Behind the Rise of Global Supply Chains

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Contents

1. Introduction: global supply chains, the rising dominant business model 1

2. Do global supply chains contribute to living wages and decent working conditions? 25

3. Collecting the evidence: Global Supplier Survey 61

4. How do purchasing practices impact working conditions? Results from the supplier survey 99

5. Qualitative case studies in Bangladesh, China, India, South Africa and Turkey 135

6. What effects of purchasing practices on working conditions? Econometric analysis 207

7. Forms of remediation – global survey among buyers 243

8. Conclusions: mitigating decent-work deficits in global supply chains 283

Bibliography 321

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1

Introduction: global supply chains, the rising dominant business model

1.1 Introduction

While in the 1970s and 1980s large multinational companies tended to have a number of subsidiaries around the globe aimed at producing at low cost and on a large scale to supply domestic and world markets, this business model was progressively replaced by a new business model, that of global supply chains.

This emerged from a new world context characterized by the removal of trade barriers and the advent of the World Trade Organization, facilitated by the transport and technological revolution that has reduced transport costs and brought real time information. The main actors include buyers or lead firms that rely on independent suppliers rather than their own operations. This cuts costs while benefitting fully from comparative advantages, not only for countries in specific sectors but also for particular segments or tasks carried out sometimes by a myriad of firms and countries. This business model allows a lead firm to reduce operational costs, limit its stocks of goods and take advantage of the flexibility offered by having available a multitude of possible suppliers. This boosts economies of scale and increases profits. It also offers firms from developing countries the opportunity to specialize in one specific niche and gain access to larger markets, thus conferring a series of advantages in terms of employment, productivity and growth. Products can go through many stages, crossing several borders and adding components and value before they reach their final markets. Different operations are intertwined along the management of supply chains, which have become an essential element through which competitiveness can be enhanced. Global supply chains have reshaped traditional patterns of international production and trade, notably with an increasing role for firms in developing countries and intensified trade in intermediate goods.

The statistics are impressive. It is estimated that around 80 per cent of world trade (OECD, 2020) now passes through global supply chains (although they account for only 15 per cent of all firms, on average), creating millions of jobs. Even more importantly, this growth seems to have

directly boosted growth in developing countries, whose share in world trade has risen from 5 per cent at the end of the 1980s to nearly 50 per cent in recent years. This is a strong indication of their full integration in the global economy and in the new global supply chains' business model. Of course we will also see in this volume the conditions under which such gains could be optimal for local economies in terms of industrialization, employment and working conditions.

In this introductory chapter we will present a number of elements illustrating the emergence of global supply chains, notably through a study of the literature in this area (Section 1.2), before looking at how they have reshuffled production and trade (Section 1.3), and finally trying to identify the opportunities but also possible imbalances they might bring to firms, sectors and countries (Section 1.4).

1.2 The emergence of the new business model

1.2.1 The shift: from subsidiaries to a global sourcing strategy

*Fewer subsidiaries and direct employee*s. In almost four decades, the dominant business model has completely changed. In the 1970s and 1980s the purpose of a multinational company was to set up subsidiaries in key strategic locations to be used for mass production and platforms for exporting all over the world.

The strategy of expansion rapidly changed: it is now based mainly on the use of external suppliers or contractors that produce for the company all necessary goods to be sold to consumers. Buyers can now compare the costs and capabilities of suppliers at a global level in diverse production locations and move orders between suppliers and countries. In this new paradigm, the multinational company does not own factories or subsidiaries, nor does it employ direct employees to produce goods anymore. It must, however, manage its chain of suppliers, and also all the logistics and actors who participate in this process, such as intermediaries and transportation companies.

Competitiveness increasingly built around the supply chain. Because all the actors involved in this process generate some value, or supply some goods or services, they form what has been called the 'global value chain' or 'global supply chain'. In this volume we will use both terms alternatively. A global value chain or global supply chain refers to 'the full range of activities that firms and workers perform to bring a specific product from its conception

to its end use and beyond' (Gereffi and Fernandez-Stark, 2011). Generally, it includes research and development (R&D), design, production, sales and marketing, consumption and recycling. According to the World Bank, 'a global value chain involves the fragmentation of production across countries' (World Bank, 2019).[1] It is in fact a complex network linking together suppliers and buyers that are integrated and driven by multinationals as lead firms. Global value chains have become an integral part of the global economy, reshaping the traditional patterns of international production and trade.

While no longer directly engaged in all operations, these multinational companies have maintained control of production as global buyers and coordinators of global supply chains. The buyer represents the 'lead firm' and can thus decide almost all conditions related to the production process (Humphrey, 2005; Starmanns, 2017). The lead firm, generally based in developed countries, is the company that controls the global supply chain, sets the parameters with which other firms in the chain must comply and is typically responsible for the final sale of the product. At the same time, global supply chains represent different actors in a chain rather than one company entity; competitiveness is now to be gained and evaluated at supply chain level and not at individual brand level. It is thus in the interest of the buyer lead firm not to have missing links or weak actors in the chain (among its providers of raw materials, transporters, intermediaries, suppliers and so on), but on the contrary to make sure that all participants perform at the highest level of performance and logistics. This is why setting up an efficient supply chain management, generally through 'supply chain management systems' now represents a fundamental priority for multinational companies in their new business model.

