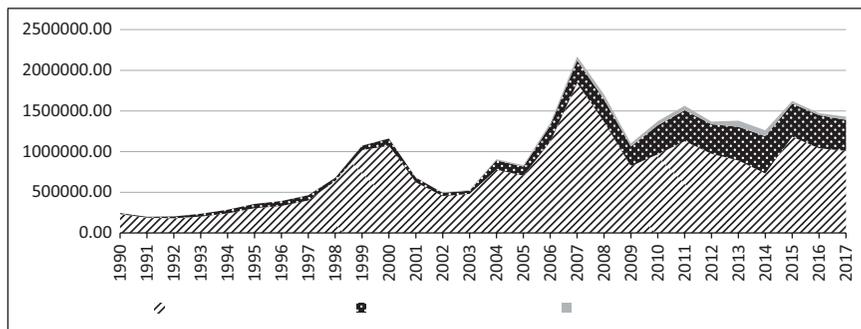


Figure 9.1a FDI outflows, 1990–2017.

Source: Authors' elaboration, based on UNCTAD (2018).

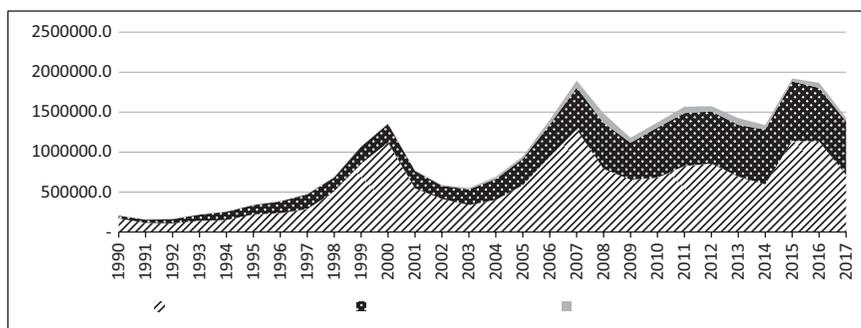


Figure 9.1b FDI inflows, 1990–2017.

Source: Authors' elaboration, based on UNCTAD (2018).

of greenfield FDI by macro-regions. Here we see more clearly that advanced countries have invested less in East and South Asia, South Asia and West Asia. Closer to home for the EU, FDI in transition economies in Eastern Europe has also dropped substantially. According to the data, advanced countries invested more in other advanced countries (i.e. US and Europe), with an increase of up to 32%. In other words, advanced countries are intensifying investments in other advanced countries and are reducing those in developing countries; this conforms with the view that de-globalisation is ongoing.

If we take a longer time horizon and look at the percentage of greenfield announcements between 2007 and 2017, both in value and number, we again find evidence of the changing patterns of FDI in support of a de-globalisation trend. By taking 2007 as a base year, Figure 9.4 shows that both the value and number of FDI projects to advanced economies increased, whilst those to

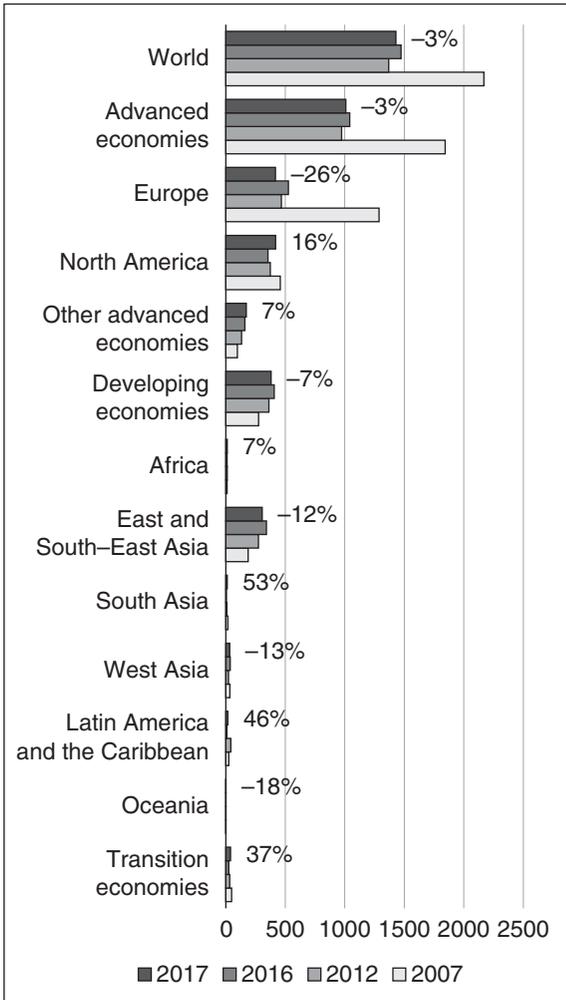


Figure 9.2 FDI outflows, by region and selected years (% variation 2016–2017).

Source: Authors’ elaboration based on UNCTAD data (2018).

developing economies fell. In particular, the value of investments to advanced economies rose from 37% to 44%, while it fell from 55% to 51% to developing economies. However, it should be noted that in 2017, still half of the value of FDI was destined to developing economies. In terms of numbers, we observe similar patterns, but in 2017 a growing number of FDI projects were actually destined to advanced economies (58% of the total).

