

# 7



## Global Value Chains for Inclusive Development

Sang Hyun Park, Kathryn Lundquist, Victor Stolzenburg<sup>1</sup>

### 7.1 Introduction

This chapter examines the inclusiveness of GVCs<sup>2</sup> to identify which trade-related policies can support inclusive development. GVCs account for a major share of international trade, impacting people in developing and developed economies alike. The rise of GVCs contributed to higher growth and income levels in many developing economies, leading to a remarkable acceleration of cross-country income convergence. However, the gains from trade in GVCs are not always fairly distributed. The relationship between GVC integration and within-country inequality, or inclusiveness, is complex. GVCs have promoted opportunities for economic and social upgrading through job creation, knowledge and technology spillovers, and improved working conditions. In some instances, these positive effects have accrued especially to workers and firms that face larger barriers in accessing foreign markets, such as informally employed workers, women, or micro, small, and medium-sized enterprises (MSMEs), thereby closing existing labour market gaps. But GVC integration can also widen pre-existing disparities by raising the demand for skills or by strengthening agglomeration forces that widen the rural-urban divide.

---

<sup>1</sup> World Trade Organization. [sanghyun.park@wto.org](mailto:sanghyun.park@wto.org); [kathryn.lundquist@wto.org](mailto:kathryn.lundquist@wto.org); [victor.stolzenburg@wto.org](mailto:victor.stolzenburg@wto.org) (corresponding author). The opinions expressed in this paper are those of the authors. They do not represent the positions or opinions of the WTO or its Members and are without prejudice to Members' rights and obligations under the WTO. The chapter benefitted substantially from background papers authored by Kathryn Lundquist, Marcelo Olarreaga, Gady Saiovici, Cristian Ugarte, Lu Wang, Xiaolong Xu, Xiuna Yang, and Jiantuo Yu. The authors would also like to thank Weidi Yuan who provided valuable inputs, Marc Bacchetta, Aya Okada, Mari Tanaka and Jiantuo Yu for helpful comments, and William Shaw for excellent editing. Any errors are attributable to the authors.

<sup>2</sup> In contrast to the country level, there are no established definitions for GVC integration at the firm- or worker-level, which is the focus of this chapter. For the purposes of the chapter, GVC integration is defined for firms as either directly or indirectly importing inputs, exporting, or selling domestically to a multinational company. For workers, GVC integration refers to working for a firm that is defined as integrated into GVCs. The effects of related concepts, such as import competition, are for the most part not considered.

Importantly in the context of this report, inclusiveness is a key aspect of resilient and sustainable GVCs. On resilience, as the backlash against globalization in advanced economies has shown, rising inequality can lower political support for trade and increase barriers to GVC integration. Moreover, since the impacts of shocks tend to be unevenly distributed within economies, it is important that all parts of society are able to recover quickly for the economy as a whole to be resilient. For instance, certain sectors were more severely impacted during the COVID-19 pandemic, including the labour-intensive garment industry in developing economies. This had a disproportionate effect on women, as female employees are overrepresented in low-wage textile and apparel production. The potential consequences of prolonged unemployment among female garment workers include adverse effects on the health and education of the next generation, especially girls, reversing much of the progress on SDG goals that the international community has struggled to build up for the past decades.

On sustainability and the increasingly urgent need of a green transition, it is crucial to adopt low-carbon technologies on an economy-wide scale to achieve rapid and effective results. GVCs can be an important tool in this regard, as they link countless firms within economies from large to small. This means that GVCs can accelerate technology diffusion from technological leaders to less innovative firms if the GVC environment is such that barriers to entry for smaller firms can be overcome. Therefore, by prioritizing inclusiveness, GVCs can play a pivotal role in building sustainable and resilient economies for the benefit of all stakeholders.

This chapter reviews the evidence of how GVCs have impacted inclusiveness within developing economies.<sup>3</sup> It addresses several important questions. Can developing economy firms, many of which are MSMEs, upgrade their position within the global production process through GVC participation, or will they remain stuck in low-value-added stages? Has GVC participation adversely affected workers in developing economies, or has it led to improvements in welfare and labour standards? Can GVCs effectively address social concerns such as gender inequality and child labour? Answering these questions requires to look at the conditions in GVCs but also at the broader impact on the affected economies. After all, inclusive GVCs only support inclusive development if they are accessible to the broader economy.

The topic of this chapter is more crucial than ever for two reasons. First, the negative shocks prompted by the COVID-19 pandemic, geopolitical tensions, and the environmental crisis have been shown to hurt some groups, such as low-skilled workers, female employees and MSMEs in developing economies, more than others (WTO, 2020; ILO, 2020a). Second, consumers are increasingly aware of the spillover effects of their choices on workers in developing economies. This has triggered

---

<sup>3</sup> The literature on GVC integration and inclusiveness is extensive. We focus on developing economies and the more recent empirical evidence since we consider this to be the most relevant angle for current policy discussions surrounding inclusiveness in GVCs.

renewed efforts by policymakers and investors to address inclusiveness in supply chains. Ensuring that the resulting policy responses are grounded in solid evidence is important for them to lead to lasting improvements.

The chapter finds that on average GVCs deliver meaningful benefits to workers and firms in developing economies. Firms connected to GVCs benefit in terms of productivity and quality through a multitude of channels, including the transfer of tacit knowledge and technologies, access to finance, information and higher quality inputs, and more demand. For workers, GVCs generate job opportunities in formal sectors and increase wages, particularly for lower-skilled workers. While GVCs may contribute to wage inequalities, they can also improve working conditions through demand-side pressures and voluntary upgrading efforts by MNCs. This can also lead to social upgrading as GVCs are linked to female empowerment and reduced child labour. Digital technologies have played a crucial role in enhancing the inclusiveness of GVCs by reducing trade costs but imply risks related to automation and market power.

More generally, market failures, such as oligopolies, and non-trade barriers limit the inclusiveness of GVCs. Concentrated product and labour markets cut into the profits of producers and workers in developing economies. A varied set of restrictions holds women back from benefitting from firm upgrading in GVCs. This implies that policy should focus on facilitating access to GVCs and address market imperfections and barriers. Social provisions in trade agreements and due diligence requirements, the dominant approaches currently, may in many instances not be the ideal tools. In any case, they should be accompanied by continuous cooperation between developing and advanced economies to promote positive outcomes and take into account the economic literature highlighting possible negative side effects.

The chapter is organized as follows. Section 2 examines the impact of GVC integration on firm performance in developing economies, especially MSMEs, and Section 3 reviews the impact on labour markets and social concerns. Sections 4 and 5 look ahead by discussing the future of inclusive GVCs with growing automation and artificial intelligence (AI) and the policy implications before Section 6 concludes.

## 7.2 GVCs can Improve the Performance of MSMEs in Developing Economies

This section examines the recent evidence on GVC participation and firm performance in developing economies. The key message is that firms, many of which are MSMEs, tend to enjoy substantial benefits from GVC integration. The literature suggests that there are five main channels through which MSMEs benefit from GVC participation: improved access to international markets, enhanced access to tacit knowledge and good management practices, technology spillovers and innovation, quality upgrading,

and improved access to trade finance. However, despite these advantages, MSMEs encounter challenges due to limited capacity and institutional barriers, setting them apart from larger multinational firms. The benefits of GVC participation tend to favour companies that are sizable, technologically advanced, professionally managed, and possess diversified trade networks (Gereffi and Luo, 2015). Moreover, the limited bargaining power compared to larger firms, can prevent MSMEs from receiving a fair share of the profits generated within GVCs.

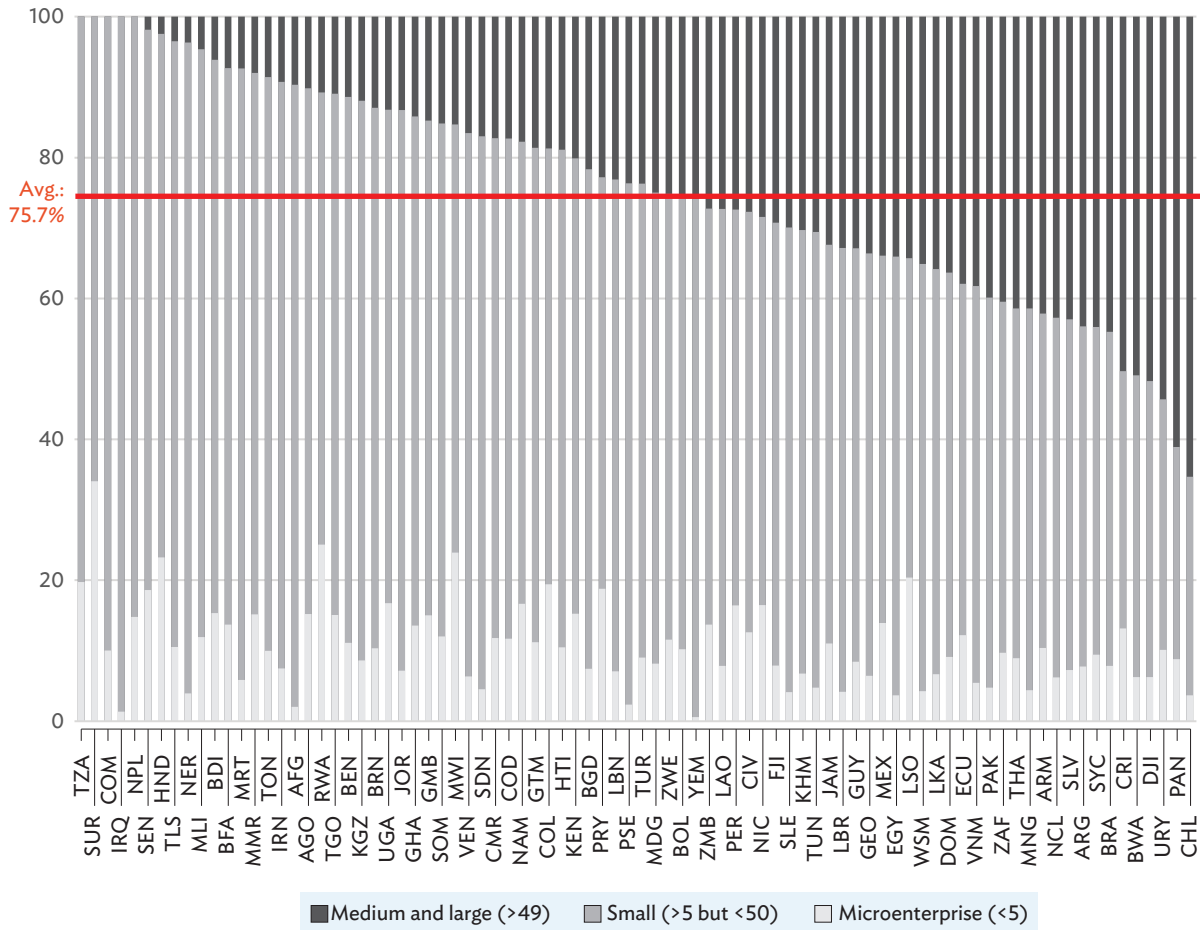
### **The Context: MSMEs' Role in Developing Economies and Trends in their GVC Participation**

MSMEs are the primary source of employment in developing economies. Statistics across 84 developing economies reveal that, on average, firms with less than 50 employees hire approximately 75.7% of the total workforce (Figure 7.1). Particularly in low-income developing economies, the proportion of workers employed by MSMEs is very high, comprising often informal work or non-standard employment arrangements (OECD, 2023a). These workers are at most partially covered by labour regulations, making them particularly susceptible to economic shocks. Consequently, fostering the resilient participation of MSMEs in GVCs is vital in fostering overall inclusiveness in GVCs. A recent study in South Africa also underscores the role of small, innovative firms in job creation when joining GVCs. As smaller and younger firms enter GVCs and improve productivity through resource reallocation, they are more likely to create jobs, compared to large firms continuously operating within GVCs (Ndubuisi and Owusu, 2023).

However, MSMEs' GVC participation is hampered by several factors, including financial constraints and a lack of operational capabilities. These factors also explain why, even when MSMEs are integrated in GVCs, their participation often exhibits two specific characteristics. Firstly, MSMEs in developing economies tend to specialize in low-value-added, labour-intensive segments of the production process, as they rely on leveraging cheap labour. Secondly, most of the GVC participation of MSMEs occurs through indirect linkages, rather than direct exports or imports. MSME GVC participation, especially in developing economies, typically occurs by supplying intermediate inputs to lead firms with local presence. These lead firms are typically large firms (Lundquist, 2023), as "going global" can be particularly challenging for small firms (Buciuni et al., 2022). If MSMEs trade directly, it is often in sectors with low entry costs and capital requirements.

That said, even indirect linkages to foreign markets through GVCs can generate large benefits. The interdependence of firms within GVCs provides opportunities for sharing knowledge, technology and even credit, which can have a particularly strong impact on MSMEs given the numerous constraints they tend to face. A foreign firm and a local supplier interact and coordinate to maintain the smooth functioning of the supply chain. This interaction facilitates the transfer of tacit knowledge, which has the potential to enhance domestic innovative capabilities (Gentile et al, 2021). Benefits tend to be stronger when so-called *superstar* firms – firms that dominate their market – are involved

Figure 7.1: Share of Employment by Firm Size in Developing Economies (%)

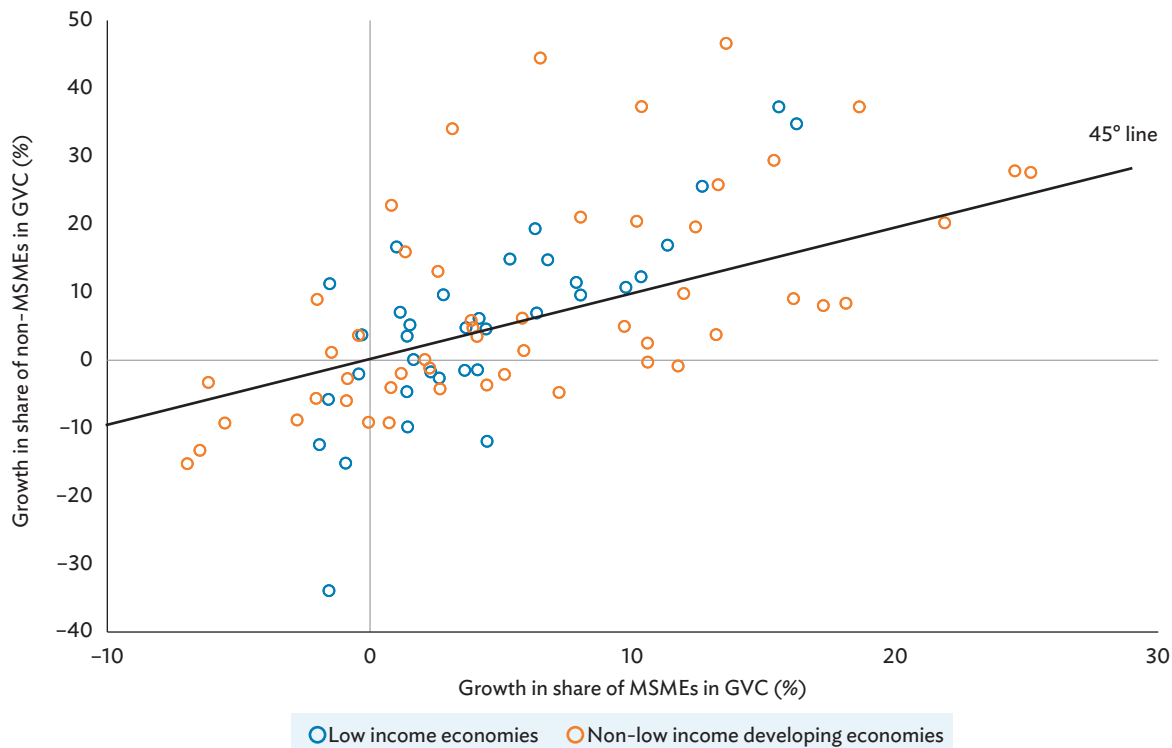


Source: Generated by the authors using ILOSTAT (2023). The figures for each country represent the latest available year among the 84 developing economies included. Employment includes both formal and informal employment.

due to their established supply and demand network, which helps their local suppliers to gain access to international markets themselves (Cusolito et al., 2016). Irrespective of whether superstar firms are domestic or foreign firms, they prioritize investments in R&D, ICT, and human capital, leading to more potent spillover effects (Amiti et al., 2023).