Increased complexity: global supply chains, the mirror of globalization. Global supply chains have brought more complexity to the production process, adding many actors and many different stages and segments along the way, from the initial providers of raw materials to the final consumer. Production is now fragmented across multiple countries. Products are no longer simply made in one country and shipped to another for sale. By contrast, they now often go through many stages, crossing several borders and adding components and value before they reach their final markets. The litera-

1. 'The longer definition qualifies a global value chain as 'a series of stages involved in producing a product or service that is sold to consumers, with each stage adding value, and with at least two stages produced in different countries' (World Bank, 2019, p. 38).

ture on global supply chains further analyses the multiple ways the different segments and actors operating in a global supply chain (buyers, retailers, intermediaries, suppliers, consumers) can interact and be interconnected , and also how the lead firm governs the terms on which different firms participate and upgrade within this chain (Gereffi, 1994; Kaplinsky and Morris, 2001). This is why global value chain firms can be defined as firms that not only import or export but import, then export (World Bank, 2019). Not only are the processes of global supply chains complex but they are also dynamic and constantly evolving, which make it necessary to regularly update our knowledge and carry out more empirical research on their scope, functioning and impacts on both enterprises and countries, as well as on workers.

Examples of companies. Various examples of this complexity can be provided. In 2011, for example, Nike's products were made in 930 factories in 50 countries, employing more than one million workers. However, Nike itself had just 38,000 direct employees, most of whom work in the United States. All of the other workers in Nike's global supply chain were employed by subcontractors based in developing economies (Locke, 2013: 48). Similarly, over 80 per cent of the US company WalMart's more than 60,000 suppliers are located in China alone (Gereffi and Christian, 2009: 579). Furthermore, in garments, the more than 550 suppliers and thousands of sub-suppliers of H&M are almost all based in Asia with some exceptions, such as Turkey, and some emerging markets, such as Ethiopia.

1.2.2 Enabling factors: from tariff reductions to real time information

Falling trade barriers and the emergence of the WTO. Different enabling factors facilitated such development. First the reduction of barriers and costs to trade: the end of the multi-fibre agreement in 2004, that imposed quotas and non-tariff barriers on a number of trade goods, suddenly put a number of developing countries back in the mainstream. Tariff reductions were also accompanied by a harmonization of institutional frameworks and liberalization of services under the General Agreement on Tariffs and Trade and subsequently the World Trade Organization (WTO) and also by bilateral and plurilateral trade agreements. The opening of China to international investment and trade, and the liberalization of India –both joined the WTO – have provided terrific new opportunities to rely on suppliers from these countries. A number of very large economies, known initially as the BRICs (Brazil, Russia, India, and China) came rapidly onto the global stage offering abundant raw materials, large pools of relatively low-wage workers,

highly capable manufacturers and rapidly growing domestic markets. At the same time central and eastern European countries were integrated into the global economy. Global supply chains rushed to start operating from BRIC countries, especially China, in order to have access to rapidly expanding consumer markets and also to cut costs for exporting back to the home countries (Naughton, 1997; Ross, 2006). Emerging economies now include more than a dozen countries with similar features, including Mexico, Indonesia, Nigeria and Turkey (the 'MINT' countries), South Africa and others (Sinkovics et al., 2014b).

Large-scale logistics and transport. A second key factor was improvements in logistics and transport services, resulting in more reliable and speedy delivery of inputs and final goods, while the larger volumes of trade have also significantly reduced unit transportation costs. Efficient transportation also helps in the diffusion of technology, which is important for participating in global value chains. Improved transport and communication infrastructure somehow compensates for the disadvantage of a remote location and facilitate participation in trade and global supply chains. Declining air and ocean freight costs have boosted trade in goods. On the other hand, inefficient, uncompetitive transport and logistics services amplify transport costs, especially if there are multiple border crossings. More inaccessible or out of the way countries for instance are less likely to participate in global supply chains (World Bank, 2019).

The new information era. A third factor was the development of information technologies, more reliable telecommunications and financial services and new information management software, which have allowed real-time coordination and logistics from diversified sources of production in various parts of the globe. Not only goods but services can now be outsourced to different countries. Moreover connectivity allows effective communication between the different actors of a global supply chain. Greater integration into global supply chains was found to be directly related to both average internet use and average time required to import goods (World Bank, 2019: 15, Figure 7). Trade unit costs are likely to continue to fall because of new digital technologies, offering greater opportunities for participation in global supply chains. New digital distribution platforms will also make it easier for firms to sell their products in foreign markets.

Government industrial policies and institutions. Finally, the strategy of local and national governments to attract foreign investment and buyers' oper-

ations and to liberalize trade has represented an additional attractive factor. While initial factor endowments (for instance, abundant and cheap labour force) remain the main factor behind the specialization of a country or a region, policies have been shown to represent a determinant enabling factor. For instance foreign direct investment (FDIs) can remedy the initial scarcity of capital, technology and management skills. At the same time, this search for greater competitiveness can be pursued without leading to a sort of 'race to the bottom' in terms of wages, working conditions and also taxes.

In reality, governments – for instance, of newly industrialized economies in Asia and Latin America but also in new transition countries from Central and Eastern Europe – not only lowered requirements for investors, but they also built infrastructure and established export processing zones (mainly in Asia) with special incentives to attract foreign investors or suppliers of international buyers, a process documented by UNCTAD (2019). These incentives often convince multinational companies to outsource and offshore part of their activities. Through the support of national or local governments targeting key sectors for growth, new companies, localities and entire countries have been able to position themselves in specialized niches in global supply chains (Gereffi and Sturgeon, 2013). Governments through the structural transformations they implement also play a major role in promoting technological upgrading, facilitating workers' and managers' training while also promoting transportation networks and communication facilities (Salazar-Xirinachs et al., 2014). Public policies and institutions were also found to be essential to both the economic and the social upgrading of global supply chains in a series of case studies in high value-added manufacturing industries (Serfati and Sauviat, 2018 on Brazil and France; Pardi, 2017 and 2019 on the automobile sector; and Monge-Gonzalez on the Intel case in Costa Rica).