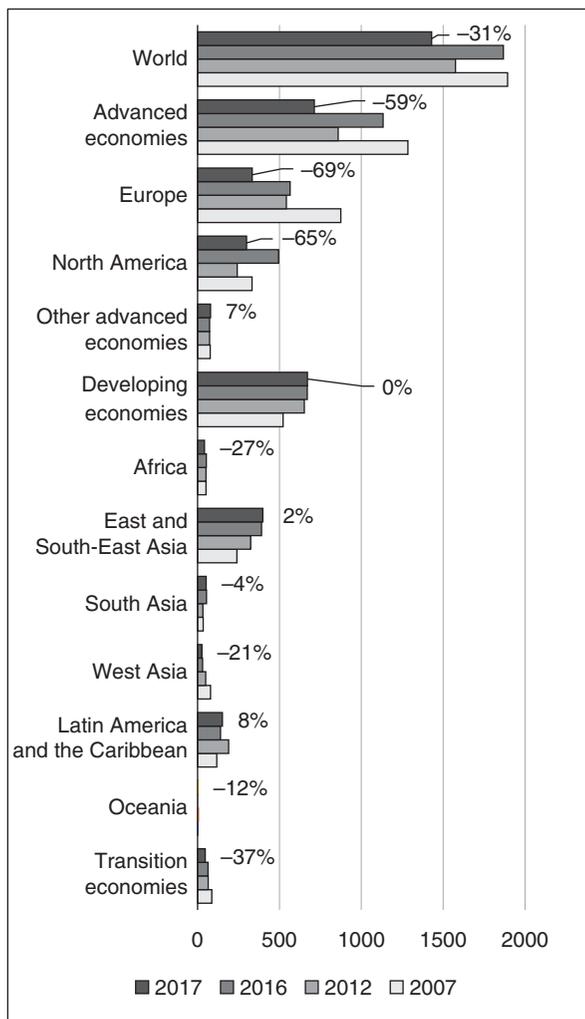


Figure 9.3 FDI inflows, by region and selected years, (% variation 2016–2017).

Source: Authors' elaboration with 2018 UNCTAD data.

Overall, the FDI data show that investment by advanced economies in Asia has contracted, whilst FDI flows within advanced economies have increased. The latter has involved in particular manufacturing sectors and some service sectors such as business services. This trend seems to suggest a change in the motives and destinations of foreign investments by MNEs from advanced economies.

Table 9.1 Announced greenfield FDI, 2016–2017

	<i>Advanced countries as destination</i>			<i>Advanced countries as investor</i>		
	<i>2016</i>	<i>2017</i>	<i>Var%</i>	<i>2016</i>	<i>2017</i>	<i>Var%</i>
<i>Part I</i>						
Total	254,187	318,406	20%	501,218	478,359	-5%
Primary	2,446	3,996	39%	47,371	18,415	-157%
Manufacturing	99,300	151,314	34%	197,404	212,357	7%
Textiles, clothing and leather	18,162	16,127	-13%	22,617	20,643	-10%
Chemicals and chemical products	12,813	32,060	60%	30,361	34,738	13%
Electrical and electronic equipment	8,161	21,669	62%	18,574	21,746	15%
Motor vehicles and other transport equipment	21,586	31,817	32%	44,561	47,555	6%
Services	152,441	163,096	7%	256,443	247,587	-4%
Electricity, gas and water	32,287	23,404	-38%	67,613	42,330	-60%
Construction	30,314	26,292	-15%	35,371	35,475	0%
Trade	15,823	20,967	25%	21,622	27,860	22%
Transport, storage and communication	15,498	12,954	-20%	31,220	32,356	4%
Business services	44,096	54,650	19%	65,390	68,721	5%
<i>Part II</i>						
<i>Announced greenfield FDI projects by macro-region, 2016–2017 (millions of dollars)</i>						
	<i>2016</i>	<i>2017</i>	<i>Var%</i>	<i>2016</i>	<i>2017</i>	<i>Var%</i>
World	254,187	318,406	20%	501,218	478,359	-5%
Advanced economies	204,031	255,003	20%	204,031	255,003	20%
Europe	127,061	150,934	16%	131,859	160,778	18%
North America	55,627	72,810	24%	54,370	70,537	23%
Other advanced countries	21,343	31,259	32%	17,802	23,687	25%
Developing economies	49,460	61,985	20%	242,827	204,501	-19%
Africa	1,411	1,961	28%	19,945	32,398	38%
East and South Asia	36,604	35,810	-2%	94,060	76,881	-22%
South Asia	6,759	5,986	-13%	46,873	23,479	-100%
West Asia	2,887	15,655	82%	23,159	13,579	-71%
Latin America and the Caribbean	1,799	2,572	30%	58,653	57,781	-2%
Transition economies	696	1,418	51%	54,360	18,855	-188%

Source: Authors' elaboration, based on UNCTAD (2018).

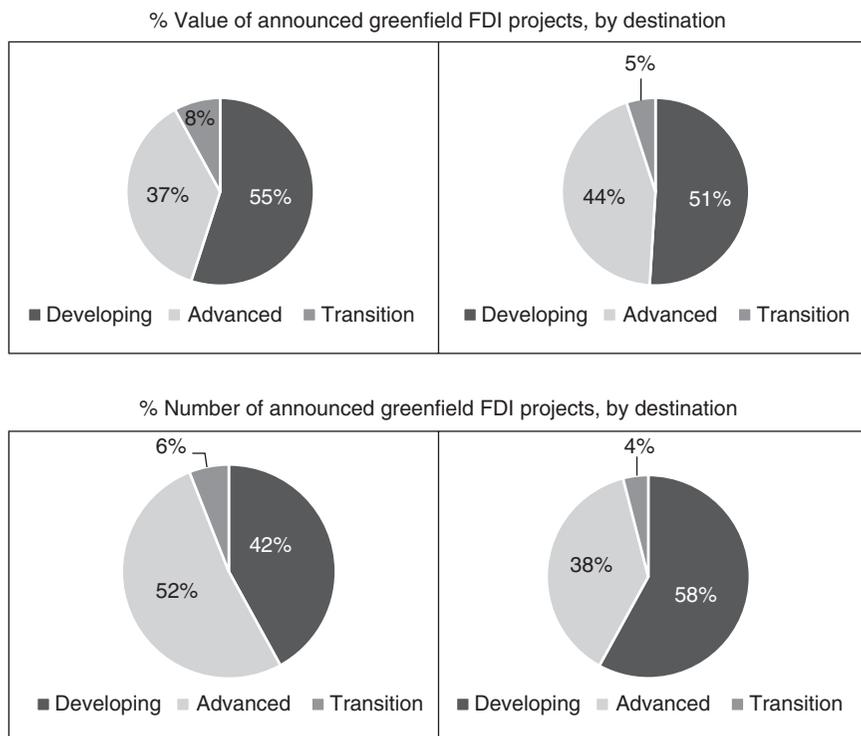


Figure 9.4 Number and value of greenfield FDIs, 2007 and 2017.