Data from developing economies suggests that MSMEs have improved their direct participation in GVCs. Figure 7.2 illustrates that, for most economies, the share of MSMEs directly engaged in GVCs has increased over the last decade, indicated by all points to the right of the perpendicular line. Large firms (“non-MSMEs”) have enjoyed even faster growth in GVC participation in a significant number of developing economies, as indicated by points positioned above the 45-degree line. This trend is particularly prominent in low-income economies. Nevertheless, the increased participation of MSMEs is a positive sign for the inclusiveness of GVCs.

Figure 7.2: Growth in the Share of Firms Participating in GVC in the Recent Decades (2006–2022)



Source: Authors' calculation based on the World Bank Enterprise Survey (WBES) of 86 developing economies, applying statistical weights in each data set. The GVC participation rate is defined as the proportion of firms engaged in both exporting and importing and is computed separately for MSMEs (defined as enterprises with fewer than 100 employees) and non-MSME firms (including firms with 100 or more employees, state-owned enterprises, subsidiaries of large firms, or foreign firms) within each developing economy. The growth rate is determined by comparing GVC participation rates for a given year in the period 2006–2013 with the participation rate for a given year in the period 2014–2022. As countries are surveyed infrequently, the exact years used for the comparison differ from country to country based on data availability. The classification of low-income economies is applicable to those with an income per capita below 1,000 USD.

## GVCs Facilitate Access to International Markets

MSMEs face greater information frictions when accessing foreign markets, from finding buyers and suppliers to understanding foreign standards and changing trade regulations. For example, searching and matching between buyers and sellers can be very costly. Startz (2021), using transaction data in Nigeria, finds that traders often incur huge travel costs when searching for new suppliers as it requires face-to-face meetings to learn reliably about supplier quality. In the Philippines, Allen (2014) finds that producers incur substantial costs to learn about prices in other locations and that roughly half of the observed regional price dispersion is due to information frictions.

Participating in GVCs with lead firms presents a significant opportunity for MSMEs to overcome such information frictions and trade barriers. Lead firms have established networks of buyers and suppliers which each supplier may be able to access on its own (Amiti et al., 2023). This often results in an increase in the number of buyers due to reduced information frictions or the credibility gained from contracting with top-tier

firms. Additionally, MNC affiliates and suppliers demonstrate a greater propensity to export and import, engage with diverse economies, and achieve higher values of trade (Conconi et al., 2022). As domestic firms enter MNCs' supply chains and start selling to foreign companies, they acquire essential knowledge and skills for exporting and often start exporting to economies where the respective MNC is headquartered or has an affiliate. These experiences further lead to significant productivity gains driven by an improved ability to acquire new buyers (Alfaro-Urena et al., 2022b; Carballo et al., 2019).

Improved access to foreign inputs has also been shown to increase firm productivity (Amiti and Konings, 2007; Kasahara and Rodriguez, 2008; Topalova and Khandelwal, 2011, Halpern et al., 2015). In a recent study, Bisztray et al. (2018) find that Hungarian firms can learn about better access to inputs through peers in spatial and managerial networks through knowledge spillovers. Spillovers are stronger when firms or peers are larger and more productive. From a GVC perspective, this implies that the networks with lead firms, which tend to be more productive, will generate a greater knowledge spillover to local MSMEs, giving them advantages in accessing cheaper, higher quality inputs and capital goods.

Employee spinoffs and labour mobility more generally are another avenue to overcome information frictions. When employees of MNCs or other firms participating in GVCs establish spinoffs, their knowledge of foreign markets can substantially accelerate export market entry. This contributes to the superior performance of spinoffs relative to other start-ups (Muendler and Rauch, 2018). Similarly, when highly skilled workers move from an MNC to a domestic employer, they transfer information leading to higher wages in their new firms (Poole, 2013).

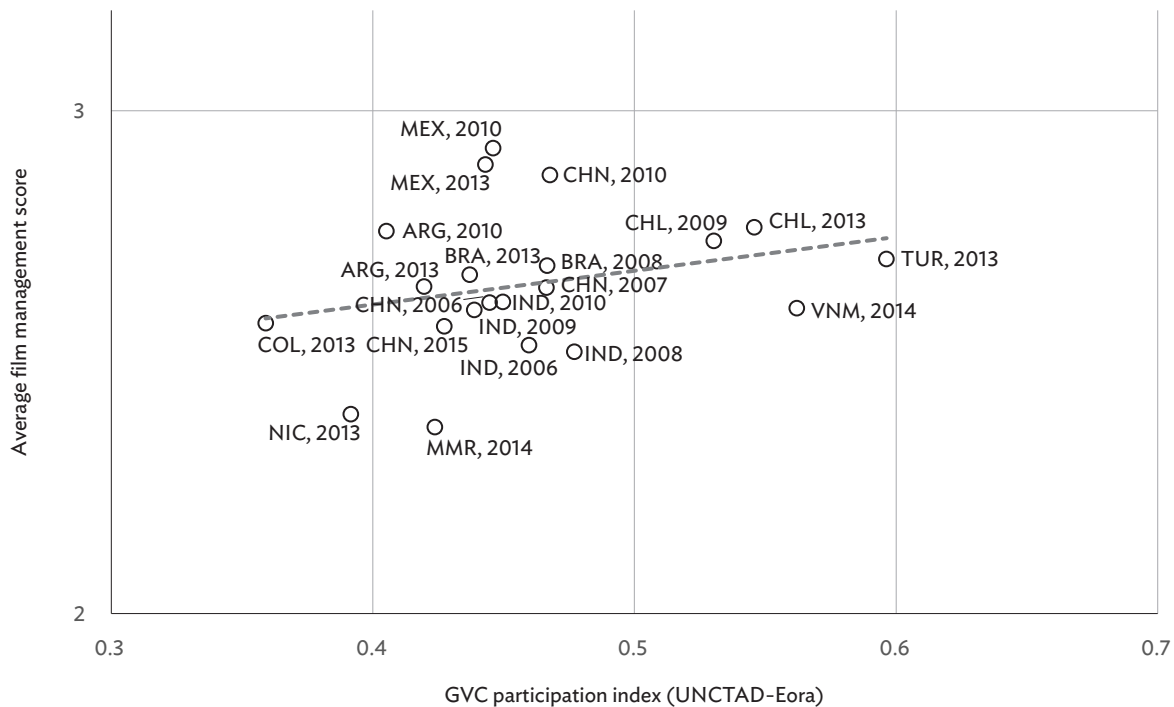
### **GVCs Facilitate the Transfer of Good Management Practices**

Lack of non-codifiable knowledge, such as managerial capacity, is a common constraint for MSMEs, especially in developing economies (Sok et al., 2020; Bloom et al., 2012). These businesses face limitations in their managerial resources due to time constraints and information frictions, and, most importantly, a shortage of specialized professionals (Manaresi et al., 2022). Despite these challenges, participation in GVCs can facilitate the dissemination of good management practices.

Management quality is a crucial factor in determining firm performance (Bloom and van Reenen, 2007; Caliendo et al., 2020). Effective organizational management is, for instance, closely associated with the adoption of new production technologies (Juhász et al., 2020; Atkin et al., 2017a). Good management practices have also been shown to improve working conditions, demonstrating the complementary relationship between management practices and working conditions (Distelhorst et al., 2017). For example, evidence from garment factories in Bangladesh suggests that the promotion of occupational safety and health compliance by MNCs has the greatest impact in factories with better managerial practices (Boudreau, 2022).



Figure 7.3: Quality of Management Practices and GVC Participation



Source: Authors' calculation based on UNCTAD-Eora for GVC participation index, and World Management Survey (Bloom et al., 2021) for average firm management score of each country. The GVC participation index is calculated as (Indirect Value Added (DVX) + Foreign Value Added (FVA)) divided by the gross export of each country.

Management practices can improve through forward participation in GVCs, or “learning by exporting”. Exporting firms enhance their productivity and competitiveness by acquiring efficient management knowledge, driven by the intense competition they face in foreign markets in advanced economies (Urata and Baek, 2021). In the case of Myanmar, as garment manufacturing firms increase exports, they improve not only performance and size, but also management practices (Tanaka, 2020). In general, cross-country comparisons, as depicted in Figure 7.3, align with this mechanism, showing that developing economies with a higher degree of GVC participation tend to have a higher average firm management score.

MSMEs can acquire management know-how especially through long-term relationships with lead firms (Antràs and Yeaple, 2014). Repeated interactions enable a greater flow of information between lead firms and their MSME suppliers, leading to improvements in these smaller firms' management practices, technology, and skill levels (ADB and ADB, 2016). This mechanism contributes to higher productivity and innovativeness in MSMEs (MacGarvie, 2006; Abbey et al., 2017; Anh and Dang, 2020). Moreover, foreign ownership can provide better networks with foreign partners, access to technology and management experiences, and learning opportunities from exporting through parent companies (Hing et al., 2020). Joint ventures with foreign capital, for example, can be an important channel as they bring in newer and more advanced skills in processing, technology, funding, marketing, and other management knowledge that expand the company's participation in the global value chain (Sok et al., 2020).



Management practices can diffuse because MNCs may voluntarily transfer valuable knowledge assets to their local suppliers in order to enhance their efficiency and competitiveness. These transfers can take the form of training programs, or knowledge-sharing initiatives (Saliola and Zanfei, 2009). A recent case study by Sudan (2021) on India's automotive industry illustrates how MSMEs benefit from direct knowledge transfers. The study demonstrates how a lead firm in India's automotive industry facilitated process upgrading among MSMEs through various channels, leading to the adoption of just-in-time, total quality management, and total productivity management practices. These initiatives resulted in new learning and demonstration effects on the lead firm's subsidiaries and associated component firms, illustrating how the lead firm enabled the integration of Indian SMEs into the global value chain by initially equipping them with the capacity to leverage their participation. Similar mechanisms have been observed in other sectors, such as the aeronautic and coffee GVCs. MNCs disseminate company knowledge by training employees of MSMEs or smallholder farmers, monitoring technical production, and promoting learning processes, since the MNCs rely on their suppliers to meet quality standards (Cafaggi et al., 2012).

The superior management practices of MNCs can also be disseminated through indirect channels, such as employment turnover. When domestic managers work at MNCs and gain exposure to high-quality management practices, they can transfer this knowledge to new workplaces when switching jobs (Poole, 2013; Bloom et al., 2020; UNCTAD, 2021)

However, the mere presence or connections to MNCs may not guarantee the spillover of tacit knowledge. Management knowledge, being tacit, non-routine, and sometimes non-codifiable in nature, poses challenges for its dissemination outside of firms. While significant spillovers of management knowledge often occur within firms, improvements in management practices can be short-lived and easily reversed when managerial turnover takes place (Bloom et al., 2020). Moreover, language barriers can be a critical obstacle to the spread of foreign managerial practices to domestic managers. Using randomized controlled trials in firms in Myanmar, one study found that reducing language barriers through subsidized English lessons can enhance the transfer of management knowledge (Guillouet et al., 2022; see also Box 7.1).

### **GVCs Facilitate Quality Upgrading**

GVCs play a crucial role in promoting quality upgrading for MSMEs and smallholder farmers in developing economies. Quality upgrading, for instance to meet standards, is often a precondition for GVC integration (Macchiavello and Miquel-Florensa, 2019; Rifin and Naully, 2020). This is supported by extensive empirical evidence (Rodriguez-Clare, 1996; Newman et al., 2015; Alfaro-Urena et al., 2022b). Improving quality can benefit MSMEs through export and input channels, and the positive impacts can be maximized through quality improvement programs or quality certifications.

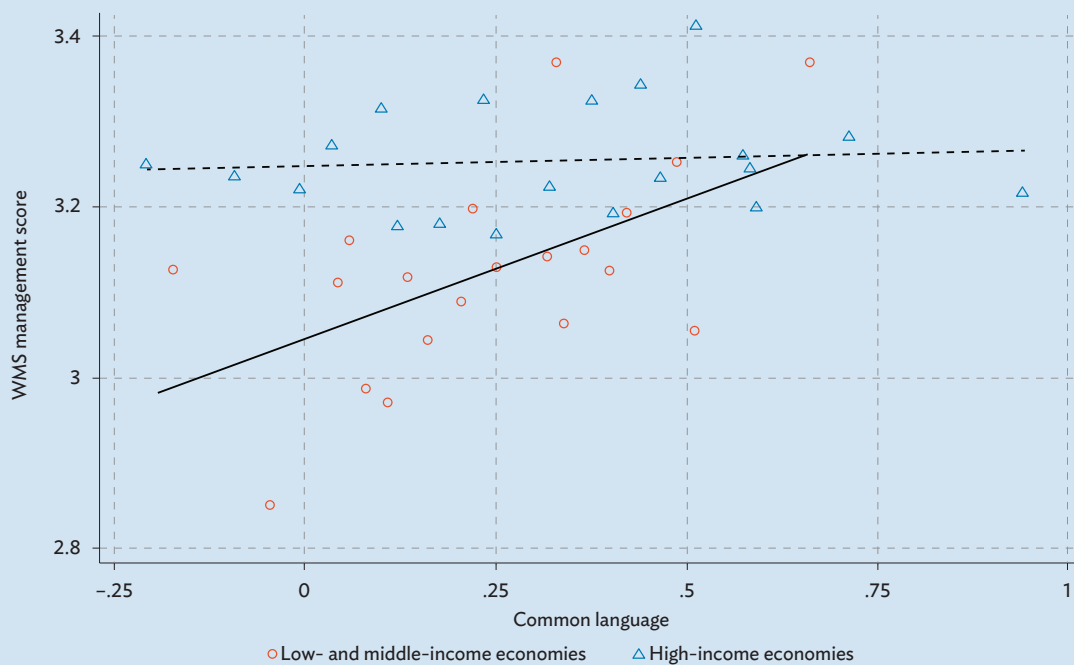
### Box 7.1: The Importance of Language Skills for Knowledge Diffusion

Language differences are an important barrier to knowledge diffusion because they influence FDI and outsourcing decisions of MNCs, which are key drivers of knowledge and technology spillovers (Kim et al., 2015). The effect of language differences is also visible in knowledge-intensive strategic alliances such as collaborative R&D activities among firms. A study on semiconductor design observed an inverted U-shaped relationship between partners' language differences and the likelihood of forming cross-border R&D alliances (Joshi and Lahiri, 2015). This finding indicates that language differences serve as a noticeable source of friction for establishing such alliances.

Furthermore, easier access to English education has been demonstrated to play a key role in mitigating inequality in the context of globalization. For instance, in India, districts where the incentives to learn English were larger, primarily due to regional languages being highly dissimilar to Hindi, the alternative official language, saw greater benefits from globalization. These benefits manifested as significant growth in knowledge-intensive sectors like IT, and an increase in school enrolments. This increased engagement in education and technology, in turn, limited the rise in wage premiums for skilled labour, thus decreasing inequality (Shastry, 2012).

Language friction can also have an impact on various types of strategic interactions and organizational processes. As discovered by Guillouet et al. (2022), language differences can impede the spillovers of management skills and tacit knowledge within MNCs. Effective communication and knowledge sharing within MNCs can be hindered when language barriers exist, potentially limiting the transfer of valuable skills and knowledge among employees within the organization.

Figure 7.4: Management Quality and Language Similarities between Host and HQ Country



Note: Guillouet et al. (2022) use a gravity specification to generate the binned scatter plot, wherein they regress the WMS management score of a subsidiary on the common language indicator, the distance between the host and origin country, the number of employees, and both host and origin country fixed effects.

Figure 4 from Guillouet et al. (2022) demonstrates a positive correlation between the management scores of MNC subsidiaries and language similarities between the host country and the headquarters' country of origin, presenting a stark difference between low- and middle-income economies (represented by a solid line) and high-income economies (dashed line). The authors highlight that this correlation is markedly flatter for subsidiaries in high-income economies compared to those in middle and low-income economies. This suggests that language barriers could impede the effective transfer of knowledge from MNCs to employees in developing economies, potentially restricting the advantages gained from such knowledge transfers.