Countries with better institutions, such as property rights and the rule of law, have also been found to have a higher probability of being part of global supply chains (WTO et al., 2017). It is particularly important to help firms to produce more sophisticated goods or services and thus to position themselves in segments with higher value-added products and processes, thus facilitating their economic upgrading.

1.2.3 Main motivations: lower costs and higher profits

Multinational companies' main motivations have clearly also played a driving role.

Reducing costs. A first motivation was to reduce the costs and administrative burden on employers of thousands of workers in several subsidiaries in different markets under the previous business model.

Towards no stocks in a 'just in time' paradigm. A second motivation for multinational companies was to adjust to 'just-in-time' production, which emerged from the 1980s and encouraged them to produce for immediate delivery to consumers without accumulating stocks. This minimization of stocks of goods – which are traditionally difficult and costly to manage – represented another source of cost savings. We will see later in this volume how the Covid-19 crisis changed this paradigm.

Flexibility and extensive choice of suppliers. A third motivation was the flexibility to choose suppliers from any factory in any country without constraints and with the possibility to shift any time from one to the other (of course depending on the sector and product) if any problems emerged. In the previous model of own factories and direct employees, any interruption in the production process due to a technological stoppage or strike action immediately interrupted production and delivery.

High growth and profits through large-scale operations. Last but not least, through supply chains buyers or lead firms can grow quickly and generate much higher profits than before. Lead firms are progressively getting bigger and are increasing their global market shares through mergers, acquisitions and the decline of many rivals (Gereffi, 2014, p. 16). These firms have expanded production throughout Asia and more recently in Africa, central and eastern Europe and Latin America (Morris et al., 2011; Pickles and Smith, 2011; Smith et al., 2014; Hernández et al., 2014).

The main motivation can be summarized as lowering costs and increasing profits. This strategy has worked rather well because most of the top brands have exceeded all their most optimistic forecasts and achieved record profits over the past few years.[2] We shall see in Chapter 2 that the effects of such movements on working conditions in developing and emerging countries can be rather diverse, while the increasing reliance on suppliers in remote countries by lead firms in developed countries can, in some cases, involve job losses in home countries.

2. For instance for the fashion sector, see 'The State of Fashion 2019', McKinsey and Business of Fashion, available at https://www.businessoffashion.com/articles/intelligence/the-state-of-fashion-2019

1.3 Resuffling global production and trade

1.3.1 Increasing role for developing countries

A chance to enter the magic circle of international trade. The rapid expansion of industrial capabilities and export propensities in diverse industrialising or developing economies in Africa, Asia and Latin America encouraged transnational companies to accelerate their own efforts to outsource relatively standardized activities to lower-cost production locations worldwide.

The development of global supply chains led to a fundamental shift from what had been 'producer-driven' commodity chains, which include capital- and technology-intensive industries such as automobiles and electronics, to 'buyer-driven' chains, which include a broad range of consumer products, such as apparel, footwear, toys and sporting goods (Gereffi, 1994a).

Global supply chains allow countries to benefit from a more efficient global division of labour, in which countries can use their different comparative advantages not only in different sectors, but also in different stages of production within sectors. Fragmented production makes it possible for firms, even smaller firms, in developing countries to enter foreign markets at low costs. They can specialize in a specific niche and gain access to larger markets for their output, benefiting from higher returns to scale. At the same time, companies from developing countries can also access cheaper and better inputs, such as productivity-enhancing technologies developed elsewhere and grow at a faster rate.

The advent of global supply chains has often provided a stepping stone for firms in developing countries to integrate into the global economy. This is reflected for instance in the increasing share of developing countries in world manufacturing exports, rising from 5 percent at the end of the 1980s to almost 35 percent in 2014. Their share in world trade also rose from 33 per cent to 48 per cent between 2000 and 2012. As a result, the global economy is today mainly structured around global supply chains that account for a rising share of international trade, global GDP and employment.

Similar opportunities have occurred in the agricultural sector, with some Latin American countries, such as Chile and Peru, now ranking among the leading global exporters of fruits and vegetables (UNComtrade, 2016). Bangladesh is also ranked second as world exporter in the garment sector. More and more governments are opting to integrate their country in global supply chains to stimulate growth, create new jobs and increase living standards (OECD, 2012).

The advent of global supply chains thus totally transformed global trade – as well as employment – and allowed producers of developing countries

to be integrated into it. While the main export destinations of products and services from global supply chains are developed countries there is increasing growth of exports to and among emerging economies.

The emergence of global supply chains has somehow cancelled the previous distinction between, on one hand, companies and industries operating in industrialized countries and, on the other hand, those operating in developing countries. Global supply chains have generated new patterns of international trade, production and employment and created for all countries new prospects for development and competitiveness. Now they are becoming deeply intertwined through complex, overlapping business networks created through recurrent waves of foreign direct investment and global sourcing (Gereffi, 2014).

Shift of end markets and increased South-South trade. As retailers and branded manufacturers in wealthy countries became more experienced with global sourcing, developing countries enhanced their infrastructure and suppliers in those countries upgraded their capabilities in response to larger orders for more complex goods. A handful of elite East Asian suppliers (for example, Pou Chen, Quanta, Foxconn) and trading companies (for example, Li & Fung) also took on more tasks for multinational affiliates and global buyers (Appelbaum, 2008). More trade has occurred between developing economies, too, known as South-South trade.