Source: Authors' elaboration, UNCTAD data (2018).

In parallel to the slowdown of worldwide FDIs flows, *geopolitical turmoil* also seems to weave a narrative around protectionism, trade wars and national interest. For long loud advocates of the free market, the US has recently embarked on a journey to curtail its trade in an effort to protect domestic jobs (White House, 2017).

According to UNTACD (2018), political factors and the emergence of strategic technologies will shape future FDI flows. Indeed, early moves by some political leaders in advanced economies to scrutinise FDI more closely can be seen as emerging signs of policy makers aiming to screen or block inward investment on public order and national security grounds. For example, the US Department of the Treasury introduced 'temporary regulations to protect critical American technology and intellectual property from potentially harmful foreign acquisitions' (US Treasury, 2018). Equally, tax reforms in the US that reward the repatriation of accumulated profits by American MNEs are aimed at cutting FDI outflows. In the EU, the International Trade Committee (INTA) proposed a harmonisation of FDI screening between Member States in order

to cooperate over security and public order issues against emerging FDI inflows (EU Parliament, 2018).

Geopolitics and governments' concern with controlling emerging technologies are influencing the degree of openness to foreign investment and therefore countries' links in the GVC. Geopolitics is diffusing a sense of mistrust and uncertainty towards the motives of FDI, whereas protecting strategic technology explains countries' wariness to share knowledge and innovation. This seems to be less the case for exchanges within macro-regions such as Asia and Europe, suggesting a trend towards a regionalisation of investment activities.

9.5.2 Shorter and more compact value chains

FDI is not the only economic measure we can consider. Trade data gives us further insights on global economic trends and on the state of global production fragmentation, and hence on GVCs (Frederick, 2014).

The latest data (UNCTAD, 2017, 2018) provides significant evidence that EU GVCs are strongly integrated intra-EU; in particular, European GVCs in manufacturing are less integrated globally than expected: they have lower foreign sourcing percentage of intermediates (i.e. backward participation) and limited use of EU intermediates in exporting to non-EU countries (UNCTAD, 2018, p. 23). This is the culmination of trends that, since 2012, have seen EU firms sourcing more from within the EU, at the expense of extra-EU sourcing (see Figure 9.5). By extension, intra-regional exports of intermediate goods have risen within the EU and have dropped from outside the EU (see Figure 9.6).

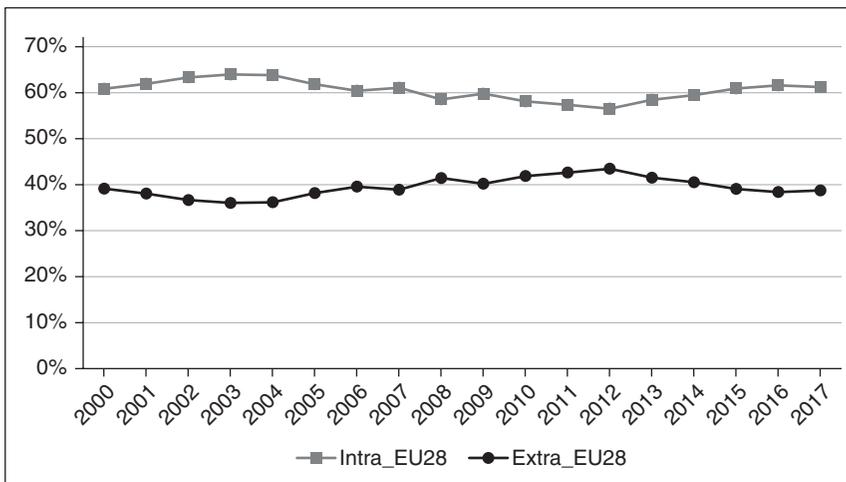


Figure 9.5 EU-28 intra-regional trade import in intermediate goods, 2000–2017 (% in regional total).

Source: Authors' elaboration with EUROSTAT data.

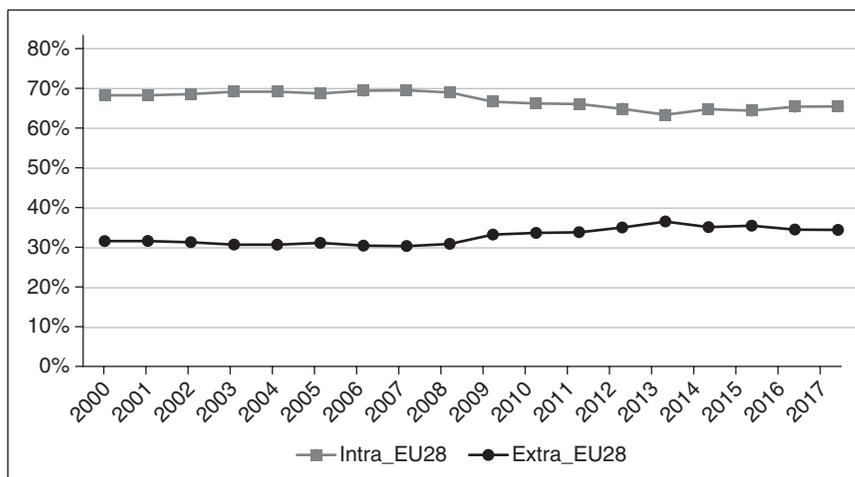


Figure 9.6 EU-28 intra-regional trade export in intermediate goods, 2000–2017 (% regional total).

Source: Authors' elaboration with EUROSTAT data.

Overall, the EU-28 presents a lower GVC participation rate (at 30%) than other economies (Backer and Miroudot, 2013).

This is consistent with UNCTAD (2018), which records a stagnation in the activities of post-2008 GVCs; in particular, the report found a change in the organisation of production of G7 economies (including the UK, Germany, France and Italy) between 2011 and 2015, with an increase in 'traditional trade production' (production to export) and a drop in 'simple GVCs' and 'complex GVCs'. The latter was particularly the case for manufacturing GVCs. Academic debate has started to observe such trends, suggesting that international production might be undergoing a structural reorganisation. Gereffi et al. (2014), for example, suggested that as assets became more intangible, firms required different skills and competencies, as well as adopted different internationalisation strategies by redrawing their value chain.