As foreign language skills are considered as general skills in the labour market of developing economies, firms may underinvest in language training. Such underinvestment in skills calls for the need for policy interventions, either through foreign language training programs or formal education. For instance, the Trinidad government has taken a step in this direction by passing a bill in 2005, making Spanish a mandatory subject in schools and requiring basic Spanish proficiency for all civil servants. Davies (2005) explains that one of the motivations behind this policy was to align its language with Venezuela, the largest oil producer in the hemisphere, in order to strengthen Trinidad's own oil and natural gas industries. This example shows the importance of sharing a common language to promote business linkages, and further, knowledge transfers.

Similar to management practices, quality upgrading within GVCs can be facilitated through “learning by exporting” (Clerides et al., 1998; De Loecker, 2007; Harrison and Rodriguez-Clare, 2010). Pressure from conducting business in highly competitive foreign markets forces exporting firms to improve their performance. GVC integration as a seller requires a reliable and timely production of quality inputs, leading to upgrading by raising incentives to invest in input and output quality (Stolzenburg et al., 2019). A major driving force in this mechanism is a demand-side factor - notably, higher demand for quality - in markets in advanced economies. This demand pressure forces firms to upgrade their quality standards to meet the requirements of high-income foreign buyers. In a unique research study focusing on Egyptian rug producers gaining access to foreign markets, Atkin et al. (2017b) discovered a notable increase in the overall quality levels of rugs.

Importantly for MSMEs in developing economies, the positive effects of supply chain trade also arise through indirect exporting. Recent studies show that the positive effects of export opportunities for larger firms spill over to the domestic economy through large firms’ linkages with domestic suppliers. As the exporting firms require higher quality inputs to compete on foreign markets, their suppliers increase their skill intensity and sourcing from abroad to upgrade the quality of their products. This can lead to positive wage effects that are up to 9 times larger than in models not accounting for domestic linkages (Demir et al., forthcoming; Fieler et al. 2018).

Sourcing strategies imposed by lead firms play also a crucial role in the quality upgrading efforts of exporting firms in developing economies (Cajal-Grossi et al., 2023; Gereffi, 1999; Egan and Mody, 1992). MNCs that source from abroad often encounter quality issues. To address this, firms can adopt relational sourcing methods. Relational sourcing constitutes a strategy employed by buyers, wherein orders are assigned to a limited pool of suppliers. Buyers engage in long-lasting relationships with suppliers and pay higher prices to incentivize and enable suppliers to deliver high-quality inputs. This contrasts with spot-sourcing strategies, where transactions take place without long-term, recurring relationships. By paying additional markups, MNCs aim to improve relationship dimensions that are difficult to contract and observe, such as input quality (Macchiavello, 2022; Cajal-Grossi et al., 2023).

Quality improvement programs offered to MSMEs and smallholder farmers are another way for buyers to ensure required quality (Cafaggi et al., 2012; Sudan, 2021; Sok et al., 2020; Macchiavello and Miquel-Florensa, 2019). A study on the Sustainable Quality Program implemented in Colombia’s coffee value chain finds that such programs can reduce the gap between prices farmers receive and final consumer prices, increasing quality upgrading incentives (Macchiavello and Miquel-Florensa; 2019). Quality certification programs can play a similar role (Rifin and Naully, 2020). Dragusanu et al. (2022) and Zavala (2022) find that Fair Trade Certification decreases inequality in the coffee sectors of Costa Rica and Ecuador, as rents are transferred from the intermediaries to the farm owners.

Importing is also important for quality upgrading as it provides firms in developing economies with access to cheaper and higher quality inputs and capital goods (Goldberg et al. 2010, Sudan, 2021). The economic literature consistently highlights that more successful exporters use higher-quality manufactured inputs and employ more skilled workers to produce superior outputs that command higher prices (Verhoogen, 2008; Kugler and Verhoogen, 2012; Khandelwal, 2010; Manova and Zhang, 2012; Bastos et al., 2018). Furthermore, local MSMEs can achieve enhanced quality by combining domestic and foreign intermediate inputs (Sudan, 2021). This finding aligns with the observation made by Halpern et al. (2015), who discovered that imported inputs are not perfect substitutes for domestic inputs and are generally of higher quality.

### **GVCs Facilitate Technology Transfers and Innovation**

GVCs facilitate the transfer of technology and innovation from lead firms to their suppliers. As discussed previously, lead firms in GVCs have an incentive to transfer technology and know-how as they rely on high-quality inputs from their suppliers (Baldwin and Lopez-Gonzalez, 2015; Piermartini and Rubinova, 2021). The flow of knowledge between firms within GVCs is stronger for long-term firm-to-firm relationships that are characteristic of some value chains, making them highly effective in transferring technology (Antras, 2020; World Bank, 2020). The technology transfer in relationships between foreign customers and local suppliers has proven to be highly effective in raising supplier productivity (Javorcik, 2004; Alvarez and Lopez, 2008). MSMEs can also sometimes reap the benefits of technology transfers even if they are not directly exporting or importing as long as they are part of domestic production networks that benefit from trade (Iyoha, 2022).

In this regard, the heterogeneity among local suppliers in developing economies, specifically in their capacity to absorb, assimilate, and adapt knowledge and skills transferred by lead firms, is a crucial factor. While GVCs have been empirically shown to stimulate innovation, as measured by the number of patent applications, the presence of strong absorptive capacity is crucial in this process (Piermartini and Rubinova, 2021). A study conducted by De Marchi et al. (2015) examined 50 GVCs in developing economies and categorized them into different groups. They found that just under a fifth of the cases fell into the “GVC-led innovators group,” indicating that these firms effectively used GVC knowledge to drive innovation. However, more than half of the cases analyzed belonged to the “Marginal Innovators group,” characterized by a lack of in-house R&D activities and a weak local innovation system that limited their reliance on local learning sources. This evidence underscores the importance of addressing the absorptive capacity constraints faced by MSMEs in developing economies for local innovation.

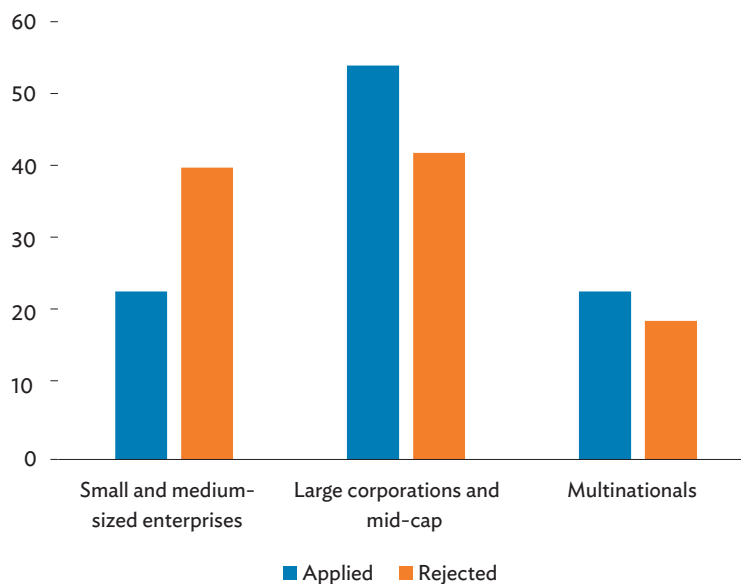
Similarly, not all GVC relationships are equally conducive to transfers or innovation (Saliola and Zanfei, 2009). The relationships of MSMEs with global lead firms are often confined to mere purchase-supply relationships, where the lead firms provide only limited information. This leaves little room for innovation, particularly in the areas of

marketing, human resources, and finance (Kumar and Subrahmanya, 2010). In such “captive relationships,” significant bargaining power imbalances can trap suppliers in repetitive and non-innovative tasks, instead of fostering learning and innovation processes that are typical of relational GVCs. For instance, recent research in the mining industry has demonstrated that the hierarchical governance prevalent in this sector often hinders learning and innovation, due to power and information asymmetry between lead firms and local suppliers (Pietrobelli et al., 2018).

### GVCs Facilitate Access to Trade Finance for MSMEs

Smaller businesses, especially from developing economies, have limited access to trade finance. As trade finance is used in approximately 80% of global trade transactions (WTO and IFC, 2022), this acts as a substantial non-tariff trade barrier (WTO, 2016). According to a recent figure (Figure 7.5) from the Asian Development Bank, small businesses are significantly more likely to have their trade finance requests rejected compared to large firms (ADB, 2021). Trade credit is commonly used by financially constrained firms to finance input purchases or extend financing to their customers (Fabbri and Klapper, 2009). This is particularly prevalent among small firms (Marotta, 2001; McMillan and Woodruff, 1999). Working capital plays a critical role in bridging the timing gap between costs and cash flows, and GVCs necessitate substantial short-term financing to meet their non-linearly increasing working capital requirements throughout the production chains (Kim and Shin, 2023).

Figure 7.5: Trade Finance Rejections



Source: ADB (2021)

Firms in developing economies encounter added obstacles in obtaining affordable and adequate trade finance due to the financial challenges typically found in these economies. For instance, in West African economies, trade finance only supports a quarter of goods trade, which is lower than the African average of 40 percent and the global average of 60-80 percent (WTO and IFC, 2022). MSMEs face even greater obstacles. In a joint 2013 survey by the OECD and the WTO on Aid for Trade, the lack of access to finance, particularly trade finance, was identified as the primary obstacle for suppliers from low-income economies to enter, establish, or move up in value chains. Approximately 65 percent of suppliers from low-income economies expressed concerns about inadequate access to finance, while only 6 percent of lead firms in the production chains considered it an issue.

Participation in GVCs can significantly alleviate financial constraints by providing access to credit, particularly for MSMEs. To overcome credit limitations, firms within GVCs often use firm-to-firm credit arrangements and trade credit as a means of obtaining working capital. This approach is strongly tied to GVCs' high dependency on finance, where accounts payable and receivable play a key role in short-term financing for firms (Kim and Shin, 2023). The interconnected nature of GVCs, underscored by repeated transactions and long-term relationships, ensures that financial decisions made by upstream companies can directly and indirectly influence the financial performance of downstream suppliers, even in arm's length relationships (IMF, 2017). Such interdependencies encourage larger, less financially constrained firms to borrow at lower foreign currency rates and channel these funds domestically to their smaller suppliers, albeit with a reduction in profits (Hardy et al., 2023).

Within GVCs, trade credit often materializes as a result of enduring contractual relationships, fortified by reputation dynamics (Bocola and Bornstein, 2023). This creates a strong motivation to repay suppliers to avoid damaging these critical connections, as both buyers and sellers benefit from maintaining these relationships (Bocola and Bornstein, 2023; Macchiavello, 2022). Empirical evidence further emphasizes the critical role GVCs play in enhancing credit access for MSMEs, with firms engaged in GVCs more likely to receive and extend trade credit to their suppliers and customers, especially if they're financially constrained (IMF, 2017; Thang and Ha, 2022). This advantage is particularly pronounced when these firms establish long-term trade relationships with large international partners, an invaluable benefit in scenarios with limited access to bank credit or weaker banking relationships (Minetti et al., 2019).

Furthermore, the role of GVCs as financial intermediaries can also have macroeconomic implications, contributing to the stabilization of emerging market economies. Trade credit has the capacity to absorb external shocks, thereby assisting in the smoothing of firms' output (Garcia-Appendini and Montoriol-Garriga, 2013). Moreover, firms can use trade credit to manage liquidity (Amberg et al., 2021), stabilize their trade partners (Ersahin et al., 2023), manage currency shocks, and enhance overall economic stability (Hardy et al., 2023). However, while firm-to-firm financing allows for greater output



support on average, it can sometimes increase vulnerability to financial shocks. For instance, the presence of trade credit amplified the financial impact on firms during the Great Recession (Bocola and Bornstein, 2023).

### 7.3 GVCs Can Help Workers in Developing Economies

This section examines the recent evidence concerning labour market impacts of GVC participation. The key message is that engaging in GVCs leads to substantial benefits. GVCs create job opportunities in formal sectors with higher wages and better working conditions, particularly for lower-skilled workers. For example, the US-Viet Nam Trade Agreement led to a reallocation of labour from the informal sector to formal employers, resulting in significant wage adjustments (McCaig and Pavcnik, 2018). Import channels can lower production costs and enhance productivity for domestic firms, thereby leading to growth and increases in manufacturing employment (Topalova, 2007; Goldberg et al., 2010; Amiti and Konings, 2007; Bas and Bombarda, 2023). In Ethiopia, employment in manufacturing increased when a surge in Chinese imports led to productivity gains and increased capacity utilization driven by better quality inputs (Ngoma, 2023).

However, several issues remain regarding the impact of GVC integration on wage inequality, informal labour, and labour standards. The benefits of GVC participation may not be equally distributed among workers of different skill levels or between regions. At the macro-level, the conclusions regarding the effects of GVCs on inequality are complex, and the impacts of a particular trade shock may evolve dynamically over time, making the effects of trade exposure time-horizon specific (Dix-Carneiro and Kovak, 2023). That said, a background paper to this chapter finds that GVC integration tends to reduce aggregate income inequality in developing economies (Yu et al., 2023).

The section also finds that GVC integration can address social concerns, with a focus on female empowerment and child labour. Cross-country evidence demonstrates that participation in GVCs can have a pivotal role in both economic and social upgrading (UNCTAD, 2013; Stolzenburg et al., 2019). GVCs not only directly contribute to economic prosperity that benefits disadvantaged groups but also provide an opportunity for lead firms to leverage their corporate resources in driving social upgrading initiatives. Specifically, lead firms can play an important role in enhancing social standards among lower-tier suppliers, thereby creating positive spillover effects that extend upstream within the value chain (Narula, 2020). In line with this, the section finds that GVCs have increased female empowerment and tend to reduce child labour. However, underlying barriers, for instance regarding access to education or finance, prevent GVCs from contributing further to closing gender inequalities.



## GVCs Can Support a Shift to Formal Employment

GVC integration tends to reduce informal employment as it raises the demand for formal labour. Informal employment is prevalent in many developing economies. Informal workers typically have lower job security, income, and fewer benefits and opportunities compared to formal workers. Informal workers are often excluded from formal labour regulations, which limits their access to social protections and benefits, including health care and retirement plans. They tend to earn lower wages and have limited opportunities for education and training, which constrains their ability to acquire new skills, participate in international trade and advance their careers (Bacchetta et al., 2009; McCaig and Pavcnik, 2018).<sup>4</sup>

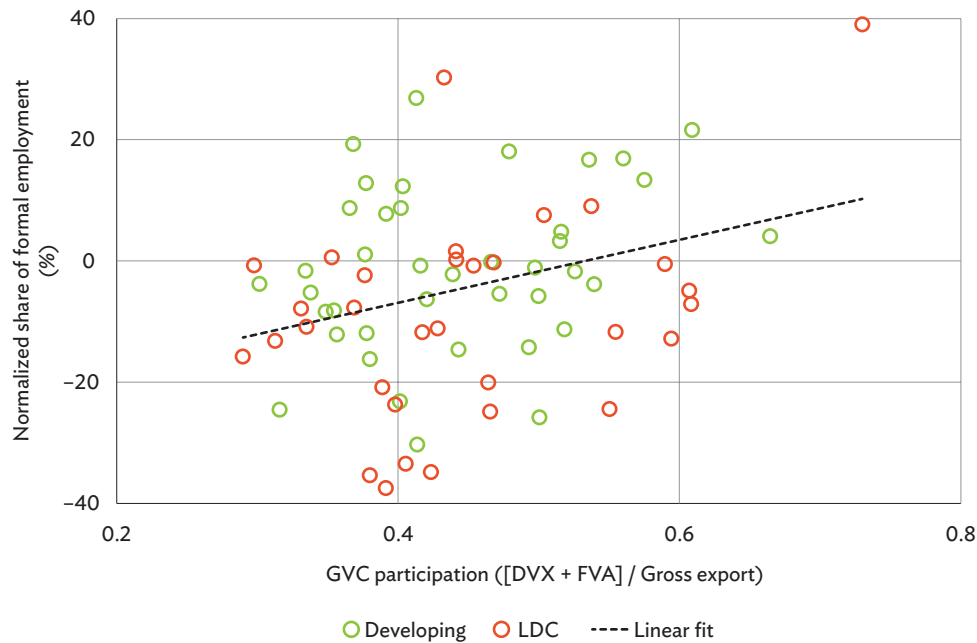
In general, the integration in GVCs, particularly through increased export opportunities, has led to a significant shift of workers from the informal sector to formal employment (Maertens and Swinnen, 2009). This view is consistent with the conventional perspective of the informal sector, which posits that the informal sector primarily serves as a holding ground for workers who are unable to secure formal sector jobs (Chandra and Khan 1993). According to this view, as an economy develops and the pool of formal sector jobs expands, the growing number of formal sector opportunities will naturally crowd out informality. Cross-country comparisons also indicate that GVC participation is positively associated with the share of formal employment, particularly among developing economies (Figure 7.6).