Some suppliers have themselves become 'lead firms' in global value chains. Good examples are the Chinese companies Li & Fung, the largest trading company in the world, headquartered in Hong Kong but doing most of its sourcing from China, and Foxconn Technology Group, the largest electronics contract manufacturer in the world, for Apple and other electronics buyers.

Emerging economies have progressively become major export destinations. For example the number of jobs related to global exports to China increased almost sevenfold in 1995–2003 (ILO, 2015). The fact that some emerging economies with their market growth became new 'end markets' for global supply chains helped companies from these countries to build up regional supply chains and South-South value chains.

Many southern suppliers have in this way gained economies of scale and are now pursuing their own 'low-cost innovation' strategies and trying to leverage the growing size of the low- and middle-income segments in emerging economies. For instance, many Chinese manufacturing suppliers have relocated further south and further east, to Myanmar, Cambodia, Bangladesh, even Ethiopia, part of their low value added and labour

intensive segments, and have invested in innovation in their home country to move towards higher value added and more capital intensive segments.

1.3.2 Diversification: extending to all sectors and types of firms

A generalized trend. Increased global competition to reach consumers as soon and as cheaply as possible has led to an acceleration of this business model, from traditional manufacturing such as apparel and footwear to all other sectors, including food (vegetables, fruits, beverages), flowers but also high-tech and electronics. It has also extended to services, which are key to the good functioning and value added of global supply chains (for instance, transport, communications). Trade in agricultural goods and raw materials has also grown rapidly in developing countries.

The process involves more and more factories, notably small and medium size enterprises. With SMEs constituting between 80 and 90 per cent of total employment in the developing world, a large part of employment generated in the lower tiers of global supply chains is in medium-sized, small and micro-enterprises (ILO, 2016).

Since 2020, the Covid-19 pandemic has called this model into question, and some brands have started to shorten their supply chains to avoid too great a dependency on multiple markets, because each of them could eventually block the whole supply chain in the event of a local crisis. A number of lead firms, for instance, saw their supply chains suddenly blocked in early 2020 when Covid-19 brought the Chinese market to a halt and their sourcing companies stopped production (see the example of US companies).[3] A number of brands also decided to diversify their sourcing markets with the same objective, not to remain too dependent on single sourcing countries that may be hit by a crisis. While global supply chains will thus go through a number of adjustments in the years to come, there is a good probability that they will nevertheless remain the dominant business model.

Development of trade in intermediate goods. Another feature of global supply chains is the growth of trade in intermediate goods to be integrated into final goods. As value chains became global, more intermediate goods start-

3. An Institute for Supply Management (ISM) survey shows serious disruptions in the United States. Their research found that 44 per cent of US companies had no contingency plans for the fallout in China. Report available at (accessed on 10 March 2022): https://www.industryweek.com/supply-chain/article/21125977/75-of-companies-in-ism-virus-survey-report-supply-chain-disruptions

ed to be traded across borders, and more imported parts and components integrated into exports (Krugman, 1995; Feenstra, 1998). It is significant that from 2009, world exports of intermediate goods exceeded the combined export values of final and capital goods for the first time (Gereffi, 2015).

Different global supply chain logics by sector. Developments in global supply chains differ by sector. For instance, in automobile and electronics, there seems to be a trend towards global value chain buyers focusing on a smaller number of large, more capable suppliers, often well placed in terms of global value chain nodes, a trend that seems to have accelerated after the global recession (see Section 3.6). In the garment sector, the trend of many global buyers continues to be a reliance on a multitude, often thousands, of different suppliers in order to obtain better prices, but also innovation and quality.

Flexibility in shifting suppliers is also explaining the different logics. While it might be easier to change supplier overnight in the garment sector, it is more difficult in heavy industry and even more so in high tech sectors, such as electronics, which require substantial investments in R&D and have high entry barriers. A lead firm in electronics will thus seek greater stability and longer-term relationships possibly to the detriment of lower costs, while the lead firm in textiles or in footwear will be tempted to shift to lower cost countries more or less on a permanent basis.

Another distinction needs to be made between two categories of global supply chains, depending on what actor is most influential, the producer (or manufacturer) or the buyer (Gereffi, 2001). 'Producer-driven' global supply chains are generally more capital- and technology-intensive. Examples include the automobile and aeronautical industries, which have high entry barriers, but then can enjoy fairly large economies of scale. By contrast, 'buyer-driven' global supply chains have lower entry barriers and are rather coordinated by buyers – generally brand names – that generally ensure the design and marketing functions, and then rely on a multitude of producers, but also of large traders and wholesalers that coordinate the orders of retailers and distributors. This model dominates in sectors such as agriculture, garments, footwear, and toys. Suppliers in emerging countries, such as China, have managed to shift from being dependent as a supplier in 'buyer-driven' global supply chains to a more pro-active role, based on higher value-added products and then a more coordinating role within a more 'producer-driven' global supply chain.

Trends affecting global supply chains by sector will also be very much influenced by the current Covid-19 crisis. It may weaken some actors, such as transport companies, while strengthening others, such as companies

specializing in storage facilities. A possible move towards 're-shoring' might also lead to increased vulnerability among producers in developing countries, especially in remote areas.

A possible spillover effect for other sectors in local economies. Integration in global supply chains as suppliers allows local companies to access international markets and rapidly achieve large trade volumes. These suppliers often rely on a series of local raw material providers, and also, given the very demanding nature of global supply chains, on a series of local subcontractors to ensure part of production. This might lead to positive spillover effects on the local economy by creating a pool of companies and of employment involved in the global supply chain. In particular, it can often contribute to the creation of clusters of SMEs, with a synergy effect on the local economy. This spillover effect is generally higher when the local supplier is involved in product development and also R&D activities, which will also require knowledge from other local companies, and allow other local companies to benefit from the technological and know-how transfers from the buyers. This combination of inputs from the global supply chain with local resources to respond to the requirements of world markets is often the source of innovation and increased productivity and competitiveness, which will then enhance suppliers' ability to follow an upgrade path (see below).