Another way of exposing changes in current patterns of production is to measure how much Foreign Value Added (FVA) is embodied in imports and exports. According to UNCTAD (2018), FVA measures how much of the value added produced originates from GVCs. It found that FVA peaked in 2010–2012 and that what appeared to be an adjustment post-crisis has now become structural. Indeed, UNCTAD (2018) reports FVA in imports falling year on year from 2015 to 2017, although the EU has a high FVA value, with 38% of its export value added being foreign compared to 13% for the US (ibid). This is not surprising given the dense nature of intra-EU trade fostered by the Single Market and underpinning EU-wide value chains.

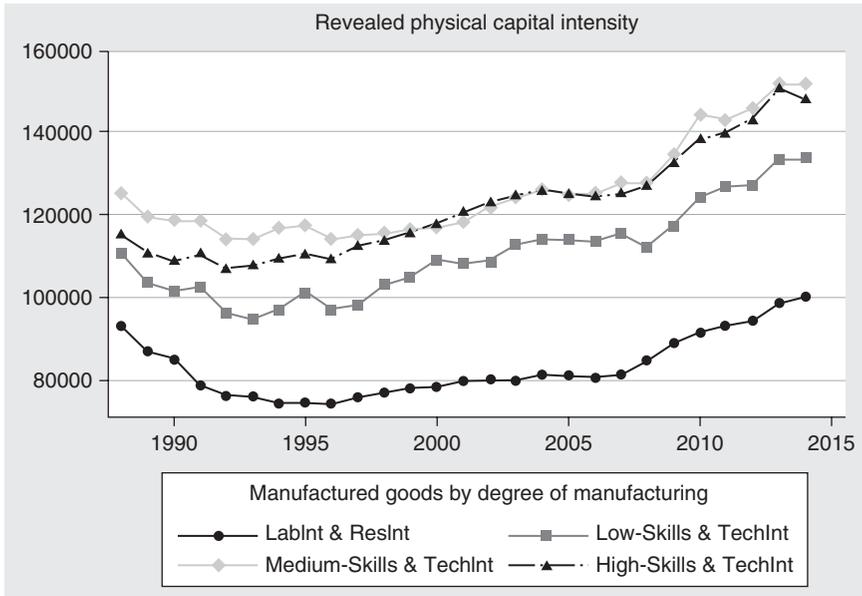


Figure 9.7 Revealed physical capital intensity in the US, 1988–2014.

Source: Authors' elaboration, based on UNCTAD (2018).

Note: UNCTAD distinguished four categories of capital intensity: (i) labour-intensive and resource-intensive; (ii) low-skill and technological-intensive; (iii) medium-skills and technological-intensive; and (iv) high-skills and technological-intensive.

At the same time, *technological change* is transforming the organisation of firms' internal production. As discussed in Chapter 1, firms are expected to become more efficient, agile, flexible and responsive thanks to the adoption of an array of new technologies. We have found an increase in firms' capital intensity as investment in robotisation gathers momentum. Data from UNCTAD shows that across manufacturing sectors with varying degrees of capital intensity, Revealed Physical Capital Intensity rose after the GFC (see Figure 9.7). This suggests that firms have started investing in new technologies by either upgrading existing machinery and equipment or replacing them. Of interest here is the fact that Revealed Physical Capital Intensity investment in medium-skills technological-intensive sectors has been greater than in high-skills sectors. Also, low-skills sectors seem to be those where capital intensity is even smaller, suggesting that new technologies are not replacing low-skill routine occupations. Indeed, we would argue that the penetration of robots at the middle-skill level confirms the rise of a completely different model of manufacturing whereby technology is integrated into production processes at high levels of sophistication (Goos et al., 2009).

In summary, the recent downward trend of FDI to and from advanced economies, and especially from advanced economies to developing ones, could be

interpreted as a symptom of a progressive reduction in the length of GVCs. Indeed, the combined effect of a fragile macro-economic scenario and technological change seems to redefine firms' motives and location in terms of production organisation. This suggests in part a renewed attention to invest closer to home, which means either domestically or for European firms within the Single Market. A growing literature has looked at the opportunities and benefits of firms adopting a reshoring strategy, which will be discussed in the next section.

9.5.3 Firms' reshoring strategies

The empirical results in the previous section showed a trend of de-globalisation, which translated as a simultaneously shift of FDI from developing countries to advanced countries and an increase and consolidation of EU-28 intra-trade. The macro-economic data combined with the revealed capital intensity data can give us a more detailed picture of de-globalisation. As technology is the key point for a reconfiguration of the production system, we can argue that the time is ripe for addressing this reconfiguration of the production system towards advanced countries by adopting the strategy of reshoring.

Reshoring has become something of a buzzword over the last few years. The American media flagged up that some large American MNEs, such as General Electrics and Caterpillar, as well as the largest US retailer Walmart, were bringing manufacturing operations or stocking back home to be able to seal production as being 'Made in USA'. Examples of reshoring have multiplied both in the US and in Europe, and in parallel a large academic and policy debate has expanded (e.g. EY, 2015; PwC, 2014; BCG, 2013). A discussion of the trends in the US and the EU will be discussed in later chapters in this volume.

9.5.4 What is reshoring?

Broadly speaking, in the literature the terms 'reshoring' and 'backshoring' have often been defined as the choice of a MNE to locate back to the home economy a production operation previously offshored: such relocations can include foreign investment or domestic outsourcing (Bailey and De Propriis, 2014b). As such, reshoring and backshoring have been used interchangeably. However, we would argue that such a lack of clarity needs to be addressed. In order to conceptually clarify the phenomenon, we decide to consider two dimensions: geography and function. The *geography of firms' production organisation* matters. There is a vast debate on firms' location decision choices in the International Business literature (FDI theories and MNE theories). Yet, most of it has utilised cognitive categories to explain the internationalisation strategies of firms. In the context of reshoring, the 'where to' and 'where from' of movements in firms' production locations are important to the extent that they might be linked to the motives and drivers of such changes. Consider a home economy A and changes in the location choices of

firms from and to A as captured by Figure 9.8 below. Starting from a similar point where a function has been previously offshored by a MNE, we suggest distinguishing four forms of reshoring. Although some terms have so far been used interchangeably, we suggest they should be meaningfully differentiated. These are: backshoring, near-shoring, home-shoring and hop-shoring (see Figure 9.9).