Multiple examples from recent GVC integration episodes show that increased access to advanced economy markets through GVCs has led to a shift away from more informal sectors, such as agriculture, in economies like the People's Republic of China (PRC) (Erten and Leight, 2021). A notable example is the United States-Viet Nam Bilateral Trade Agreement, which resulted in a sharp reduction of US tariffs on Vietnamese exports and induced the reallocation of labour from informal microenterprises to formal employers (McCaig and Pavcnik, 2018). During this adjustment, the influx of new entrants following the tariff reductions was critical in generating formal manufacturing, with foreign firms playing an important role (McCaig et al., 2022). In Bangladesh, where the growth in GVC-integrated garment sector exports has been a major driving force in economic growth in the past decades, trade exposure has increased formal labour force participation, especially for women (Goutam et al., 2017). In Cambodia, a surge in garment exports to the EU induced a 16-22 percent increase in employment at formal establishments (Tanaka, 2022).

---

<sup>4</sup> That said, recent literature has also highlighted several useful aspects of informal labour markets. Studies show that the informal sector plays a role as an “unemployment buffer” when a country is facing negative shocks induced by trade exposure (Dix-Carneiro et al., 2021; Ponczek and Ulyssea, 2022). In addition, the existence of an informal sector may mitigate the monopsony power of firms by providing an outside option to workers (Amodio et al., 2022).

Figure 7.6: GVC Participation and Formal Share of Employment



Source: Authors' calculation based on ILOSTAT for (in)formal share of employment, and UNCTAD-Eora for GVC participation. The graph controls for year fixed effects and GDP per capita and plots the latest observations of each country in ILOSTAT. The GVC participation index is calculated as (Indirect Value Added (DVX) + Foreign Value Added (FVA)) divided by the Gross Export of each country.

Formalization of employment can also occur through input channels, as access to cheaper inputs or more advanced foreign technology becomes easier. When Mexico initiated the North American Free Trade Agreement (NAFTA) in 1994, improved access to foreign-technology-embedded inputs prompted firms to upgrade production technologies. This upgrade resulted in an increase in the demand for skilled workers, leading to the reallocation of high-skilled workers from the informal sector to formal firms (Bas and Bombarda, 2023). However, the effect on informality through the input channel might be limited. This is the case if the domestic enterprises which previously produced the now imported inputs, react to the fall in demand by reducing their formal workforce (OECD, 2023b).

Another significant mechanism that can help developing economies increase formal employment are responsible business conduct (RBC) efforts of MNCs. Informal sector engagement in GVCs has fallen in line with the demands of MNC investors or stakeholders who are increasingly concerned about reputational issues. For example, in the aftermath of the 2013 Rana Plaza tragedy, MNCs enforced the use of exclusively formal workers more strictly at garment suppliers in Bangladesh (Narula, 2020).

While export-led GVC integration offers the potential for growth in the formal sector of developing economies, further GVC integration may not necessarily displace informal sector jobs due to several factors. First, the informal sector provides opportunities for entrepreneurship and flexible work arrangements, and can also serve as a supply chain

link to the formal sector (Fajnzylber et al. 2006, Bennett and Estrin 2007). This may explain the persistent presence of informal employment in some developing economies despite their increasing participation in GVCs. For example, in Bangladesh, exports more than doubled in real terms between 2002 and 2010, boosting formal employment. Yet, the formal share of employment remained nearly constant at around 15 percent during the same period as informal employment also expanded. This may be because of the indirect demand generated through domestic supply chain linkages and through higher incomes raising the consumption of local services (Goutam et al., 2017).

Furthermore, in cases where governments' enforcement capacity is weak and reputational pressures are small, the costs associated with complying with higher employment standards imposed by legislations in foreign markets and MNCs' standards may result in more informal labour demand to cut labour costs (Standing, 1999). In South Africa, for example, Barrientos and Kritzing (2004) note that fruit growers that have had to contend with rising standards imposed by supermarket GVCs and increasing government regulations for higher labour standards, made greater use of informal contract labour, especially as falling international market prices hurt their competitiveness.

In summary, export-led GVC integration in the manufacturing sector has generally led to growth in formal employment in many economies. Backward GVC integration also helps the growth of formal sector employment, although the effect could be mitigated if domestic firms face increased competition from imported inputs. Whether at the same time informal employment will decrease in the economy depends largely on other factors, including the enforcement capacity of governments.

### **GVCs Can Improve Job Quality**

A race-to-the-bottom in working conditions of firms in developing economies due to cost pressures in GVCs is a frequent concern surrounding supply chains (Im and McLaren, 2023). Workers may be exposed to unsafe working conditions in order to keep production costs competitive in the global marketplace (Rossi, Luinstra, and Pickles, 2014). GVCs can lead to labour standards being defined by the demands of flexibility, resulting in easier hiring and firing, more short-term contracts, fewer benefits, and longer periods of overtime. Firms may also underestimate the value of non-pecuniary aspects of jobs, such as pay transparency, occupational safety and health measures, and emotional well-being (Adler et al., 2017). While low non-pecuniary rewards may bring short-term trade advantages to firms, they carry long-term costs to society (ILO, 2008).

However, GVC participation can also increase job quality in developing economies. GVC integration can increase the resources available to invest in job quality, as the gains stemming from GVC integration increases income levels within host countries. Given the correlation between income and improved working conditions, this "income effect" can consequently drive better workplace environments (UNCTAD, 2021).

Furthermore, MNCs typically apply higher labour standards. Empirical evidence underscores the feasibility of transferring enhanced labour practices and norms from MNCs' home countries to their host nations (Ali and Seric, 2014). MNCs tend to standardize business operations across different subsidiaries, thereby minimizing fixed operational costs (Helpman et al., 2004). Moreover, MNCs tend to maintain better labour standards compared to domestic peers because MNCs may want to attract highly skilled individuals within competitive labour markets (Mosely, 2011) and maintain a stable workforce (Mendez and van Patten, 2022).

MNCs' high labour standards can also be indirectly diffused into the economy through local spillovers. HR practices at MNCs can be acquired by workers who were previously employed, subsequently disseminating them to local economies through job turnovers (Poole, 2013).

Diffusion also takes place as GVC integration creates reputational pressure from demand-side actors, such as customers or NGOs. Lead firms that are concerned about reputational risks will voluntarily choose to impose stricter regulation through monitoring, or through alternative sourcing strategies. This is particularly relevant in economies where governments lack the capacity to enforce regulations or monitoring mechanisms. MNCs might choose to enforce regulations on their own if they perceive that the cost of implementing better labour standards is outweighed by the risk of negative publicity. This mechanism is theoretically supported by Krautheim and Verdier (2016) who present a model where the possibility of NGO scrutiny increases the incentive for the firm to choose a better production technology, improving its reputation in the eyes of consumers and thus increasing demand.

MNCs may use so-called relational sourcing strategies which serve as an effective mechanism to support compliance by suppliers in cases where monitoring is difficult. Relational sourcing - which is typically characterized by long-term, repeated transactions where buyers pay higher mark-ups - can motivate suppliers to deliver on aspects that are difficult to monitor or contract, such as labour standards. This strategy can serve as an enforcement mechanism because sellers typically want to avoid situations where long-term relationships are terminated due to non-compliance. These long-term relationships hold greater value for sellers compared to what they would gain in spot-sourcing, where short-term orders are awarded to the lowest bidders (and consequently mark-ups are squeezed due to competition). In other words, relational sourcing can incentivize suppliers to comply with labour standards by subjecting them to the threat of relationship termination in case of non-compliance, while also increasing the resources to invest in better job quality (Macchiavello, 2022). For instance, a change in sourcing strategy by Gap Inc, a global apparel retailer, brought a significant improvement in job quality at suppliers by making a continuous business relationship dependent on compliance with labour standards (Amengual and Distelhorst, 2020).

There is evidence that MNCs' voluntary intervention to address labour standard issues in developing economies can be highly effective. For example, Tanaka (2020) finds that exporting to high-income economies among Myanmar's export-oriented garment firms positively and substantially affects working conditions, especially in the areas of fire safety, health management, and worker-firm negotiation. Boudreau (2022) finds that stronger occupational safety and health committees improved objective measures of safety, based on randomized controlled trials on 84 suppliers in Bangladesh, selling to multinational apparel buyers. In her findings, the largest effects on compliance, safety, and voice were seen in factories with better managerial practices. Following the Rana Plaza tragedy in 2013, reputational shocks caused a spatial reorganization of apparel supply chains. French companies named as responsible for the scandal pulled out part of their production from Bangladesh and shifted their sourcing to economies that are closer to France, such as Türkiye, Morocco, Poland and Portugal (Koenig and Poncet, 2022).

However, there are caveats to mechanisms relying on MNCs' voluntary interventions. This is because NGO activities and awareness channels may have geographic limits, and their impact may not be as strong in upstream production stages that are not directly visible to consumers. NGO supervision of companies is often bounded by a strong "home bias" (Hatte and Koenig, 2020; Koenig et al., 2021), as the supervision weakens for firms that operate at arms' length. One study finds a significant link between the costs of ethical production and the likelihood for transactions occurring at arms' length rather than within the firm (Herkenhoff and Krautheim, 2022). In addition, in upstream industries, in which brands are less visible to final consumers, corporate social responsibility (CSR) investments are typically low (Herkenhoff et al., 2021). The impact of awareness channels may also be short-lived. For example, Ang et al. (2012) find that the rate of compliance with regulations slowed after the elimination of public disclosure at the factory level.

### **GVCs Tend to Widen Wage Inequality**

GVC integration raises labour demand in developing economies, which leads to higher wages (Adao et al., 2022). This effect is driven by different channels. Foreign lead firms typically pay higher wages than domestic firms as they are more productive (Javorcik, 2015). In addition, MNCs improve workers' outside options, including for unskilled labour (Fukase, 2014). This causes upward pressure on wages in the domestic labour market (Alfaro-Urena et al., 2021). Recent evidence also finds that standardized wage setting procedures anchor firm-wide wages to headquarter wage levels in MNCs, leading to substantial wage premia for MNC employees in developing economies (Hjort et al., 2022).

While the effect of GVCs on average wages is relatively clear, the distribution of wages within GVC jobs and, hence, the impact of GVCs on wage inequality is more complex. International trade shifts demand for domestic production factors through both export and import channels. First, foreign consumers and firms may demand products

that require different types of skills than domestic consumers and firms. Second, the availability of foreign inputs might cause shifts in the skill demands of domestic consumers and firms. As GVC integration typically operates through both channels, the direction of the effect of GVC participation on inequality, particularly between low-skilled and high-skilled workers, depends on which labour input demand will grow, or which channel (import or export) holds more dominance (Adao et al., 2022). Due to a multitude of factors that can affect these channels, as well as local labour market frictions and policies, the effect of GVC on wage inequality is context-specific.

GVC integration can contribute to an increase in wage inequalities, as exporting or global sourcing from foreign markets through GVCs can increase the demand for high-skilled labour in GVC industries. Traditional economic theory predicts that the integration of richer, skilled-labour abundant economies with poorer, unskilled-labour abundant economies should lead to an increase in the skill premium in richer economies and a decrease in poorer economies. However, in practice, trade and GVC participation has been shown to be associated with increasing skill premiums in many developing economies that underwent trade liberalization in the 1980s and 1990s (Goldberg and Pavcnik, 2007). This is because offshored tasks to developing economies from developed ones are typically considered highly skilled in developing economies. Quality dimensions of exported goods can also contribute to a growing demand for high-skilled workers. Not only do exported goods from developing economies serve quality-sensitive developed economies, inducing a larger demand for higher skilled labour to meet these quality standards, but high complementarities along production stages across borders lead disproportionately to even greater demand for skilled labour (Farole et al., 2018; Shepherd and Stone, 2012; Crinò, 2012; Hollweg, 2019).

Similar mechanisms can occur through the import channel. In a recent study on Ecuador, Adao et al. (2022) show that the importation of intermediates tends to reduce the demand for the factor services of poor individuals as many intermediate goods are imported by firms employing high-skill workers. The import channel also relates to capital-skill complementarities. As economies reduce tariffs and trade costs decline, the price of capital decreases, especially in lower-income economies that tend to import a large share of their capital equipment. If capital complements skilled labour but substitutes unskilled labour, then increased openness can lead to increases in the skill premium, even in economies that have an abundance of unskilled labour. Dix-Carneiro and Traiberman (2023) demonstrate that capital-skill complementarity can provide a plausible explanation for the increase in the skill premium in many Latin American economies following their trade reforms. Similar effects were observed in Mexico's manufacturing sector, where input tariff reductions disproportionately benefited high skilled workers through input-skill biased channels (Bas and Bombarda, 2023).

However, many of these effects ignore the dynamic nature of human capital. Increased demand for skills raises incentives to obtain skills. In a study on services liberalization, Nano et al. (2021) find that the expansion of services employment after a liberalization



period can explain a significant share of increased educational attainment in India in the 1990s. As services, especially those central to GVCs like telecommunications or finance, offer higher wages and demand higher skills, GVC integration makes schooling more affordable and increases the returns to schooling. Both channels increase educational attainment. In line with this, Yu et al. (2023) find that investments in education can help GVC integration reduce income inequality in developing economies.

GVC exposure can also contribute to regional wage disparities. Unfavourable effects through trade are associated with growing spatial inequality within developing economies, exacerbated by mobility frictions (Topalova, 2010; Dix-Carneiro and Kovak, 2017). As employment, wages, and non-labour market effects are not adjusted, a lack of labour mobility across space can lead to a large and persistent effect on regional inequality following trade shocks. GVC integration is strongly associated with greater concentration in cities, as well as border regions for economies neighbouring GVC partners. For instance, in Mexico and Viet Nam, economic integration across national borders is associated with greater spatial concentration within national borders (World Bank, 2020). Inclusion in services GVCs can also worsen regional wage inequalities in developing nations (Nano and Stolzenburg, 2021), as highly traded services sectors tend to be more clustered than manufacturing or agriculture. This is related to the spatial agglomeration mechanism, where the interaction of skill-sharing is particularly important for these services (Diodato et al. 2018). McCaig (2011) also finds that gains from GVC participation in Viet Nam are not evenly distributed across unskilled workers in different regions, due to low levels of inter-provincial migration, especially for unskilled workers.

The benefits of export-led growth from GVC integration may not necessarily reach low-wage workers due to firms' labour market power. In Brazil, for example, the strong oligopsony power in the labour market that existed prior to trade liberalization became even greater as employment was reallocated to higher-paying exporting firms. The result was little to no improvement in the overall wage level (Felix, 2021). Similarly, in Colombia, despite hiring more workers and paying higher wages in the face of export shocks, firms with oligopsonistic labour market power kept wages much lower than the respective marginal productivity (Amodio and De Roux, forthcoming). Amodio et al. (2022) also provide similar insights from the Peruvian labour market, showing how employer concentration can determine labour market outcomes across local labour markets.

A study on a major agricultural firm in Costa Rica highlights that labour mobility is an important counterweight to monopsony power. Labour mobility increases the outside option of workers so that firms are required to offer better remuneration in order to retain the local workforce, despite their monopsonistic presence in the local labour market. This could result in an improvement in the welfare of low-wage workers. However, the study shows that by offering remuneration in the form of local amenities partly in place of higher wages, firms can subsequently reduce labour mobility and shift market power away from workers (Mendez and van Patten, 2022).