There are, however, many examples that also show that the spillover effect does not always operate. In the electronics sector, in both Latin America and central and eastern Europe, contract assemblers, rather than relying on a multitude of local companies, operate in 'enclaves' without creating linkages to the wider economy (see, for example, Dussel Peters, 2008; Gallagher and Zarsky, 2007; Plank and Staritz, 2013). Instead of relying on local producers, they will often try to import their inputs from other countries at the lowest possible price. This can also be one disadvantage of export process zones that governments create precisely to attract foreign investors and suppliers operating for major multinational groups. This is the case, according to some studies, with Ethiopia, which has created a number of 'industrial parks' for suppliers of global supply chains, which have created thousands of job opportunities – for instance, nearly 30,000 jobs in the main industrial park of Awasa – but at the same time without many other links with local factories and companies.[4]

4. See 'Ethiopia's industrial parks: hard yards, but what is the alternative?', by G. Mills, Maverick Daily, 4 February 2019. https://www.dailymaverick.co.za/article/2019-02-04-ethiopias-industrial-parks-hard-yards-but-whats-the-alternative/

The upgrade path: depends upon the relationship with the lead firm. Participation in global supply chains is suddenly offering producers from developing markets, generally speaking, many new possibilities: direct access to international markets, but also the opportunity to diversify and scale up operations, and also to benefit from transfers of technologies, and of know-how.

Producers can successfully upgrade in various possible ways (Humphrey and Schmitz, 2002; Barrientos et al., 2011), either by increasing the efficiency of the production process (process upgrading), for instance by substituting capital for labour, or by moving from simple to more sophisticated products (product upgrading), or by assuming new functions in the segment (functional upgrading), for instance adding packaging and transportation in apparel, or by changing industry or diversifying its products to new industries or product markets (chain upgrading). A supplier can also progressively become a major buyer or intermediary. Whatever form of upgrading suppliers choose, it will need the willingness and contribution of the buyer to help its suppliers to grow, enable them to benefit from technological learning and know-how transfer, and allow them to expand their capabilities by providing them access to new markets. By controlling product specifications, technical standards and the cost and performance framework within which the global networks of suppliers operate, clearly buyers can either enable or constrain suppliers' upgrading prospects (Kaplinsky and Morris, 2001). Purchasing practices in this regard are not neutral to suppliers' future upgrade capacities.

In this respect we shall see later in this book that the willingness of the buyer or lead firm to share with its suppliers not only product development but also R&D represents a key factor in the suppliers' upgrading opportunities. In some cases, it might be in the short-term interest of the lead firm to keep suppliers working on simple tasks and in dependency in terms of technology and research and development.

We will also see that economic upgrading can generally lead to social upgrading, that is, to improvements in terms of decent work (ILO, 2016), and is thus very relevant for the topic of this book. Purchasing practices, by influencing suppliers' conditions and behaviour, certainly have a direct effect on suppliers' potential to upgrade and, hopefully, to then implement better wages and working conditions.

1.4 Opportunities and possible imbalances

1.4.1 Growth of international trade through global supply chains

According to the World Bank 'two features distinguish global value chains from traditional trade: first, countries import not only for domestic consumption, but also to export; and second, transactions typically involve long-term, firm-to-firm relationships rather than anonymous spot market transactions' (World Bank, 2019: 1). On this basis, the main conclusion is that global value chains have led to a rise in trade, accelerated growth and reduced poverty.

According to the World Development Report 2020, 'International trade expanded rapidly after 1990, powered by the rise in Global Value Chains (GVCs), speeding up economic growth, and dramatically reducing poverty, with more than 1 billion people escaping poverty as a result' (World Bank, 2019: 7).

It is estimated that 55–80 per cent of world trade now passes through global supply chains (OECD and WTO, 2013; UNCTAD, 2013).

According to WTO et al. (2018), the share of domestically produced and consumed value added, even if it remains dominant, has shrunk precisely because of 'complex GVSs', in which value-added crosses national borders several times.

While the share of firms that are engaged in two-way trade by importing and exporting (and defined as global value chain or GVC firms) account for 15 per cent of all trading firms on average, they capture almost 80 per cent of total trade.

In common with other sources, the United Nations Conference on Trade and Development (UNCTAD) estimates that around 80 per cent of global trade (measured in terms of gross exports) is now linked to the international production networks of multinationals, conducted either as intra-firm trade between a multinational and its affiliate(s), through non-equity modes of international production, or through arm's length market transactions.

Participation in global supply chains grew at an average of 4.5 per cent annually between 2005 and 2010 (ILO, 2016), and increased from 35 per cent in the 1970s to 40 per cent in the late 1980s, then jumped significantly in the 1990s and early 2000s over 50 per cent, a level that has persisted (World Bank, 2019). The share of global value chain firms is particularly important in China (41 per cent of firms), but also in South Africa (32 per cent) and in Mexico (22 per cent).

While these figures certainly faithfully reflect the growth and extent of global supply chains, it is nevertheless important to look at them with

some caution. In fact, firms with both import and export functions are not new and we might wonder whether this should be the main criterion when classifying firms in global supply chains compared to more classical firms engaged in normal trading operations. Supply chains, according to this definition, already existed within the framework of classical trade flows, so it is important not to overestimate the impact of global supply chains as the main engine of international trade growth over the past decade.