A second important aspect to consider is *what functions are actually reshored*. Offshoring strategies were explained by the well-known ‘smile curve’ (Mudambi, 2008) and tended to involve low-value-added functions; however, firms’ current

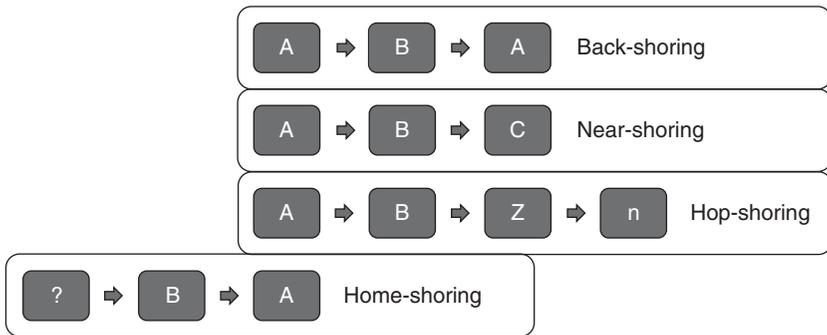


Figure 9.8 Taxonomy of reshoring.

Source: Authors’ elaboration, 2018.

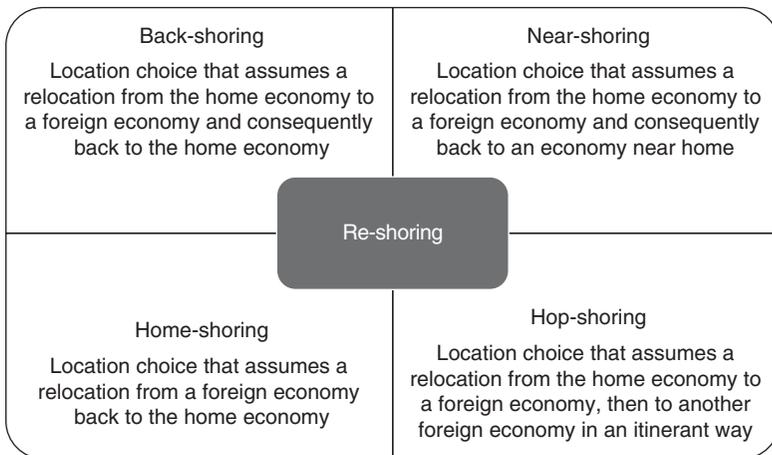


Figure 9.9 Forms of reshoring.

Source: Authors’ elaboration, 2018.

location choices are driven by more complex decisions, not least because value chains are no longer linear, but can create multiple-value associated with similar functions in different competitive environments. Therefore, elements of the production function to monitor should be the labour to capital ratio, customisation, production flexibility, value creation, quality, reliability and technology intensity. The last point will be further developed in a later chapter in this volume.

9.5.5 Reshoring and the hidden costs of globalisation

Push and pull factors have been unpacked to understand and explain reshoring as a short-term adjustment to respond to, for instance, the hidden cost of offshoring (Gray et al., 2017; Espana, 2015; Kinkel and Meloca, 2009) or the increasing complexity of value chain governance (Lieb and Lieb, 2016; Lavissière et al., 2016). However, others have suggested that reshoring should be observed as part of firms' longer-term strategy to better face international competition (Moradlou et al., 2017; Młody, 2016a, 2016b; Navarro, 2013).

Some of the *push factors* driving reshoring are related to hidden long-term costs in offshoring strategies (Espana, 2015). Firms faced unexpected operational frictions such as monetary and time-related costs, as well as intangible costs derived from macro-political strategies and country-risk factors (Navarro, 2013). Gray et al. (2017) analysed the reshoring decisions of 19 American SMEs and found that reshoring was chosen to correct a previous decision as more intangible costs had emerged as compared to location advantages at home.

Flexibility, responsiveness and short lead time have been argued to have been key *pull factors*. The concept of 'responsiveness' is linked to the presence of intangible assets that can reduce supply chain frictions. Moradlou et al. (2017) took India as the host country of the UK's offshoring in the automotive, industrial goods, textiles and marine sectors. According to the study, responsiveness was linked to long production lead times and logistics and transportation features such as electricity storage, excessive paperwork and cultural differences in working attitudes. Moradlou et al. (2017) emphasise supply chain constraints rather than a location's limit. It also highlights the importance of cultural distance as a driver for pushing manufacturing production from India back to the UK. Another example is, for instance, the 'Amazon Effect' (Lieb and Lieb, 2016), that is the fast rise of e-commerce. Online shopping requires firms to control regional logistics that integrates with a shopping platform like Amazon. Closeness to consumers, tight control over the supply chain (fewer production tiers) and quicker exchanges (geographically closer suppliers) have been argued to have convinced firms to reshore either internally or externally previously offshored operations. B2C firms in particular have responded to shorter delivery time, small batches of product requests and frictionless supply chains by reshoring their production closer to the end market by leveraging the territorial infrastructure system (Martinez-Mora and Merino, 2014) and a shared coordinated quality management system (Uluskan et al., 2016).

Another crucial pull factor is geographical proximity and access to emerging new technologies. Tate et al. (2014) suggest that firms adopting advanced manufacturing technologies required skilled labour and access to innovation infrastructure, both of which were absent or underdeveloped in developing or emerging economies. This lured manufacturing firms to locate production back in their home economy. Stentoft et al. (2016) also argue that reshoring is not a simple U-turn, but a strategic choice driven by production innovation. They find empirical evidence that automation and innovation are linked to firms seeking a shorter value chain and adopting a reshoring strategy. Indeed, the emergence of a new manufacturing model (see Chapter 1 for more on this) create an urgency for firms to access relevant skills and technological capabilities that are most likely to be located in advanced economies. The empirical evidence of the nexus reshoring and Industry 4.0 is also provided in Chapter 11 of this volume.