## GVCs Can Support Gender Equality

GVCs, especially in industries such as apparel, footwear, and electronics, have presented opportunities for women in developing economies to benefit from international trade through job creation and higher wages (Kumar, 2017). Recent examples of GVC-led growth, such as in Viet Nam and the PRC, demonstrate the positive effects of reallocating the female workforce from informal agricultural sectors to manufacturing or services industries (Pham and Jinjark, 2023). Firms involved in GVCs, particularly foreign-owned firms, tend to have a higher proportion of female workers (World Bank and WTO, 2020). This trend holds across various manufacturing and agricultural sectors. For instance, the export-led growth by the garment manufacturing sector in Bangladesh provided jobs predominantly for the female labour force (ILO, 2020a). Similarly, in West Africa, the shea butter industry, which is dominated by women, experienced higher incomes as it integrated into GVCs (Chen, 2017).

These improvements in economic opportunities have far-reaching effects, as they contribute to the overall well-being of women. Women's outside options can influence marriage, fertility decisions, and intra-household gender dynamics. In Bangladesh, young females exposed to export-processing garment industry jobs tend to delay marriage and childbirth (Heath and Mobarak, 2015). For unmarried women, decisions regarding marriage or fertility, such as whether or when to marry or have children, are affected by their educational attainment or training decisions (Jensen, 2012). For married women, regardless of their labour market participation while married, having greater or better outside options can enhance their bargaining power within households (Majlesi, 2016). Improved bargaining power for women has also been shown to reduce domestic violence (Aizer, 2010). Moreover, as women often have greater decision-making power over household expenditures, there is an increase in spending on public goods, such as children's health and medicine. The effects can induce more gender-equal outcomes for children, as higher bargaining power can also lead to relatively better health outcomes for female children compared to male children (Majlesi, 2016).

Importantly, the effects are not limited to women employed within GVCs. In Myanmar, a study by Molina and Tanaka (2023) documented a reduction in domestic violence in households located near exporting factories. Following its political reform in 2011, Myanmar's garment industry experienced significant growth between 2012 and 2020, primarily driven by exports to the EU, USA, and Japan (Eurocham, 2022). The expansion of exporting opportunities not only created employment and higher wages for women, but also led to substantial improvements in working conditions within exporting garment firms. The main driving force behind these improvements was the pressure exerted by foreign buyers on supplier factories to enhance their working conditions, as foreign buyers were concerned about reputational risks associated with sweatshop production (Tanaka, 2020). Aligned with the outside option mechanism, women who considered a

garment factory job as a viable alternative, even if they were not directly employed in such factories, benefitted from the existence of export opportunities. The positive effects extended beyond the immediate workforce, indicating the spillover benefits associated with the presence of exporting industries in the region.

The growth of services GVCs has played a pivotal role in driving significant changes in terms of gender equality and women's empowerment (Lan and Shepherd, 2019). Services have created numerous job opportunities with higher salaries, resulting in a notable increase in female employment and contributing to closing the gender wage gap (WTO, 2019, Nano et al., 2021). This improvement is linked to women's comparative advantage in the services sector, where physical strength is less important than in agriculture and manufacturing (Galor and Weil, 1996; Juhn et al., 2014). A study by Ouyang et al. (2022) highlights how greater export opportunities to the US led in the PRC to a reallocation of women from agriculture towards the services sector where wages were higher. The improved economic status of women in these regions brought about significant social changes including delayed marriages and a decrease in fertility rates.

Notably, success stories from economies like India and the Philippines highlight the impact of IT and Business Process Outsourcing (BPO) services exports on women's workforce participation. More than 50% of BPO workers in the Philippines and 34% of IT workers in India are women, which are significantly higher rates than their respective national averages. Women also gained greater opportunities for managerial roles and skills upgrading in the IT sector (Nano and Stolzenburg, 2021). Previous evidence from rural villages in India supports this mechanism, particularly in the context of career opportunities for women in BPO services. These opportunities have been found to contribute to female empowerment by reducing the likelihood of early marriage and childbirth. Instead, women choose to enter the labour market or pursue further education and training. Furthermore, they indicate an increased aspiration for a career (Jensen, 2012).

MNCs play an important role in the link between GVCs and gender equality. They usually follow more equal management practices, and they can propagate these practices in host economies directly, by employing local workers, or indirectly, through spillovers (UNCTAD, 2021). MNCs typically offer more equal opportunities for women (Sharma, 2020), especially by hiring more female workers in production and administrative occupations (Tang and Zhang, 2021). For instance, in Chile, Delgado (2020) shows that foreign ownership increases the share of female workers within firms. In addition, large MNCs tend to have more gender equal corporate cultures, as shown by having a higher share of female top managers compared to domestic firms across economies (UNCTAD, 2021).

In terms of indirect impacts, there is evidence that domestic firms operating in close proximity to, or within the same industry as, MNCs may be more inclined to adopt

gender-equal practices. For example, in Costa Rica, Monge-Gonzalez et al. (2021) observe that the increase in the female labour share in domestic firms was driven by the presence of MNCs. Similarly, in the PRC, Tang and Zhang (2021) find that the female labour share in domestic firms increases in correlation with the prevalence of foreign affiliates in the same city or industry. These findings highlight the potential for positive spillover effects on gender equality from MNCs to domestic firms through proximity and industry influence.

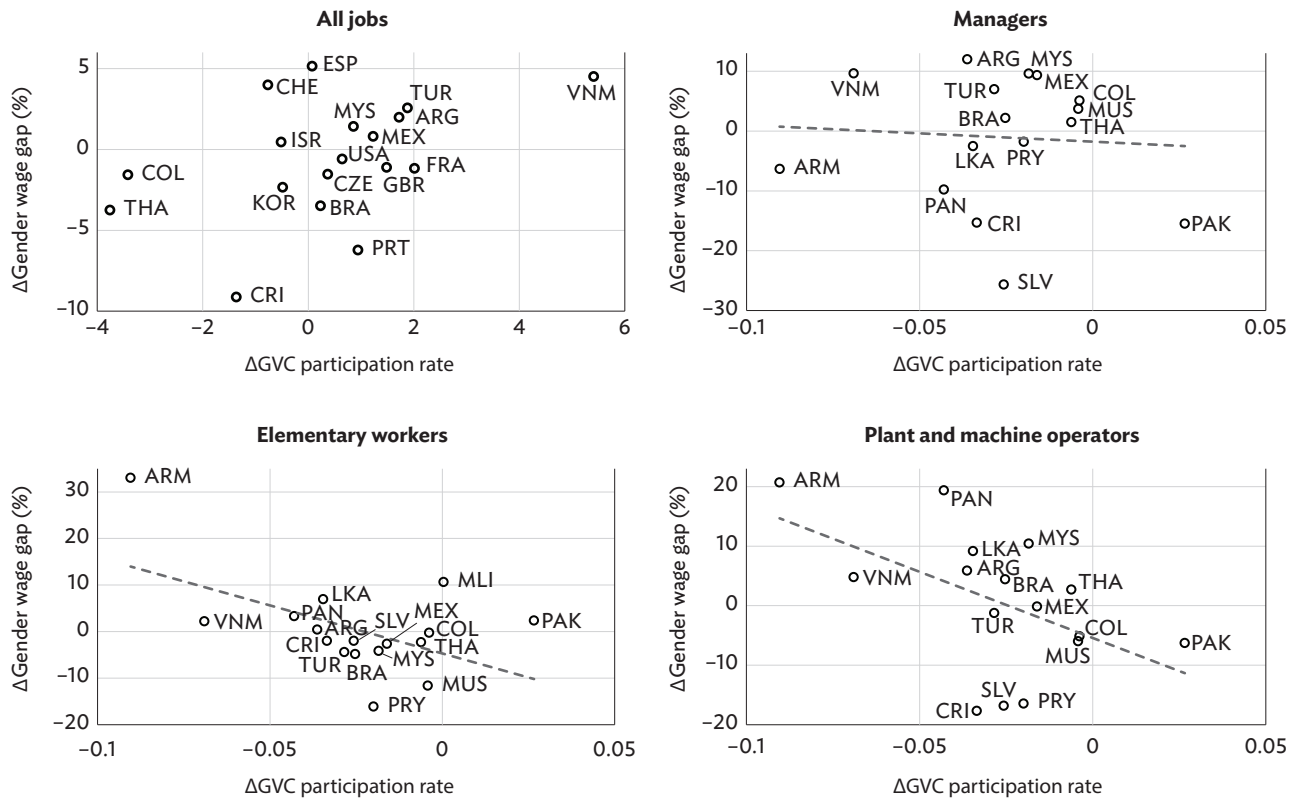
This effect can operate through multiple channels. First, the practices can spread through local labour mobility. Workers who have previously worked at MNCs can apply the skills and gender practices they have acquired in their previous work experience when they move to domestic workplaces (Monge-Gonzalez et al., 2021). Second, domestic firms, upon witnessing the success and productivity of more gender-equal peer FDI firms that generate higher profits, may be motivated to imitate the social norms and values of MNCs (Monge-Gonzalez et al., 2021; Tang and Zhang, 2021). Lastly, as the presence of FDI firms leads to higher competition in the domestic market, gender discrimination can become costly (Tang and Zhang, 2021). This relates to the “costly discrimination” argument that trade opening and the presence of MNCs will increase competition in the domestic market, making it economically disadvantageous to discriminate against females in the labour market (Becker, 1957; Black and Brainerd, 2004; Ederington et al., 2009).

While GVC participation has created jobs in developing economies for women, women tend to take a larger share of jobs in labour-intensive GVCs than do men (Hollweg, 2019). While this does benefit women in the lower end of the income distribution and helps narrow the gender wage gap in low-wage, low-skilled jobs, there is little evidence to suggest that it has a similar effect on high-skilled jobs in the economy. Due to a variety of often trade-unrelated barriers, women often find themselves concentrated in lower value-added segments of the value chains, limiting their access to higher-skilled and higher-paying positions. This can hinder the positive effects of GVC participation and limit the welfare gains associated with GVCs (World Bank and WTO, 2020).

To gain a more nuanced understanding of the relationship between the gender wage gap and GVC integration, cross-country patterns are examined in Figure 7.7. The figure reveals no correlation when plotting the change in the gender wage gap against the change in the degree of GVC integration (top left), but important differences emerge, particularly between low-skilled and high-skilled jobs. In low-skilled jobs, such as elementary occupations<sup>5</sup> or plant machine operators, a negative correlation between the gender wage gap and GVC integration is observed. This means that the gender wage gap tends to decrease as the country becomes more integrated into GVCs. However, in high-skilled jobs such as corporate managerial positions, this negative correlation is nearly non-existent and statistically insignificant.

<sup>5</sup> This is defined by ILO’s ISCO (International Standard Classification of Occupations), as “simple and routine tasks which mainly require the use of hand-held tools and often some physical effort”.

Figure 7.7: Gender Wage Gap and GVC Participation



Source: Authors' calculations are derived from ILOSTAT and the UNCTAD-Eora database. The rate of increase (between 2014 and 2018) in the GVC participation index is calculated using UNCTAD-Eora data, while the rate of increase in the gender wage gap (between 2014 and 2018) is computed from ILOSTAT data. All figures control for GDP per capita and year fixed effects. For both GVC participation and the gender wage gap, the most recent year's figures are used.

Existing literature also finds that a higher degree of GVC integration may not necessarily lead to a lower gender wage gap, especially among high-skilled occupations. There are multiple reasons for this. Firstly, the presence of MNCs or exporting firms may result in a larger gender wage gap within their own organizations compared to domestic firms (Stolzenburg et al., 2020). This effect is particularly pronounced in high-skilled jobs like managers, professionals, and technicians, as exporting firms may prefer highly flexible employees who can work non-standard hours, respond to late-night calls, and engage in international travel at short notice. These preferences may potentially lead to discrimination against women who are perceived as less flexible (Bøler et al., 2018). This mechanism is supported by previous research by Yahmed (2023), which indicates that trade gains, such as improved access to inputs and markets, can perpetuate discriminatory practices within firms and hinder progress towards gender equality.

Furthermore, the spillover effects from MNCs to upstream industries may be limited. Fernandes and Kee (2020) found that gender-related policies and practices implemented by MNCs in Bangladesh's apparel sector often do not effectively transmit to domestic suppliers. Similarly, researchers have often found no significant

relationship between MNCs' backward linkages and the share of female labour (Monge-Gonzalez et al., 2021). This limitation can be attributed to a weaker awareness in upstream sectors, as upstream firms may have lower visibility for downstream firms and customers (Herkenhoff et al., 2021). Consequently, there may be less pressure for gender-equal practices within firms in the upstream sectors.

In summary, the consequences of GVC participation for gender inequality are complex. Empirical findings highlight several key points. Firstly, GVC integration and export-led growth provide increased job opportunities in the formal sector, decreasing gender inequality and promoting female empowerment, although the effect is mostly concentrated in low skilled jobs. Secondly, despite this success, the impact of GVCs and trade is shaped by existing gender discriminatory practices and social norms. Factors

#### Box 7.2: GVCs and Returns to Education

Exporting or the adoption of new technology can generate employment opportunities and increase the rewards to education when new jobs require higher levels of education. This can lead to an overall increase in educational attainment. It is important to consider the gender dimension as well, since the impact of skill-biased technical change can vary depending on differences in educational attainment and skill types between genders (Juhn et al., 2014).

GVC integration can result in higher returns to education in developing economies. For example, in Indonesia, the growth of manufacturing employment at the district level has been positively correlated with increased enrolments in schools and decreased youth labour force participation (Federman and Levine, 2005). Similarly, in India, the business process outsourcing industry, which requires advanced IT skills, has contributed to increased school enrolment rates, as the industry rewards individuals with higher levels of education (Oster and Steinberg, 2013). More broadly, the growth of business services has led to higher educational attainment in India due to both higher incomes and higher returns to education (Nano et al., 2021). These examples illustrate how GVC integration can stimulate educational attainment by providing economic incentives for individuals to invest in their education.

Importantly, globalization, particularly the job opportunities created through globalization, can have a positive impact on female education attainment. In India, girls, who traditionally faced disadvantages in education, have surpassed boys in terms of schooling attainment and improved their employment outcomes. GVCs, and especially services GVCs, played a relevant role for this. In rural Indian villages, recruiting services that facilitate young women's entry into the business process outsourcing industry have been associated with a higher likelihood of obtaining more schooling or post-school training (Jensen, 2012). In Bangladesh, proximity to export-processing ready-made garment industries has led to increased schooling for young females, as these industries value numeracy and literacy skills (Heath and Mobarak, 2015). Furthermore, as MNCs tend to employ highly skilled women (UNCTAD, 2021; Stolzenburg et al., 2020), the presence of MNCs can incentivize women to acquire more skills. Nano et al. (2021) find that services liberalization, facilitating entry of foreign firms, helped substantially closing the gender education gap in India. These studies share the common feature that GVCs offer higher quality jobs that typically reward women's educational attainment.

However, it is important to note that the relationship between GVC participation and education attainment is not always straightforward. While GVCs can offer job opportunities with higher wages, they may not necessarily reward higher levels of education, leading to an increase in the opportunity cost of education. This can be particularly true in contexts where the returns to education are low and there is a higher demand for youth labour in factories, resulting in youth being drawn out of school (Federman and Levine, 2005; Atkin, 2016).

Empirical evidence highlights the importance of the types of jobs created through GVCs in shaping educational outcomes. In PRC, the increase in exports following its accession to the WTO in 2001 had heterogeneous effects based on the skills demanded by the export sectors. High-skill export shocks were found to increase both high school and college enrolments, while low-skill export shocks led to a decrease in both. This contributed to divergence in educational attainment across regions (Li, 2018). Similarly, cross-country evidence by Blanchard and Olney (2017) indicates that educational attainment decreases with agricultural exports and unskilled manufactured exports but increases with skilled manufactured exports.

In summary, while GVC participation has the potential to improve education attainment by providing higher quality jobs, the actual impact can vary depending on factors such as the skills demanded by the export sectors and the availability of alternative employment opportunities. The types of jobs created through GVCs play a crucial role in shaping the relationship between GVC integration and education attainment.

such as family mandates (Bøler et al., 2018), limited access to credit, education, skills, and social capital (Hollweg and Lopez, 2020), and structural gender discrimination through sectoral or occupational segregation and gender norms can hinder the mobility of female workers both horizontally, across industry sectors (Mansour et al., 2022) and vertically, into higher managerial roles (Reyes, 2023). This typically deters the closing of gender wage gaps among high skilled workers in corporations.