1.4.2 A direct impact on growth and productivity

The impact of global supply chains on productivity has also been emphasized in the literature. In particular, 'a 1 per cent increase in GVC participation is estimated to boost per capita income growth by more than 1 per cent, about twice as much as standard trade' (World Bank, 2019: 1). Firms working for global value chains are also found to have higher productivity than other firms and also to have a higher productivity than with standard trade (World Bank, 2019: 16). This recent World Bank study also concluded that it is precisely countries such as Bangladesh, Cambodia and Vietnam that have become key actors in global value chains by importing-to-export basic manufacturing products, such as garments, that have enjoyed the biggest economic growth.

Global supply chains also help to generate higher productivity by pulling people out of less attractive activities towards more productive ones. Ethiopia is a good example: the creation of a number of industrial parks for global value chain manufacturing has led to a high number of young people leaving agriculture to work in manufacturing for suppliers of major international brands. It has also generated high employment growth.

1.4.3 A golden source of jobs

No doubt global supply chains have provided new opportunities for employment in developing and emerging economies, including for workers who had difficulty accessing wage employment, such as women, young people and migrant workers. This generally involves moving from jobs in low-productivity subsistence agriculture to jobs in mines, plantations, manufacturing or services. Increased employment opportunities for women have been created, for instance, in apparel and agri-food.

In fact, global supply chain sourcing has created millions of jobs in countries and geographical areas where previously there was little economic development. The ILO *World Economic and Social Outlook 2015* report

estimated (on the basis of the World Input Output Database WIOD) that in 40 countries, representing 85 per cent of world gross domestic product and covering approximately two-thirds of the global labour force, the number of global supply chain-related jobs increased by 157 million or 53 per cent between 1995 and 2013 (from 296 million to 453 million), resulting in a total of 453 million global supply chain-related jobs in 2013.[5] This figure certainly surpassed 600 million jobs by the end of 2020. Emerging economies were found to drive most of this increase in global supply chain related jobs, and contributed to an estimated 116 million more jobs as of 1995 (Kizu et al., 2016; 2019). The largest number of jobs were in China, at 177 million, representing 30.2 per cent of all global supply chain–related jobs, followed by India with 76 million, that is 16.8 per cent of all global supply chain–related jobs. In Vietnam, it is estimated that global supply chains have achieved net job creation of more than 12 million (World Bank, 2019: 113).

There is also a broad variation in the share of global supply chain–related jobs across sectors. The bulk of the jobs are in manufacturing, reflecting the greater tradability of goods, but the highest growth is in the service sector, mainly transport and communication. Between 1995 and 2013, the service sector was rapidly catching up, becoming the largest contributor to the creation of global supply chain–related jobs (ILO, 2015). This was especially the case in advanced economies (Rueda-Cantuche et al., 2019), where services are responsible for three-quarters of job growth, but it is also rising in emerging economies, such as China, Mexico and Vietnam.

Interestingly, in manufacturing, the first sector in terms of employment related to global supply chains is electrical and optical equipment. Moreover, firms participating in global supply chains were found to 'employ more than other firms' (World Bank, 2019: 110), an example being Vietnam, where employment has grown faster in firms that both import and export (classified as global value chain firms) than those only import or export.

According to estimates, the share of women employed in global supply chains in the 40 countries covered by the report was, as a group, 2.5 per cent higher than their share in total employment in 2013 (ILO, 2015). In emerging economies, the share was considerably higher, whereas in advanced economies the share of women employed in global supply chains was much lower than that of total employment, something that can be explained by the retrenchment of female manufacturing in advanced economies. As an

5. Defined as the number of jobs in a specific country and sector that are dependent on global exports to another country and sector.

example, in Ethiopia, women constitute 75 per cent of the labour force in the apparel sector, 65 per cent in Haiti and 77 per cent in Sri Lanka. The share of women was also found to be higher in firms that both import and export compared with the other firms (World Bank, 2019: 114). In Vietnam, for instance, female employment grew faster than male employment in Vietnamese provinces where global value chain participation expanded the most, notably in the apparel and electronics sectors. We will see in the coming chapters (notably Chapters 2 and 3) the other effects of global supply chains on the gender gap, which represents an essential element for global supply chain firms' social upgrading.

Employment in global supply chains, however, is difficult to estimate,[6] and consequently statistics on it are rare, for various reasons. First because national employment statistics do not distinguish between different types of workers engaged in global supply chains. Second, because official statistics also do not fully capture informal work, which is widespread in global supply chains. As an example, informal employment for global supply chains is estimated to be above 1 million people in Turkey, thus doubling the official statistics on official employment related to global supply chains, which is also estimated to represent 1 million workers. Third, it is difficult to distinguish between workers supplying global buyers and those working mainly for domestic buyers because many companies are doing both. This is why the definition of global supply chain companies retained by the World Bank – companies that import and export – might be limited. In fact, many domestic firms, as subcontractors, are not direct exporters, but may nevertheless feed global supply chains through intermediaries or by supplying direct suppliers of international buyers.

1.4.4 But uneven participation by sector and country

While the growth of trade through global supply chains has affected all sectors, they have remained poorly developed in some. This is the case for services and also agro-processing for instance (World Bank, 2019). Similarly, some countries have been left behind in some regions of Africa, Latin America and South Asia. While some countries in South and East Asia and in central and eastern Europe are engaged in more advanced tasks in elec-

6. For instance in the study presented above, the scope is limited to 40 countries. It may be that the number is an underestimate because some countries fully integrated in global supply chains, such as Bangladesh and Vietnam, were not included.

tronics and services, some producers in South Asia and East Africa have remained confined to simple manufacturing tasks, generally of garments. Other producers in Africa and Latin America continue to produce primarily agricultural goods and natural resources, such as cocoa and copper.