As already discussed, FDI has stagnated over the past few years, possibly having peaked in 2007–2008; reshoring trends are in effect the mirror image of how MNEs are restructuring their international production system, which is the fundamental pillar of GVCs. Reshoring cannot be studied as a stand-alone strategy pursued by a single lead firm, but it has to take into account the territorial features underpinning the firm's choice. In other words, a multi-disciplinary approach is required that combines approaches from international business, supply chain management with economic geography.

This means that in order to understand the dynamics of reshoring, we need to move away from the place-neutral approach implicit in firms' internationalisation strategy as conceptualised within the international business subject ('space neutral' is different here from 'space blind'), whereby offshoring location strategies were warranted by any place being relevant as long as they could provide cost savings or access to a specific resource. On the other hand, we would advocate for a different approach to be adopted in order to understand reshoring strategies: they are very much driven by a *place-based rationale*, whereby one place matters – that is, home. In this respect, reshoring can be considered as an expression of a de-globalising trend.

9.6 Conclusion

The aim of this chapter has been to offer insights into an emerging debate on de-globalisation and to provide some supporting evidence. We found that FDI was shrinking and MNEs' value chains were being regionalised within macro-regions. Indeed, trade intensity has increased at the macro-region level, with firms switching to more localised supply chains, even to the extent of shifting production or sourcing from abroad to locations closer to home. The reorganisation of their production process was also driven by the need to leverage the new technologies associated with Industry 4.0.

All this seems to suggest that MNEs are changing their internalisation strategies and are shifting away from polarised GVCs, whereby business functions

are geographically dispersed to address a functional polarisation between high and low value-added functions. They are instead preferring to locate production nearer to the final market to accommodate and exploit an emerging business model that sees a continuum along the innovation–production–consumption spectrum. This imposes new priorities and a new urgency to firms' globalisation strategies, and in the aggregate it is reshaping global production around *macro-regional production platforms* where shortened and closer value chains can enable better monitoring, more flexibility, quicker turnaround, better quality control and better responsiveness. Understanding how these are structured and function is the next main challenge for research.

Notes

- 1 Backward linkages are measured as the share of value added in foreign input used for the production of exporting goods. Forward linkages are measured as the share of value added of a good exported to a trade partner and further processed and exported.
- 2 For a review of the recent debate on globalisation, see Stiglitz (2006, 2015) and Rodrick (1997, 2010); see Friedman (2005) for the globalisation and inequality growth nexus; and see Baldwin (2016, 2019) for the globalisation and technology nexus.
- 3 Data is computed from the Annex Table of the World Investment Report, available at: <https://unctad.org/en/Pages/DIAE/World%20Investment%20Report/Annex-Tables.aspx>.

References

- Ancarani, A., Di Mauro, C., Fratocchi, L., Orzes, G. and Sartor, M. (2015) Prior to reshoring: a duration analysis of foreign manufacturing ventures. *International Journal of Production Economics*, 169, 141–155.
- Bailey, D. and De Propris, L. (2014a) Recession, recovery and resilience? *Regional Studies*, 48(11), 1757–1760.
- Bailey, D. and De Propris, L. (2014b) Manufacturing reshoring and its limits: the UK automotive case. *Cambridge Journal of Regions, Economy and Society*, 7(3), 379–395.
- Bailey, D. and Turok, I. (2016) Resilience revisited. *Regional Studies*, 50(4), 557–560.
- Bailey, D., de Ruyter, A., Michie, J., and Tyler, P. (2010) Global restructuring and the auto industry. *Cambridge Journal of Regions, Economy and Society*, 3(3), 311–318.
- Baldwin, R. (2016) *The Great Convergence*. Harvard University Press.
- Baldwin, R. (2019) *The Globotics Upheaval: Globalization, Robotics, and the Future of Work*. New York, Oxford University Press.
- Becattini, G. (1990) The Marshallian industrial district as a socio-economic notion. In F. Pyke, G. Becattini and W. Sengenberger (eds), *Industrial Districts and Inter-firm Co-operation in Italy*. International Institute for Labour Studies, pp. 37–51.
- Becattini, G., Bellandi, M. and De Propris, L. (eds) (2014) *A Handbook of Industrial Districts*. Edward Elgar.
- Bormann, R., Fink, P., Holzzapfel, H., Rammler, S., Sauter-Servaes, T., Tiemann, H., Waschke, T. and Weirauch, B. (2018) The future of the German automotive