Expanding industries through GVCs may not necessarily increase the demand for female workers either because of occupational gender segregation or imperfect substitutability between male and female workers (Do et al., 2016; Gaddis and Pieters, 2017; Mansour et al., 2022). The flip side of this argument would be that, specializing in industries with a high concentration of female workers enhances women's economic prospects, thus implying that liberalizing trade benefits women's labour market conditions in economies that excel in female-intensive industries (Gaddis and Pieters, 2017). These findings underscore the importance of identifying gender-specific labour market frictions and addressing existing gender discriminatory norms to maximize the opportunities that GVCs provide for gender equality.

### **GVCs Can Reduce the Incidence of Child Labour**

Work practices in less-developed economies may fail to meet international standards and can encompass violations of core labour standards. For instance, sourcing through GVCs has been linked to scandals involving child labour. This has given rise to a number of studies examining whether greater GVC integration will lead to less or more child labour. In line with the broader literature on child labour, the discussion has focused on whether the income effect dominates the substitution effect in child labour supply.

The substitution effect states that an increase in demand for exports from sectors that employ child labour will lead to a corresponding increase in child labour, especially in developing economies with an abundance of cheap labour (Kruger, 2007; Atkin, 2016). This effect explains the unintended consequence of including clauses on child labour in trade agreements. Abman et al. (2023) find that such inclusion of child labour prohibitions in RTAs can, in fact, increase child labour rather than decrease it, especially among slightly older children not covered by the ban due to substitution effects. This finding is in line with previous evidence that shows a legal framework fining businesses that use child labour upon inspection by governments may simply decrease the marginal wage paid to children, leading to an increase in labour supply since they have to work longer hours to meet the minimum subsistence level (Basu, 2005).

On the other hand, if GVC participation increases household income, this can lead to a decrease in child labour (Edmonds and Pavcnik, 2005). This argument is in line with the view that child labour is typically linked to poverty (Edmonds, 2007). In poor families, as children need to provide labour to meet the minimum subsistence level, increased income will naturally lead to a decrease in the labour supply of children. In



addition, the literature on civil society pressure discussed above also applies here. GVC integration might provide firms with both the resources and incentives to reduce child labour in order to be able to supply MNCs and foreign markets.

Much empirical evidence shows that the income and awareness effects are the dominating channels. Exporting increases the general level of income in developing economies, decreasing poverty, thus putting downward pressure on child labour (Edmonds and Pavcnik, 2005 and 2006). In such circumstances, as exports of even heavily child-labour intensive products increase, it will result in a reduction in child labour. Ugarte et al. (2023) find that forward linkages in GVCs effectively decrease child labour, but not gross exports or backward linkages. Importantly, the study reveals that the child labour reduction effect of forward linkages is driven by linkages with economies that strongly respect labour rights, which aligns with the ‘awareness’ effect.

In summary, the evidence suggests that GVC integration tends to reduce child labour. While economic theory raises concerns about increased demand for products involving child labour, empirical findings indicate that increased income and awareness through international trade can actually lead to a reduction in child labour. While prohibitions or inspections may not be effective in decreasing child labour, participation in GVCs can provide solutions for addressing child labour, particularly when engaging with economies that prioritize labour rights. This underscores the significance of the awareness channel, in addition to the income channel, in driving child labour reduction efforts.

## 7.4 The Future of Inclusive GVCs

The increasing prevalence of large platform firms, artificial intelligence (AI), and automation carries significant implications for the inclusiveness of GVCs. These technological advancements are reshaping the organization and governance of GVCs with important distributional effects. On the one hand, technological progress is lowering the costs of participating in GVCs, particularly for groups that were previously excluded due to high trade costs. The rise of GVCs, facilitated by advancements in communication technologies in recent decades, has already expanded the range of participants in global trade. Moreover, the further adoption of digital technologies and platforms holds great potential to unlock opportunities for MSMEs and women. On the other hand, large digital platforms, AI, and automation can have negative impacts on MSMEs and workers, particularly those in developing economies, as they lower the importance of labour cost differentials and increase market power asymmetries. Automation technologies can lead to reshoring. The market power wielded by digital platforms, which rely on the vast amount of data they collect, can create imbalances in power relations within GVCs. Recent advancements in generative AI and large language suggest that even highly educated workers with analytical skills may not be immune to automation.



## Digital Platforms and GVCs

Digital platforms play a central role in promoting inclusiveness within GVCs. They facilitate the connection between buyers and sellers, thereby reducing the initial fixed costs associated with participating in GVCs. This is particularly significant in developing economies where matching frictions are large (Startz, 2021). Additionally, digital platforms help overcome geographical barriers that exist between trade partners. According to Lendle et al. (2016), the impact of distance on cross-border trade flows is approximately 65 percent smaller for eBay transactions compared to total international trade.

Digital platforms offer distinct advantages for MSMEs, especially in specialized manufacturing and services, which are areas where small firms possess comparative advantages (Cusolito et al., 2016). The digitalization of the services sector also can contribute to a worldwide decrease in gender wage gaps by boosting trade of previously less-tradeable services. The digitization process results in greater cost reductions for the services sector, which tends to have a higher concentration of female workers. As a result, labour demand shifts towards women and gender wage gaps decrease (Bekkers et al., 2023).

However, digital platforms can also hurt inclusiveness. Firstly, they can alter the nature of relationships between firms in GVCs. Goods sold through platforms, such as e-commerce marketplaces, often involve one-time transactions with limited ongoing commitments, and the use of digital technology has the potential to replace the need for implicit contract enforcement, which may undermine the “stickiness” of GVC relationships (Antras, 2020). As already discussed, the relational nature of GVCs has served as the main mechanism for the transfer of technology, management practices and other benefits to firms and workers in developing economies (Macchiavello, 2022; Antras, 2020). In the absence of such characteristics, the opportunities for mutual learning and technology transfers along GVCs may be limited, thereby reducing the potential for quality improvement. Sancak (2022) explores the use of online supplier portals by lead firms in the global automotive value chains for auto parts. She finds that online portals primarily function within arm’s length relationships that involve minimal formalized exchange. This suggests that digital technologies could undermine opportunities for upgrading in GVCs.

Digital platforms also have adverse distributional consequences for producers in developing economies. These platforms enable large buyers in developed economies to access information about a larger pool of potential suppliers, thereby making suppliers compete with each other. This can result in improved terms of trade for lead firms, while reducing the share of gains from GVCs accruing to producers in less developed economies (Antras, 2020). Furthermore, concerns arise regarding the market power wielded by digital platforms. Dominant platforms may eliminate competition, posing a threat to inclusive participation, especially in developing economies (Lundquist and Kang, 2021).

In this context, policies should focus on redistributing the gains from platforms to enhance the participation of disadvantaged groups, thereby promoting inclusiveness and fairness. Facilitating the unrestricted transmission of data for business efficiency can significantly benefit MSMEs (Lundquist and Kang, 2021), which often lack access to sufficient information resources. For example, providing data-driven analytical tools to MSMEs within digital platforms can greatly enhance their revenues, creating mutually beneficial outcomes for both participants and the digital platforms (Bar-Gill et al., 2023). Lastly, it is crucial to consider the trade-off between efficiency and fairness to achieve more equitable outcomes on online platforms among participants. Online platforms can exacerbate existing disparities between participants, making it even more essential to address fairness concerns (Athey et al., 2022). Striking a balance between efficiency and fairness is crucial to ensure that the benefits of digital platforms are distributed more equitably among all participants.

### **Automation and Outsourcing**

The advancements in technology over the past decades have shaped the current geographic distribution of the global production system (Baldwin, 2006). In turn, integration into GVCs through forward and backward linkages can also foster adoption of automation technology positively through a learning and competition effect (Du and Nduka, 2020). However, automation technologies could lead to a shift in production closer to consumers, as automation provides an alternative to offshoring for firms in developed economies aiming to reduce labour costs. If automation and offshoring are considered substitutes, advancements in automation would lead to a growing trend of reshoring over time (Antras, 2020).

However, progress in logistics and networking technologies can simultaneously deepen global fragmentation (Butollo et al, 2022). Additionally, catch-up automation in emerging economies can enhance firms' competitiveness in developing nations (Butollo and Lüthje, 2017; Krzywdzinski, 2017). Therefore, it is important to consider not only the potential for reshoring due to automation but also the complex interplay of various factors that shape the dynamics of the global production system.

The relationship between automation and offshoring is far from clear-cut in empirical evidence. On the one hand, the use of robots in developed economies has been associated with reduced offshoring and declining exports from developing economies (Kinkel et al. 2015; Artuc et al., 2018; Artuc et al., 2019), as well as negative labour market outcomes, particularly for low-skilled workers (Pedemonte et al., 2019). Early evidence from developing economies documents potential risk for export-oriented industrialisation through global value chains, as automation will change the geographical distribution of production locations (Azmeah et al., 2022).

On the other hand, automation by firms in developed economies can lower costs, improve productivity, and consequently increase the demand for intermediate inputs, many of which are sourced from less developed economies (Antras, 2020). In the manufacturing sectors, empirical evidence suggests that automation by downstream firms in developed economies may not have a significant negative impact, or even a positive impact, on FDI and sourcing from developing economies. For example, Stapleton and Webb (2020) found that the adoption of robots in Spain led to an increase in imports and the establishment of affiliates in lower-income economies by the same firms. This is because the use of robots stimulates production expansion, enhances productivity (Graetz and Michaels, 2018), and increases the likelihood of firms importing from or establishing affiliates in developing economies.

Recent studies provide support that automation will not necessarily lead to reshoring of production stages to developed economies. One explanation is the sequencing of automation and importing decisions (Stapleton and Webb, 2020), which leads to heterogeneous effects on offshoring. Firms that have already engaged in offshoring to lower-income economies before adopting robots showed no significant change in imports from those economies. On the other hand, firms that had not previously engaged in offshoring were more likely to start doing so after adopting robots. This means that the displacement effect of offshore labour only affects the former group, while the productivity effect of automation on offshoring applies to both types of firms, leading to heterogeneous effects of robot adoption. Alternatively, the adoption of automation technologies can also encourage upstream forward integration, as robots lead to specialisation away from the final step of production and assembly. This is because robots are more complementary to tasks in upstream activities rather than downstream assembly tasks (Fontagné et al., 2023).

In summary, these findings suggest that the relationship between automation and offshoring is influenced by various factors. It highlights the need for a nuanced understanding of the interplay between automation, offshoring, and the complexities of global economic relationships. Assuming that automation will hurt firms and workers in developing economies is certainly premature.

## **AI and Services GVC**

The emergence of new AI tools, including generative AI technologies like ChatGPT, has significant implications for services GVCs in developing economies and represents opportunities for quality upgrading and increased labour productivity in developing economies. Recent empirical evidence by Brynjolfsson et al. (2023) shows that generative AI tools can augment human agents, embodying the best practices of high-skilled workers that were previously difficult to disseminate due to tacit knowledge. Their research shows that AI assistance leads to significant improvements in problem resolution and customer satisfaction for newer and less-skilled workers. For instance, AI recommendations can help low-skilled workers to communicate more like high-skill

workers. This evidence suggests that the use of AI may offer a chance to catch up with advanced knowledge from developed economies.

However, the potential displacement effect of AI can pose a threat to the development strategies adopted by developing economies, specifically those focused on upgrading through services GVCs. This is because the new AI tools have the potential to perform complex tasks that previously required relatively high-skilled labour for non-routine and analytical service sectors that developing economies have been striving to create through upgrading in GVCs. Nano and Stolzenburg (2021) report that AI has reduced the labour intensity of call centres in the PRC. Eisfeldt et al. (2023) find that investors expect firms with a higher proportion of occupations exposed to generative AI to experience greater profits, as AI technology will result in lower input costs through job displacement. Copestake et al. (2023) highlight significant adverse effects of AI on job postings for high-skilled, non-routine, analytical work within the urban, white-collar service sector. However, they also observe the growth of AI-related job opportunities at the district level. This finding suggests that to counter the potential consequences of AI-driven displacement, policy efforts should prioritize fostering innovation, enhancing skills, and adapting to the evolving labour market demands.

## 7.5 Main Messages and Lessons for Policymakers

Two main messages emerge from this chapter:

1. GVC integration leads, on average, to better outcomes for firms and workers in developing economies. The evidence consistently shows that local suppliers to MNCs and firms exporting intermediates perform better than other firms in developing economies across a broad range of indicators from productivity to quality to innovation. This performance premium spills over to workers. Being employed at MNCs or their suppliers generally leads to higher wages and better working conditions, including a higher likelihood of formal employment.
2. Where GVC integration fails to deliver or underdelivers on benefits, it tends to be caused by underlying market failures and policy barriers rather than GVC integration itself. An important example is market power. Both monopolistic/oligopolistic and monopsonistic/oligopsonistic behaviour of firms on product and labour markets can severely skew the distribution of profits in value chains and put undue pressure on local suppliers to cut costs with negative implications for workers. Another example is gender-based differences in access to education or finance, which prevent women from participating in the gains from upgrading in GVCs. Other key factors are firms' and workers' limited adaptive capacity due to incomplete financial or labour markets in developing economies.

These two findings entail in turn two lessons for policymakers that want to maximize the positive impact of GVCs for inclusive development:

1. Since GVC integration tends to benefit firms and workers, the focus should be on facilitating entry into GVCs and spillovers to the domestic economy to ensure that GVCs are truly inclusive. For example, many regulations and legitimate non-tariff measures raise the costs for firms in developing economies that intend to supply MNCs or importers in advanced economies. Ensuring that these costs remain limited and that MSMEs receive support in covering them is crucial for inclusive development. Similarly, addressing information and matching frictions is important, as they tend to be particularly high in developing economies. At the worker-level, investing in skills remains the most important policy for inclusive development. Better-educated workers have the skills demanded by MNCs, facilitate upgrading and can more readily benefit from new technologies. Skills are also positively associated with geographical mobility, another area that policymakers should focus on.
2. The second focus should be on addressing the underlying market failures and barriers that lead to an uneven distribution of the gains from GVCs. Market power repeatedly features as one of the primary reasons preventing firm and workers in developing economies from obtaining their fair share of profits. Four firms hold two-thirds of the global smartphone market.<sup>6</sup> Three firms account for 80% of the fast fashion market in the United States.<sup>7</sup> Addressing this requires tweaks to traditional competition policy tools that take labour market impacts into account. More creative solutions can also help. One study discussed shows that requiring firms to remunerate workers in wages rather than amenities, such as housing, limits their oligopsony power (Mendez and van Patten, 2022). Others highlight the value of fair trade certifications (Dragusanu et al., 2022). In addition, several studies find positive effect of NGOs and awareness channels which could benefit from increased transparency and reporting requirements. Established long-term relationships between firms also lead to fairer outcomes and should be supported, for instance, through targeted support for firms during crises that prevent firm exit. Beyond market power, addressing barriers and discrimination, be it based on gender, ethnicity, or any other reason, is an important avenue to fully exploit the potential of GVCs to drive inclusive development.

While these lessons emerge from the literature, current policies and policy debates tend to focus more on non-trade provisions (NTPs) in regional trade agreements,

---

<sup>6</sup> Counterpoint. 2023. *Global Smartphone Shipments Market Data*. [Accessed on: 23 August 2023]. URL: <https://www.counterpointresearch.com/global-smartphone-share/>

<sup>7</sup> Perri, J. 2023. *Shein Holds Largest U.S. Fast Fashion Market Share*. Bloomberg Second Measure. [Accessed: 23 Aug 2023], URL: <https://secondmeasure.com/datapoints/fast-fashion-market-share-us-consumer-spending-data-shein-hm-zara/>

import bans and restrictions, and due diligence requirements (DDRs)<sup>8</sup>. For instance, regional trade agreements more frequently include provisions focused on inclusive growth, covering labour standards, gender equality, or sustainability (Mattoo et al., 2020). However, these policies often focus on improving working conditions exclusively within GVCs even though the evidence suggests that workers and firms within GVCs already enjoy better outcomes. As a result, they might aggravate existing differences between those inside and those outside GVCs.