As a result, participation in global value chains has also generated inequality across and within countries, as some seem to be stuck in dead-end labour intensive tasks, while others reap high returns to skills and innovation. While Bangladesh can be considered a global supply chain success story (World Bank, 2019: 16), it also remains confined to high labour intensive, low cost production and exports of apparel and footwear goods, with little upgrading being reported.

Moreover, inequality can also be reported between regions, with a greater concentration of global supply chains in urban agglomerations or in border regions for neighbouring global value chain partners.

Finally, various questions have been raised about the redistribution of value added and profits within the chain. As the World Bank (2019: 19) puts it, 'Large corporations that outsource parts and tasks to developing countries have seen higher profits, suggesting that cost reductions are not passed on to consumers'. These profits are also not shared equally between the buyer and producers (Miller and Hohenegger, 2016): the bulk of value added is captured by the lead firms and profits are repatriated rather than reinvested in the sourcing countries. In this respect, it is important not to confine the role of global supply chains to how much they contribute in terms of growth and employment, but to look more widely at how value added created along global supply chains is shared among the different actors in the chain. Seen from this perspective, a different reality might emerge with regard to the role of global supply chains in relation to economic and social upgrading.

1.4.5 Suppliers' longer term risk: remaining trapped in low value added segments

The unequal impact of global supply chains on local economies described above highlights a longer term risk for suppliers from developing countries. The sudden access to external markets and the progressive increase of operations to a larger scale can give local producers the illusion plan that this could continue forever. However, integration in global supply chains can vanish if the lead firm, at least in certain sectors such as garments, shifts, literally overnight, from one producer to another and from one sourcing country to another.

This might happen if the firms and with them the country remain locked in low value added activities and rely too much on static competitive advantages, such as low cost labour, for which there is fierce competition, notably from new producers in newly emerging markets (recently Myanmar, Ethiopia and so on). A number of countries have remained trapped in simple labour-intensive activities. This is often the case in the apparel export sector in Sub-Saharan African, central and eastern Europe and Central America (Bair and Gereffi, 2003; Morris et al., 2016; Pickles et al., 2006).

In other cases, the specialization on certain sectors for developing countries may lead to an increase in growth, but in many countries does not translate into employment growth nor into better working conditions. In countries specialising on the export of basic commodities for example, GDP growth stems mostly from sectors such as mining or crude oil with very limited employment opportunities. In some instances, such structural shift may even lead to a move of employment from higher to lower productivity sectors involving a sort of deindustrialization process (such as in some sub-Saharan countries). In those cases, participation in global supply chains do not lead to labor flows from low-productivity activities to high-productivity activities and are thus not representing a key driver of development anymore (McMillan et al., 2014).

A number of authors have documented how a limited number of countries have in the end succeeded to upgrade to high-value products and services. The Philippines, for example, has benefited a lot from the expansion of call centres, but has found it hard to move towards more sophisticated services (Kleibert, 2015). As we saw earlier, this also very much depends on the lead firm's policy, including the fragmentation of tasks along the chain that might be profitable in terms of capturing more value-added but often confines suppliers in a specialization in specific tasks and functions rather than stimulating them to develop and build their own supply chain (Baldwin, 2016).

On the positive side, China and India have become important export destinations for global supply chains (Kizu et al., 2016). They have also become firmly established in growing South-South trade flows, with many suppliers becoming lead firms themselves. The reality can thus be rather different for suppliers in developing countries, depending on whether they find the right niche to upgrade in or whether they remain confined to lower value added tasks and segments. We will analyse later in this volume why purchasing practices are important in providing suppliers with the right incentives and opportunities.

1.4.6 A slowdown after the 2006–2008 global recession and the 2020–2021 Covid pandemic

General fall in international trade. More recently, the global recession of 2006–2008 precipitated sharp shifts in global production and trade, which resulted in major implications for the role played by emerging economies and firms operating in global value chains (Cattaneo et al., 2010; Gereffi, 2014).

Since the financial crisis, trade growth and global value chain formation have stagnated (World Bank, 2019). While trade rebounded quickly in the direct aftermath of the crisis, no further expansion has been recorded since 2011. This can be explained by lower output growth in major trading economies, including Europe (which accounts for one-fourth of global output and one-third of world trade) and China. While workers employed by heavy exporters had already known some decline before the financial crisis, it has accelerated since then (ILO, 2017 on the basis of evidence on 132 countries). Still, about half of world trade appeared to be related to global value chains.

The Covid-19 pandemic has also led to a general slowdown in the activities of global supply chains, with even a temporary stoppage in a number of sourcing countries in both emerging countries (such as China in early 2020) and more developed countries (such as Italy from the second quarter of 2020). Trade fell by more than 20 per cent in 2020.[7] The common opinion is that economic recovery may take from one to three years or even more.