- industry: transformation by disaster or by design? Available at: <https://library.fes.de/pdf-files/wiso/14450.pdf>.
- Brettel, M., Friederichsen, N., Keller, M. and Rosenberg, M. (2014) How virtualization, decentralization and network building change the manufacturing landscape: an Industry 4.0 perspective. *International Journal of Mechanical, Industrial Science and Engineering*, 8(1), 37–44.
- Boston Consulting Group (BCG) (2013) *The U.S. as One of the Developed World's Lowest-Cost Manufacturers behind the American Export Surge*. Boston: BCG.
- Chandler, A.D. (1962) *Strategy and Structure: Chapters in the History of American Industrial Enterprises*. MIT Press.
- Chidlow, A., Holmström-Lind, C., Holm., U. and Tallman, S. (2015) Do I stay or do I go? Sub-national drivers for post-entry subsidiary development. *International Business Review*, 24(2): 266–274.
- Chidlow, A., Salciuviene, L. and Young, S. (2009) Regional determinants of inward FDI distribution in Poland. *International Business Review*, 18(2): 119–133.
- Chomsky, N. (2016) *Who Rules the World*. Penguin.
- Davis, G.F. (2013) After the corporation. *Politics & Society*, 41(2), 283–308.
- Davis, G.F. and Adam Cobb, J. (2010) Resource dependence theory: past and future. In *Stanford's Organization Theory Renaissance, 1970–2000*. Emerald Group Publishing, pp. 21–42.
- De Backer, K. and S. Miroudot (2013) *Mapping Global Value Chains*. OECD Publishing.
- Dicken, P. (2015) *Global Shift: Transforming the World Economy*, 7th edn. Guilford Press.
- The Economist* (2009) Turning their backs on the world. Available at: <https://www.economist.com/international/2009/02/19/turning-their-backs-on-the-world>.
- The Economist* (2018) Tariffs on steel and aluminium are creating some winners. Available at: <https://www.economist.com/finance-and-economics/2018/08/09/tariffs-on-steel-and-aluminium-are-creating-some-winners>.
- Ellram, L.M., Tate, W.L. and Petersen, K.J. (2013) Offshoring and reshoring: an update on the manufacturing location decision. *Journal of Supply Chain Management*, 49(2), 14–22.
- España, J., 2015. Offshoring costs: a comprehensive model. *Journal of Business and Behavioral Sciences*, 27(2), 81–92.
- EU Parliament (2018) EU framework for FDI screening. Available at: <http://www.europarl.europa.eu/EPRS/EPRS-Briefing-614667-EU-framework-FDI-screening-FINAL.pdf>.
- European Commission (2014) For a European industrial renaissance. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52014DC0014&from=EN>.
- EY (2015). *Reshoring Manufacturing: Time to Seize the Opportunity*. EY.
- Feenstra, R.C. (1998) Integration of trade and disintegration of production in the global economy. *Journal of Economic Perspectives*, 12(4), 31–50.
- Financial Times* (2018a) Logistics industry says 'too late' to avoid Brexit disruption. Available at: <https://www.ft.com/content/5631e0f2-68bb-11e8-b6eb-4acfcfb08c11>.
- Financial Times* (2018b) Sterling's long-term decline. Available at: <https://www.ft.com/content/30dd70be-a9cb-11e7-ab66-21cc87a2edde>.
- Frederick, S. (2014) September: combining the global value chain and global IO approaches. In *Center on Globalization, Governance & International Conference on the*

Measurement of International Trade and Economic Globalization Aguascalientes, Mexico, vol. 29.

- Friedman, T. (2005) *The World is Flat*. Penguin.
- Galvin, J., Han, F., Hynes, S., Qu, J., Rajgopal, K. and Shek, A. (2018) Synergy and disruption: ten trends shaping Fintech. McKinsey Global Banking Report.
- Gereffi, G. (1999) International trade and industrial upgrading in the apparel commodity chain. *Journal of International Economics*, 48(1), 37–70.
- Gereffi, G. (2014) Global value chains in a post-Washington Consensus world. *Review of International Political Economy*, 21(1), 9–37.
- Gereffi, G. and Korzeniewicz, M. (eds) (1994) *Commodity Chains and Global Capitalism*. ABC-CLIO.
- Gereffi, G. and Luo, X., 2014. *Risks and Opportunities of Participation in Global Value Chains*. World Bank.
- Gozman, D. and Willcocks, L. (2019) The emerging cloud dilemma: balancing innovation with cross-border privacy and outsourcing regulations. *Journal of Business Research*, 97, 235–256.
- Gray, J.V., Esenduran, G., Rungtusanatham, M.J. and Skowronski, K. (2017) Why in the world did they reshore? Examining small to medium-sized manufacturer decisions. *Journal of Operations Management*, 49, 37–51
- Gray, J.V., Skowronski, K., Esenduran, G. and Rungtusanatham, M.J. (2013) Reshoring phenomenon: what supply chain academics ought to know and should do. *J. Supply Chain Manag.*, 49(2), 27–33.
- Goos, M., Manning, A. and Salomons, A. (2009) Job polarization in Europe. *American Economic Review*, 99, 58–63.
- Horner, R. and Nadvi, K. (2018) Global value chains and the rise of the Global South: unpacking twenty-first century polycentric trade. *Global Networks*, 18(2), 207–237.
- Inglehart, R. and Norris, P. (2016) *Trump, Brexit, and the Rise of Populism: Economic Have-Nots and Cultural Backlash*. Harvard Kennedy School Working Paper, RWP16-026.
- Jabbour, L. (2012) Slicing the value chain internationally: empirical evidence on the offshoring strategy by French firms. *The World Economy*, 35(11), 1417–1447.
- Ju, J. and Yu, X. (2018) China's opening up after 40 years: standing at a historic turning point. *China & World Economy*, 26(2), 23–49.
- Kinkel, S. (2014) Future and impact of backshoring: some conclusions from 15 years of research on German practices. *Journal of Purchasing and Supply Management*, 20(1), 63–65.
- Kinkel, S. and Maloca, S. (2009) Drivers and antecedents of manufacturing offshoring and backshoring: a German perspective. *Journal of Purchasing and Supply Management*, 15(3), 154–165.
- Krugman, P. and Venables, A.J. (1995) Globalization and the inequality of nations. *Quarterly Journal of Economics*, 110(4), 857–880.
- Lasi, H., Fettke, P., Kemper, H.G., Feld, T. and Hoffmann, M. (2014) Industry 4.0. *Business & Information Systems Engineering*, 6(4), 239–242.
- Lavissière, A., Mandják, T. and Fedi, L. (2016) The key role of infrastructure in backshoring operations: the case of free zones. *Supply Chain Forum: An International Journal*, 17(3), 143–155.