Moreover, many of these policies have been shown to have adverse effects. The inclusion of NTPs in trade agreements can potentially hinder country-level inclusion in GVCs by raising costs and uncertainty, as advanced economies could use these provisions to withdraw trade concessions in the event of non-compliance. Additionally, stronger provisions in low-income economies could lead to a decline in their comparative advantage, resulting in reduced market access to developed economies (Bhagwati, 1995). Recent evidence finds that NTPs are associated with increased exports of environmentally and labour-intensive goods from developed economies while imposing higher trade costs on developing economies, leading to a reduction in labour-intensive exports from the developing economies (Hoekman et al., 2023).

DDRs appear to be based on the assumption that firms willingly underpay workers or refuse to improve working conditions, but this is not in line with the evidence. Many firms invest in labour standards and pay higher markups to ensure reliable, high-quality inputs, as studies on relational sourcing and awareness channels show. MNC employees in developing economies consistently earn higher wages and are more likely to be formally employed. In cases where firms do exploit their market power and put strong cost pressure on suppliers and workers, it is unlikely to achieve results when the burden of improving working conditions is shifted to the firms because they can simply increase the distance between themselves and suppliers by reorganizing production and using arms' length rather than intra-firm transactions (Herkenhoff and Krautheim, 2022). Similarly, unintended consequences can arise when seeking to improve labour conditions in developing countries through DDVs. The experience of Costa Rica highlights a case where such policies did indeed benefit low-wage workers employed at affected suppliers, but they had adverse effects on other workers in the economy as they reduced employment and raised domestic prices (Alfaro-Urena et al., 2022a).

Such policies can help ensure that imports of advanced economies are produced under better conditions, but the presence of substitution effects implies that “dirty production” may simply shift to other locations as the evidence on child labour highlights. When children from low-income families engage in child labour to meet minimum subsistence levels, incomplete enforcement of child labour prohibitions may

<sup>8</sup> Supply chain DDVs require firms to identify, prevent, mitigate and account for how they address their actual and potential adverse impacts on sustainability and human rights along their supply chain. A number of laws have been passed or are in preparation that move due diligence from voluntary standard to legal requirement, including in Germany, France, the UK and at the EU-wide level.



result in a decrease in child labour wages, which, in turn, can paradoxically lead to an increase in the overall level of child labour. The net effect on developing economies could even be negative. As a result, these policies may fail to deliver on inclusive development, especially where firms can increase the degrees of separation between themselves and non-compliant suppliers without addressing the root causes. Similarly, shifting the costs of compliance to small firms in developing economies will widen the exclusivity of GVCs and achieve the opposite of inclusiveness.

This is not to say that NTPs and DDRs could not be useful instruments for inclusive GVCs. But for this they must be based on continuous cooperation between advanced and developing economies and they must account for the potential harmful effects identified in the literature. Developing economies are best placed to identify potential negative impacts of NTPs for inclusiveness and their competitiveness. Moreover, the increased demand for coordination among governments in GVCs, manifested by the proliferation of deep trade agreements, naturally facilitates joint efforts to address cross-border policy spillovers and time-consistency issues (Lawrence, 1996; Baldwin, 2011; Laget et al., 2020). Thus, this environment provides an ideal opportunity for cooperation on the aspects of inclusiveness. Therefore, instead of focusing solely on incorporation of such provisions or emphasizing enforceability, cooperation with local governments, firms, and stakeholders to build capacities facilitating compliance with NTPs and DDRs should be an integral part.<sup>9</sup>

There is evidence suggesting that NTPs can have positive effects on trade flows (Brown et al., 2013; Klymak, 2023), especially when combined with cooperation and support from developed economies. Carrère et al. (2022) find a significant and positive effect on exports from low-income economies when labour provisions are implemented. Importantly, the impact is strongest when provisions are accompanied by strong cooperation, rather than enforcement mechanisms. Evidence also shows that if policymakers aim to combat child labour, labour clauses in trade agreements should encourage active education and income support policies, such as providing direct payments to households for school attendance, rather than merely imposing a ban on child labour (Fernandes et al., 2023). This ensures that the desired standards are achieved without jeopardizing inclusiveness and widening inequalities. The external enforcement of minimum standards in trade agreements can also help domestic policy makers make credible commitments vis-à-vis domestic constituents (Maggi and Rodriguez-Clare, 2007).

---

<sup>9</sup> While among advanced economies, a recent joint stakeholder dialogue series initiated by the EU-US Trade and Technology Council could serve as example. It aims to obtain diverse views on how to cultivate resilience and sustainability along supply chains by establishing a due diligence framework that enhances supply chain transparency and traceability. Moreover, this initiative includes coordination on due diligence legislation across countries, representing a meaningful step toward strengthening due diligence practices (Trade and Technology Dialogue, 2023).



Nevertheless, the ambiguous effects of NTPs, import restrictions and DDRs call for a cautious approach when using them as tools to achieve social or environmental outcomes (Winters, 2023). This holds, in particular, as alternative policy instruments may be available that can more efficiently support inclusive development (Hoekman, 2021). In light of this, such provisions should be developed carefully considering the economic mechanisms at play. It is important to acknowledge that not all social concerns can be effectively addressed solely through the inclusion of NTPs in trade agreements or due diligence requirements due to underlying differences in their root causes.

Finally, support from developed economies in the form of aid, targeted support for NGOs, or technical assistance can likewise enhance the resulting outcomes. With this in mind, soft law provisions that are not subject to dispute settlement are more likely to yield favourable results, provided they entail a support process and cooperation between governments and stakeholder groups. This is particularly true if these provisions are accompanied by programs aimed at addressing specific non-trade objectives (Hoekman et al., 2022; Yildirim et al., 2021).

## Conclusion

GVCs account for a major share of international trade and are, therefore, central for the inclusive development agenda. In line with this, GVCs face extensive scrutiny from civil society, especially in the context of scandals and tragedies such as the Rana Plaza collapse. However, these highly visible events can distort the picture and mask more positive facts, such that workers in GVCs tend to earn higher wages. Therefore, this chapter explores the economic mechanisms and empirical evidence regarding whether GVCs have served as engines of inclusive growth in developing economies.

The chapter finds consistent evidence that workers and firms in developing economies enjoy on average substantial benefits from GVC participation. While it is true that the majority of MSMEs in developing economies may not directly participate in GVCs, GVCs still present opportunities for economic upgrading. GVCs facilitate the transfer of tacit knowledge and technologies, allowing MSMEs to enhance their capabilities. Additionally, GVCs contribute to the upgrading of product qualities by enabling MSMEs to access higher quality inputs through backward linkages. Moreover, through forward linkages, MSMEs can meet the higher quality demands of foreign markets when exporting their products. Furthermore, GVCs play a role in financial smoothing by fostering interdependence among firms along the supply chains.

In terms of the labour market in developing economies, GVCs have generated job opportunities in formal sectors and led to higher wages, particularly for lower-skilled workers, as these economies engage in labour-intensive activities through both forward and backward linkages. While GVCs may contribute to wage inequalities across multiple dimensions, they can also raise overall labour standards in developing

economies. This is achieved through demand-side pressures and voluntary upgrading efforts by MNCs. In line with this, GVCs offer opportunities for social upgrading. The chapter focuses on two prominent issues: gender inequality and child labour. GVCs offer jobs and higher wages for women, and this can have a far-reaching impact. MNCs can improve external options for women and contribute to indirect spillovers that promote gender equality. Empirical evidence suggests that better economic opportunities contribute to the empowerment of women. GVCs can contribute to the reduction of child labour by addressing poverty in developing economies and through the awareness channel.

Market failures, such as oligopolies, and barriers not related to trade, such as gender-biased access to education, can severely limit the inclusiveness of GVCs. The chapter finds substantial evidence showing that concentrated product markets divert profits to large trade intermediaries and away from producers in developing economies. Similarly, market power of large employers can prevent workers from receiving a fair wage. A varied set of restrictions holds women back from benefitting when firm upgrade in GVCs as higher-skilled and managerial positions tend to go to men.

Digital technologies have played a crucial role in enhancing the inclusiveness of GVCs by reducing trade costs for MSMEs and women. However, the emergence of digital platforms may alter the relational dynamics that were beneficial for MSMEs in developing economies. Moreover, the immense market power held by large platform firms in the digital space has the potential to exacerbate distributional outcomes. Therefore, policy interventions are necessary to ensure that the gains from digital platforms are redistributed to disadvantaged groups. Subsequently, we examine how automation technologies are shaping the future of GVCs in both manufacturing and services. While there is evidence suggesting that AI and automation technologies could have negative impacts on developing economies, these advanced technologies also present opportunities for economic upgrading and knowledge sharing.

The chapter concludes by arguing that policy makers should focus on facilitating access to GVCs and removing market imperfections and barriers. Current policy approaches based on social provisions in trade agreements or due diligence requirements should be accompanied by more cooperation and take into account the lessons from the academic literature. Evidence suggests that cooperation among advanced and developing economies holds greater significance than mere inclusion of social clauses. Several studies illustrate the economic mechanisms underlying social provisions with important insights on negative side effects. More generally, to maximize the potential of GVCs to contribute to inclusive development, other policy tools should be used to complement current approaches.

## References

- Abbey, E. N., A. Gyeke-Dako, A. D. Oduro, F. E. Turkson, and P. T. Baffour. 2017. The Employment Generating Effects of Exporting: Firm Level Evidence of Micro, Small and Medium Enterprises (MSMEs) in Ghana. *R4D Working Paper*. No. 2017/02. World Trade Institute of the University of Bern.
- Abman, R. M., C. C. Lundberg, J. McLaren, and M. Ruta. 2023. Child Labor Standards in Regional Trade Agreements: Theory and Evidence. *NBER Working Paper*. No. 30908. Cambridge, MA: National Bureau of Economic Research.
- Adao, R., P. Carrillo, A. Costinot, D. Donaldson, and D. Pomeranz. 2022. Imports, Exports, and Earnings Inequality: Measures of Exposure and Estimates of Incidence. *The Quarterly Journal of Economics*. 137(3). pp. 1553-1614.
- ADB (Asian Development Bank). 2021. ADB Briefs: 2021 Trade Finance Gaps, Growth, and Jobs Survey. Manila.
- ADB (Asian Development Bank Institute), and ADB (Asian Development Bank). 2016. Integrating SMEs Into Global Value Chains: Challenges and Policy Actions in Asia. Brookings Institution Press.
- Aizer, A. 2010. The Gender Wage Gap and Domestic Violence. *American Economic Review*. 100(4). pp. 1847-1859.
- Adler, P., D. Brown, R. Dehejia, G. Domat, and R. Robertson. 2017. Do Factory Managers Know What Workers Want? Manager–Worker Information Asymmetries and Pareto Optimal Human Resource Management Policies. *Asian Development Review*. 34(1). pp. 65-87.
- Alfaro-Ureña, A., B. Faber, C. Gaubert, I. Manelici, and J. P. Vasquez. 2022a. Responsible Sourcing? *NBER Working Paper*. No. 30683. Cambridge, MA: National Bureau of Economic Research.
- Alfaro-Ureña, A., I. Manelici, and J. P. Vasquez. 2022b. The Effects of Joining Multinational Supply Chains: New Evidence from Firm-to-Firm Linkages. *The Quarterly Journal of Economics*. 137(3). pp. 1495-1552.
- Alfaro-Ureña, A., I. Manelici, and J. P. Vasquez. 2021. The Effects of Multinationals on Workers: Evidence from Costa Rican Microdata. Unpublished.
- Ali, M., and A. Seric. 2014. Diffusion of Labor Standards from Origin to Host Countries: Cross Country Evidence from Multinational Companies in Africa. *Robert Schuman Centre for Advanced Studies Research Paper*. No. 2014/22.
- Allen, T. 2014. Information Frictions in Trade. *Econometrica*. 82(6). pp. 2041-2083.
- Alvarez, R., and R. A. López. 2008. Is Exporting a Source of Productivity Spillovers? *Review of World Economics*. 144. pp. 723-749.
- Amberg, N., T. Jacobson, E. von Schedvin, and R. Townsend. 2021. Curbing Shocks to Corporate Liquidity: The Role of Trade Credit. *Journal of Political Economy*. 129(1). pp. 182-242.
- Amengual, M., and G. Distelhorst. 2020. Cooperation and Punishment in Regulating Labor Standards: Evidence from the Gap Inc Supply Chain. SSRN Papers. [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3466936](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3466936).

- Amiti, M., C. Duprez, J. Konings, and J. van Reenen. 2023. FDI and Superstar Spillovers: Evidence from Firm-to-Firm Transactions. *NBER Working Paper*. No. 31128. Cambridge, MA: National Bureau of Economic Research.
- Amiti, M., and J. Konings. 2007. Trade Liberalization, Intermediate Inputs, and Productivity: Evidence from Indonesia. *American Economic Review*. 97(5). pp. 1611-1638.
- Amodio, F., and N. D. Roux. Forthcoming. Measuring Labor Market Power in Developing Countries: Evidence from Colombian Plants. *Journal of Labor Economics*.
- Amodio, F., P. Medina, and M. Morlacco. 2022. Labor Market Power, Self-Employment, and Development. Unpublished.
- Ang, D., D. Brown, R. Dehejia, and R. Robertson. 2012. Public Disclosure, Reputation Sensitivity, and Labor Law Compliance: Evidence from Better Factories Cambodia. *Review of Development Economics*. 16(4). pp. 594-607.
- Anh, D. D., and V. A. Dang. 2020. Global Value Chain Participation and Firms' Innovations: Evidence from Small and Medium-Sized Enterprises in Viet Nam. *ADB Working Paper*. No.1138. Asian Development Bank Institute.
- Antràs, P. 2020. Conceptual Aspects of Global Value Chains. *The World Bank Economic Review*. 34(3). pp. 551-574.
- Antràs, P., and S. R. Yeaple. 2014. Multinational Firms and the Structure of International Trade. In *Handbook of International Economics*. 4. pp. 55-130.
- Artuc, E., P. Bastos, and B. Rijkers. 2018. Robots, Tasks and Trade. *World Bank Policy Research Working Paper*. No. 8674.
- Artuc, E., L. Christiansen, and H. Winkler. 2019. Does Automation in Rich Countries Hurt Developing Ones? Evidence from the US and Mexico. *World Bank Policy Research Working Paper*. No. 8741.
- Athey, S., D. Karlan, E. Palikot, and Y. Yuan. 2022. Smiles in Profiles: Improving Fairness and Efficiency Using Estimates of User Preferences in Online Marketplaces. *NBER Working Paper* No. 30633. Cambridge, MA: National Bureau of Economic Research.
- Atkin, D. 2016. Endogenous Skill Acquisition and Export Manufacturing in Mexico. *American Economic Review*. 106(8). pp. 2046-2085.
- Atkin, D., A. Chaudhry, S. Chaudry, A. K. Khandelwal, and E. Verhoogen. 2017a. Organizational Barriers to Technology Adoption: Evidence from Soccer-Ball Producers in Pakistan. *The Quarterly Journal of Economics*. 132(3). pp. 1101-1164.
- Atkin, D., A. K. Khandelwal, and A. Osman. 2017b. Exporting and Firm Performance: Evidence from a Randomized Experiment. *The Quarterly Journal of Economics*. 132(2). pp. 551-615.
- Azmeh, S., H. Nguyen, and M. Kuhn. 2022. Automation and Industrialisation Through Global Value Chains: North Africa in the German Automotive Wiring Harness Industry. *Structural Change and Economic Dynamics*. 63. pp. 125-138.
- Bacchetta, M., E. Ernst, and J. Bustamante. 2009. Globalisation and Informal Jobs in Developing Countries. A Joint Study of the International Labour Office and the Secretariat of the World Trade Organization. WTO-ILO, Geneva.