Consolidation of global supply chains and of South-South trade. Many signs point towards a growing geographical and organizational concentration of global supply chains in many sectors (Lee, 2016). Global value chains are becoming geographically concentrated in fewer countries, especially emerging economies with large domestic markets and robust supplier bases, such as Brazil, China, India and South Africa, that withstood the crisis

7. See UNCTAD forecasts in 'Global trade continues nosedive, UNCTAD forecasts 20% drop in 2020', available at: https://unctad.org/news/global-trade-continues-nosedive-unctad-forecasts-20-drop-2020 (accessed on 13 October 2020); and also UN Brief, 'World Economic Situation and Prospects: September 2020 Briefing, No. 141, available at: https://www.un.org/development/desa/dpad/publication/world-economic-situation-and-prospects-september-2020-briefing-no-141/ (accessed on 13 October 2020).

well (Cattaneo et al., 2010; Gereffi and Sturgeon, 2013). The trend has been intensified by the global recession as global value chain lead firms have streamlined their supply chains to focus on a smaller number of large, more capable suppliers, which are strategically located near dynamic nodes (Gereffi, 2014). Since the 2008–2009 recession, and as world trade rebounded from the 2008–2009 financial crisis, emerging economies have become a major engine of recovery (Staritz et al., 2011: 1–12). At the same time, there has been a reduction in the numbers of both leading firms and main suppliers in a wide range of different industries, from beverages to electronics and aeronautics.

Uncertain prospects, notably after the Covid-19 crisis. Overall, however, trade and global supply chains have slowed, not only because of lower economic growth due to a series of crises (2008–2009 financial crisis, 2020–2021 Covid-19 health crisis), but also because of a slowing pace and even a reversal of trade reforms, with also a number of countries – such as the United States – increasing some trade barriers. As liberalization stimulated global supply chains, recent rises in protectionism could contribute to their running out of steam.

The Covid-19 crisis has also changed the management of global supply chains. It has highlighted the bottleneck problems caused by relying on only one sourcing market, especially when this market is far from the final consumption destination. This has led to a re-evaluation of the respective markets, with a first trend toward bringing back and reshoring some activities previously done remotely, even if the Covid-19 crisis has shown that home markets are no less at risk from such health crises. The current crisis has also led to a second trend towards diversification of markets involved in sourcing activities. It has accentuated some of the current trends presented below, such as automation, and the need to have less risky markets in terms of environmental and social issues.

The arrival of labour-saving technologies such as automation and 3D printing could lead to production closer to consumers and to the reshoring of existing global value chains or shifts to new locations. A recent ILO study (ILO 2015, updated in 2019) not only found a global negative impact of robots on employment and trade in emerging economies in the period 2005–2014, but also concluded that the impact of the deployment of robots on jobs in developed countries led to a lower reliance on offshoring, depressing employment by 5 per cent in emerging economies. This study confirms a previous OECD study that also concluded that the use of industrial robots in developed economies had slowed offshoring rates (De

Backer et al., 2018). At the same time, a recent study based on qualitative case studies in apparel and electronics highlighted the limits, mainly due to technological bottlenecks but also cost-advantage trade-offs, of the deployment of automation technologies in these two sectors, particularly in labour intensive segments of the value chain, such as sewing or assembling (Kucera and Barcia de Mattos, 2019).

Another factor recently emphasized is environmental sustainability, in a context in which global supply chains have been found to be the cause of a massive 'carbon leakage' between developed and developing economies, but also within developing economies, which have weaker environmental regulations. Increasing environmental concerns among brands but also consumers may lead to some slowing down and certainly to closer monitoring of global supply chain operations. A similar disruptive effect could occur on the social sustainability side if brands and entire global supply chains do not manage to achieve better results in terms of working conditions.

All these different factors, such as uncertainties in international trade, increased protection barriers, automation technologies, and possible environmental and social concerns, to which we should add increasing labour costs in developing countries, may well further limit the expansion of global supply chains.

According to the ILO (2015) global supply chain–related jobs have stagnated since the late 2000s. Such a trend would clearly be detrimental for middle and low income countries. 'At present, it is impossible to tell if the process of deeper integration with GSCs has been brought to a standstill or if we are more fundamentally on the verge of a global reversal' (ILO research paper, 2019).

1.5 Conclusions

No doubt global supply chains have become a dominant business model around the globe. The trends in terms of trade, employment and growth speak for themselves. Mainly driven by the objective of producing on a large scale while reducing costs, this strategy has been favoured by an international context of full trade liberalization, which has also allowed a reduction of trade costs, and also of transportation costs. This business model has also profoundly transformed the operations of multinational companies which are no longer based on subsidiaries and direct employment, but on a long chain of raw material providers, intermediaries, suppliers, transporters and retailers until the final consumer. This strategy so far has been tremen-

dously successful because brands continue to register sales and profit records around the world, year after year.

The opportunities for developing and emerging countries are also enormous because they allow any producer to be suddenly integrated in the magic circle of international trade and global supply chains. The contribution to employment is also tremendous in terms of the number of jobs (more than 500 million),[8] exports and economic growth. It has also allowed women, young people and migrants to be more easily integrated in the labour market, even if not always the formal one.

At the same time, the long-term benefits for sourcing countries will depend on their capacity to accomplish an economic upgrade towards higher value added products, segments or functions, which could itself lead to social upgrading in terms of better working conditions. Such a shift would partly depend on the governance structure of the global supply chains, which are determined mainly by the lead firm, generally buyers and retailers, and the type of relationship – long-term versus short-term, knowledge-sharing versus technically dependent, partnership versus authoritarian– they establish with their suppliers, or more generally the version of this new dominant business model that lead firms decide to implement. This relationship has been influenced by the Covid-19 crisis, which has led to a global re-thinking of supply chain management, in terms of choice of markets (remote or closer to home), diversification, capacity to adapt quickly, and the intensive use of labour versus automation.

It is this relationship in contractual terms and purchasing practices between the lead firm and its suppliers that we propose to further investigate in this volume, and that may influence the working conditions and quality of employment emerging in global supply chains (Chapter 2).

8. Estimate for 40 countries only (see ILO, 2015, and Kizu et al., 2016).