- Lawrence, G. and Almas, R. (2018) *Globalisation, Localisation and Sustainable Livelihoods*. Routledge.
- Liebert, T. (1983) The globalisation of markets. *Harvard Business Review*, May–June.
- Li, P. and Bathelt, H. (2018) Location strategy in cluster networks. *Journal of International Business Studies*, 49(8), 967–989.
- Lieb, R.C. and Lieb, K.J. (2016) 3PL CEO perspectives on the current status and future prospects of the third-party logistics industry in North America: the 2014 survey. *Transportation Journal*, 55(1), 78–92.
- Los, B., Timmer, M.P. and de Vries, G.J. (2015) How global are global value chains? A new approach to measure international fragmentation. *Journal of Regional Science*, 55(1), 66–92.
- Martínez-Mora, C. and Merino, F. (2014) Offshoring in the Spanish footwear industry: a return journey? *Journal of Purchasing & Supply Management*, 20(4), 225–237.
- May, C. (2015) *The Global Political Economy of Intellectual Property Rights: The New Enclosures*. Routledge.
- Młody, M. (2016a) Backshoring in light of the concepts of divestment and de-internationalization: similarities and differences. *Entrepreneurial Business & Economics Review*, 4(3), 167–180.
- Młody, M. (2016b) Reindustrialisation of the European Union Member States in the context of reshoring. *Reindustrializacja krajów Unii Europejskiej w kontekście reshoringu*, 35(1), 455–467.
- Moradlou, H., Backhouse, C. and Ranganathan, R. (2017) Responsiveness, the primary reason behind re-shoring manufacturing activities to the UK. *International Journal of Physical Distribution & Logistics Management*, 47(2/3), 222–236.
- Mudambi, R. (2007) Offshoring: economic geography and the multi-national firm. *Journal of International Business Studies*, 38(1), 206–210.
- Mudambi, R. (2008) Location, control and innovation in knowledge-intensive industries. *Journal of Economic Geography*, 8(5), 699–725.
- Mudambi, R., Li, L., Ma, X., Makino, S., Qian, G. and Boschma, R. (2018) Zoom in, zoom out: geographic scale and multinational activity. *Journal of International Business*, 49(8), 929–941.
- Mudambi, R. and Venzin, M. (2010) The strategic nexus of offshoring and outsourcing decisions. *Journal of Management Studies*, 47(8), 1510–1533.
- Navarro, P. (2013) China 2013: the year of reshoring to America? *Financial Executive*, 29(1), 33–35.
- OECD (2017) *The Next Production Revolution: Implications for Governments and Business*. OECD Publishing, <https://doi.org/10.1787/9789264271036-en>.
- Piore, M.J. and Sabel, C.F. (1986) *The Second Industrial Divide: Possibilities for Prosperity*. Basic Books.
- Porter, M.E. (1996) Competitive advantage, agglomeration economies, and regional policy. *International Regional Science Review*, 19(1–2), 85–90.
- PwC (2014) *Reshoring: A New Direction for the UK Economy*. PwC.
- Rodrik, D. (1997) *Has Globalization Gone Too Far?* Institute for International Economics.
- Rodrik, D. (2011) *The Globalization Paradox: Democracy and the Future of the World Economy*. W.W. Norton.
- Rodrik, D. (2018) Populism and the economics of globalization. *Journal of International Business Policy*, 1–22.

- Saxenian, A. (1990) Regional networks and the resurgence of Silicon Valley. *California Management Review*, 33(1), 89–112, <https://doi.org/10.2307/41166640>.
- Schotter, A.P., Mudambi, R., Doz, Y.L. and Gaur, A. (2017) Boundary spanning in global organizations. *Journal of Management Studies*, 54(4), 403–421.
- Schwab, K. (2018) Globalization 4.0: what it means and how it could benefit us all. Available at: <https://www.weforum.org/agenda/2018/11/globalization-4-what-does-it-mean-how-it-will-benefit-everyone>.
- Stentoft, J., Mikkelsen, O.S. and Jensen, J.K. (2016) Flexicurity and relocation of manufacturing. *Operations Management Research*, 9(3–4), 133–144.
- Stiglitz, J. (2006) *Making Globalization Work*. W.W. Norton.
- Stiglitz, J. (2015) *The Great Divide: Unequal Societies and What We Can Do about Them*. W.W. Norton.
- Storper, M. and Scott, A.J. (1995) The wealth of regions: market forces and policy imperatives in local and global context. *Futures*, 27(5), 505–526.
- Strange, R. and Zucchella, A. (2017) Industry 4.0, global value chains and international business. *Multinational Business Review*, 25(3), 174–184.
- Swaine, M.D. (2015) Chinese views and commentary on the ‘One Belt, One Road’ initiative. *China Leadership Monitor*, 47(2), 3–27.
- Tate, W.L., Ellram, L.M., Schoenherr, T. and Petersen, K.J. (2014) Global competitive conditions driving the manufacturing location decision. *Business Horizons*, 57(3), 381–390.
- Timmer, M.P., Erumban, A.A., Los, B., Stehrer, R. and De Vries, G.J. (2014) Slicing up global value chains. *Journal of Economic Perspectives*, 28(2), 99–118.
- Uluskan, M., Joines, J.A. and Godfrey, A.B. (2016) Comprehensive insight into supplier quality and the impact of quality strategies of suppliers on outsourcing decisions. *Supply Chain Management*, 21(1), 92–102.
- UNCTAD (2017) World Investment Report. Available at: https://unctad.org/en/PublicationsLibrary/wir2017_en.pdf.
- UNCTAD (2018) World Investment Report. Available at: https://unctad.org/en/PublicationsLibrary/wir2018_en.pdf.
- US Treasury (2018) Summary of the Foreign Investment Risk Review Modernization Act of 2018. Available at: <https://www.treasury.gov/resource-center/international/Documents/Summary-of-FIRRMA.pdf>.
- Vanchan, V., Mulhall, R. and Bryson, J. (2018) Repatriation or reshoring of manufacturing to the US and UK: dynamics and global production networks or from here to there and back again. *Growth and Change*, 49(1), 97–121.
- Wang, Z., Wei, S.J., Yu, X. and Zhu, K. (2017) *Measures of Participation in Global Value Chains and Global Business Cycles*. National Bureau of Economic Research.
- White House (2017) Remarks of President Donald J. Trump. Executive Office of the President. Available at: <https://www.whitehouse.gov/briefings-statements/remarks-president-trump-joint-address-congress>.
- White House Report (2012) Investing in America: building an economy that lasts. Available at: https://obamawhitehouse.archives.gov/sites/default/files/investing_in_america_report_final.pdf.