- Baldwin, R. 2006. Globalisation: The Great Unbundling(s). In *Globalisation Challenges for Europe*. Secretariat of the Economic Council, Finnish Prime Minister's Office. Helsinki.
- Baldwin, R. 2011. 21st Century Regionalism: Filling the Gap Between 21st Century Trade and 20th Century Trade Rules. *CEPR Policy Insight*. No.56.
- Baldwin, R., and J. Lopez-Gonzalez. 2015. Supply-Chain Trade: A Portrait of Global Patterns and Several Testable Hypotheses. *The World Economy*. 38(11). pp. 1682-1721.
- Bar-Gill, S., E. Brynjolfsson, and N. Hak. 2023. Helping Small Businesses Become More Data-Driven: A Field Experiment on eBay. *NBER Working Paper*. No. 31089. Cambridge, MA: National Bureau of Economic Research.
- Barrientos, S., and A. Kritzinger. 2004. Squaring the Circle: Global Production and the Informalization of Work in South African Fruit Exports. *Journal of International Development*. 16(1). pp. 81-92.
- Bas, M., and P. Bombarda. 2023. Input-Trade Liberalization and Formal Employment: Evidence from Mexico. *Working Paper*. Documents de Travail du Centre d'Économie de la Sorbonne.
- Bastos, P., J. Silva, and E. Verhoogen. 2018. Export Destinations and Input Prices. *American Economic Review*. 108(2). pp. 353-392.
- Basu, K. 2005. Child Labor and the Law: Notes on Possible Pathologies. *Economics Letters*. 87(2). pp. 169-174.
- Becker, G. 1957. *The Economics of Discrimination*. University of Chicago Press.
- Bekkers, E., K. Jhunjhunwala, J. Metivier, V. Stolzenburg, and A. N. Yilmaz. 2023. Global Trade Policy Reform and Gender Inequality in the Labour Market. GTAP Resource. No. 6905.
- Bennett, J., and S. Estrin. 2007. Modelling Interactions Between Formal and Informal Sectors in a Developing Economy. In *IZA/WB conference in Bonn*. IZA Institute of Labor Economics.
- Bhagwati, J. 1995. Trade Liberalisation and 'Fair Trade' Demands: Addressing the Environmental and Labour Standards Issues. *World Economy*. 18(6). pp. 745-759.
- Bisztray, M., M. Koren, and A. Szeidl. 2018. Learning to import from your peers. *Journal of International Economics*. 115. pp.242-258.
- Black, S. E., and E. Brainerd. 2004. Importing Equality? The Impact of Globalization on Gender Discrimination. *ILR Review*. 57(4). pp. 540-559.
- Blanchard, E. J., and W. W. Olney. 2017. Globalization and Human Capital Investment: Export Composition Drives Educational Attainment. *Journal of International Economics*. 106. pp. 165-183.
- Bloom, N., R. Lemos, R. Sadun, D. Scur, J. Van Reenen 2021. World Management Survey – Manufacturing. Harvard Dataverse. VI. UNF:6:k5xYE9W6U534XDiWu3RjA== [fileUNF].
- Bloom, N., A. Mahajan, D. McKenzie, and J. Roberts. 2020. Do management interventions last? Evidence from India. *American Economic Journal: Applied Economics*. 12(2), pp. 198-219.

- Bloom, N., C. Genakos, R. Sadun, and J. Van Reenen. 2012. Management Practices Across Firms and Countries. *Academy of Management Perspectives*. 26(1), pp.12-33.
- Bloom, N., and J. Van Reenen, J. 2007. Measuring and Explaining Management Practices across Firms and Countries. *The Quarterly Journal of Economics*. 122(4). pp.1351-1408.
- Bocola, L., and G. Bornstein. 2023. The Macroeconomics of Trade Credit. *NBER Working Paper*. No. 31026. Cambridge, MA: National Bureau of Economic Research.
- Bøler, E. A., B. Javorcik, and K. H. Ulltveit-Moe. 2018. Working across time zones: Exporters and the gender wage gap. *Journal of International Economics*. 111. pp. 122-133.
- Boudreau, L.E. 2022. Multinational enforcement of labor law: Experimental evidence on strengthening occupational safety and health (OSH) committees. *CEPR Discussion Papers*. No. 17579.
- Brown, D., R. Dehejia, and R. Robertson. 2013. Is There a Business Case for Improving Labor Standards?: Some Evidence from Better Factories Cambodia. In *Workers' Rights and Labor Compliance in Global Supply Chains*. pp. 69-87. Routledge.
- Brynjolfsson, E., D. Li, and L. R. Raymond. 2023. Generative AI at Work. *NBER Working Paper*. No. 31161. Cambridge, MA: National Bureau of Economic Research.
- Buciuni, G., J. Canello, and G. Gereffi. 2022. Microfoundations of Global Value Chain Research: Big Decisions by Small Firms. *Environment and Planning A: Economy and Space*. 54(6). pp. 1086-1111.
- Butollo, F., G. Gereffi, C. Yang, and M. Krzywdzinski. 2022. Digital Transformation and Value Chains: Introduction. *Global Networks*. 22(4). pp. 585-594.
- Butollo, F., and B. Lüthje. 2017. Made in China 2025': Intelligent Manufacturing and Work. In *The New Digital Workplace: How New Technologies Revolutionise Work*. pp. 42-61.
- Cafaggi, F., R. P. Macedo, T. Andreotti, C. Gross, L. de Almeida, and T. A. Ribeiro. 2012. Accessing the Global Value Chain in a Changing Institutional Environment: Comparing Aeronautics and Coffee. *IDB Working Paper Series*. No. IDB-WP-370
- Cajal-Grossi, J., R. Macchiavello, and G. Noguera. (2023). Buyers' Sourcing Strategies and Suppliers' Markups in Bangladeshi Garments. *The Quarterly Journal of Economics*. qjad026.
- Caliendo, M., M. Goethner, and M. Weissenberger. 2020. Entrepreneurial Persistence Beyond Survival: Measurement and Determinants. *Journal of Small Business Management*. 58(3), pp. 617-647.
- Carballo, J., I. Marra de Artiñano, and C. Martincus. 2019. Linkages with Multinationals and Domestic Firms' Performance. *IADB Integration and Trade Sector*. IDB-TN-01746.
- Càrrere, C., M. Olarreaga, and D. Raess. 2022. Labor Clauses in Trade Agreements: Hidden Protectionism? *The Review of International Organizations*. 1-31.
- Chandra, V., and M. A. Khan. 1993. Foreign Investment in the Presence of an Informal Sector. *Economica*. pp. 79-103.
- Chen, T. 2017. The Impact of the Shea Nut Industry on Women's Empowerment in Burkina Faso. *Social Protection and Forestry Working Paper*. No. 3. Food and Agriculture Organization of the United Nations.



- Clerides, S. K., S. Lach, and J. R. Tybout. 1998. Is Learning by Exporting Important? Micro-Dynamic Evidence from Colombia, Mexico, and Morocco. *The Quarterly Journal of Economics*. 113(3). pp. 903-947.
- Conconi, P., F. Leone, G. Magerman, and C. Thomas. 2022. Multinational Ownership and Trade Participation. *ECARES, CEPR, CESifo and CEP Working Paper*. 1-59.
- Copestake, A., M. Marczinek, A. Pople, and K. Stapleton. 2023. AI and Services-Led Growth: Evidence from Indian Job Adverts. *STEG Working Paper*. WP060.
- Crinò, R. 2012. Service Offshoring and the Skill Composition of Labour Demand. *Oxford Bulletin of Economics and Statistics*. 74(1). pp. 20-57.
- Cusolito, A. P., R. Safadi, and D. Taglioni. 2016. Inclusive Global Value Chains: Policy Options for Small and Medium Enterprises and Low-Income Countries. OECD and World Bank Publications. Washington, DC.
- Davies, E. 2005. Hola! Trinidad Drops English and Learns to Speak Spanish. The Independent, September 1. Available at <https://www.independent.co.uk/news/world/americas/hola-trinidad-drops-english-and-learns-to-speak-spanish-5347553.html>. (Accessed: 5 May, 2023)
- De Loecker, J. 2007. Do Exports Generate Higher Productivity? Evidence from Slovenia. *Journal of International Economics*. 73(1). pp. 69-98.
- De Marchi, V., E. Giuliani, and R. Rabellotti. 2015. Local Innovation and Global Value Chains in Developing Countries. *UNU-MERIT Working Papers*. 2015-022.
- Delgado, K. F. 2020. Foreign Acquisitions and Female Employment in Manufacturing Firms: An Empirical Analysis for Chile. *Transnational Corporations*. 27(3).
- Demir, B., A. C. Fieler, D. Y. Xu, and K. K. Yang. Forthcoming. O-Ring Production Networks. *Journal of Political Economy*.
- Diodato, D., F. Neffke, and N. O'Clery. 2018. Why Do Industries Coagglomerate? How Marshallian Externalities Differ by Industry and Have Evolved Over Time. *Journal of Urban Economics*. 106. pp. 1-26.
- Distelhorst, G., J. Hainmueller, and R. M. Locke. 2017. Does Lean Improve Labor Standards? Management and Social Performance in the Nike Supply Chain. *Management Science*. 63(3). pp. 707-728.
- Dix-Carneiro, R., and B. K. Kovak. 2017. Trade Liberalization and Regional Dynamics. *American Economic Review*. 107(10). pp. 2908-2946.
- Dix-Carneiro, R., and S. Traiberman. 2023. Globalization, Trade Imbalances, and Inequality. *Journal of Monetary Economics*. 133. pp. 48-72.
- Dix-Carneiro, R., P. K. Goldberg, C. Meghir, and G. Ulyssea. 2021. Trade and Informality in the Presence of Labor Market Frictions and Regulations. *NBER Working Paper*. No. 28391. Cambridge, MA: National Bureau of Economic Research.
- Dix-Carneiro, R., and B. Kovak. 2023. "Globalization and Inequality in Latin America." *IZA Discussion Papers*. 16363. Institute of Labor Economics (IZA).
- Do, Q. T., A. A. Levchenko, and C. Raddatz. 2016. Comparative Advantage, International Trade, and Fertility. *Journal of Development Economics*. 119. pp. 48-66.
- Dragusanu, R., E. Montero, and N. Nunn. 2022. The Effects of Fair Trade Certification: Evidence from Coffee Producers in Costa Rica. *Journal of the European Economic Association*. 20(4). pp. 1743-1790.

- Du, J., and U. Nduka. 2020. Global Value Chains and the Adoption of Automation Technology. In *Academy of Management Proceedings*. Vol. 2020, No. 1. pp. 18610. Briarcliff Manor, NY: Academy of Management.
- Ederington, J., J. Minier, and K. Troske. 2009. Where the Girls Are: Trade and Labor Market Segregation in Colombia. *IZA Discussion Papers*. 4131. Institute of Labor Economics (IZA).
- Edmonds, E. V. 2007. Child Labor. *NBER Working Paper*. No. 12926. Cambridge, MA: National Bureau of Economic Research.
- Edmonds, E. V., and N. Pavcnik. 2005. The Effect of Trade Liberalization on Child Labor. *Journal of International Economics*. 65(2). pp. 401-419.
- Edmonds, E. V., and N. Pavcnik. 2006. International Trade and Child Labor: Cross-Country Evidence. *Journal of International Economics*. 68(1). pp. 115-140.
- Egan, M. L., and A. Mody. 1992. Buyer-Seller Links in Export Development. *World Development*. 20(3). pp. 321-334.
- Eisfeldt, A. L., G. Schubert, and M. B. Zhang. 2023. Generative AI and Firm. *NBER Working Paper*. No. 31222. Cambridge, MA: National Bureau of Economic Research.
- Ersahin, N., M. Giannetti, and R. Huang. 2023. Trade Credit and the Stability of Supply Chains. *SMU Cox School of Business Research Paper*. (21-09). pp. 21-13.
- Erten, B., and J. Leight. 2021. Exporting Out of Agriculture: The Impact of WTO Accession on Structural Transformation in China. *Review of Economics and Statistics*. 103(2). pp. 364-380.
- Eurocham. 2022. Myanmar Garment Sector FACTSHEET, EuroCham Myanmar's Garment Advocacy Group.
- Fabbri, D., and L. Klapper. 2009. Trade Credit and the Supply Chain. *Working paper*. Amsterdam Business School Research Institute.
- Fajnzylber, P., W. Maloney, and G. M. Rojas. 2006. Microenterprise Dynamics in Developing Countries: How Similar Are They to Those in the Industrialized World? Evidence from Mexico. *The World Bank Economic Review*. 20(3). pp. 389-419.
- Farole, T., C. Hollweg, and D. Winkler. 2018. Trade in Global Value Chains: An Assessment of Labor Market Implications. *Jobs Working Paper*. No. 18. World Bank Group.
- Federman, M., and D. I. Levine. 2005. The Effects of Industrialization on Education and Youth Labor in Indonesia. *The B.E. Journal of Macroeconomics* 5(1), Art.: 20121004.
- Felix, M. 2021. Trade, Labor Market Concentration, and Wages. *Working Paper*. Yale University.
- Fernandes, A., N. Rocha, and M. Ruta. 2023. Beyond Trade: How Deep Trade Agreements Shape Non-Trade Outcomes. CEPR Press.
- Fernandes, A., and H. L. Kee. 2020. Gender Empowerment, Supply Chain Linkages, and Foreign Direct Investment. *World Bank Policy Research Working Paper*. No. 9340.
- Fieler, A. C., M. Eslava, and D. Y. Xu. 2018. Trade, Quality Upgrading, and Input Linkages: Theory and Evidence from Colombia. *American Economic Review*, 108(1), pp. 109-146.

- Fontagné, L., A. Reshef, G. Santoni, and G. Vannelli. 2023. Automation, Global Value Chains, and Functional Specialization. *Working Paper*. 2023-05, CEPII Research Center.
- Fukase, E. 2014. Foreign Wage Premium, Gender, and Education: Insights from Vietnam Household Surveys. *The World Economy*. 37(6). pp. 834-855.
- Gaddis, I., and J. Pieters. 2017. The Gendered Labor Market Impacts of Trade Liberalization: Evidence from Brazil. *Journal of Human Resources*. 52(2). pp. 457-490.
- Galor, O., and N. Weil. 1996. The Gender Gap, Fertility, and Growth. *American Economic Review*. 86. pp. 374-387.
- Garcia-Appendini, E., and J. Montoriol-Garriga. 2013. Firms as Liquidity Providers: Evidence from the 2007–2008 Financial Crisis. *Journal of Financial Economics*. 109(1). pp. 272-291.
- Gentile, E., Y. Xing, S. Rubínová, and S. Huang. 2021. Productivity Growth, Innovation, and Upgrading Along Global Value Chains. In Asian Development Bank, University of International Business and Economics, World Trade Organization, IDE-JETRO, *Global Value Chain Development Report 2021: Beyond Production*. pp. 72-104.
- Gereffi, G., and X. Luo. 2015. Risks and Opportunities of Participation in Global Value Chains. *Journal of Banking and Financial Economics*. 2(4). pp. 51-63.
- Gereffi, G. 1999. International Trade and Industrial Upgrading in the Apparel Commodity Chain. *Journal of International Economics*. 48(1). pp. 37-70.
- Goldberg, P. K., and N. Pavcnik. 2007. Distributional Effects of Globalization in Developing Countries. *Journal of Economic Literature*. 45(1). pp. 39-82.
- Goldberg, P. K., A. K. Khandelwal, N. Pavcnik, and P. Topalova. 2010. Imported Intermediate Inputs and Domestic Product Growth: Evidence from India. *The Quarterly Journal of Economics*. 125(4). pp. 1727-1767.
- Goutam, P., I. Gutierrez, K. B. Kumar, and S. Nataraj. 2017. Does Informal Employment Respond to Growth Opportunities? Trade-based Evidence from Bangladesh. *Working Paper*. No. WR-1198. RAND Corporation.
- Graetz, G., and G. Michaels. 2018. Robots at Work. *Review of Economics and Statistics*. 100(5). pp. 753-768.
- Guillouet, L., A. Khandelwal, R. Macchiavello, and M. Teachout. 2022. Language Barriers in Multinationals and Knowledge Transfers. *NBER Working Paper*. No. 28807. Cambridge, MA: National Bureau of Economic Research.
- Halpern, L., M. Koren, and A. Szeidl. 2015. Imported Inputs and Productivity. *American Economic Review*. 105(12). pp. 3660-3703.
- Hardy, B., F. E. Saffie, and I. Simonovska. 2023. Trade Credit and Exchange Rate Risk Pass Through. *NBER Working Paper*. No. 31078. Cambridge, MA: National Bureau of Economic Research.
- Harrison, A., and A. Rodríguez-Clare. 2010. Trade, Foreign Investment, and Industrial Policy for Developing Countries. *Handbook of Development Economics*. 5. pp. 4039-4214.

- Hatte, S., and P. Koenig. 2020. The Geography of NGO Activism Against Multinational Corporations. *The World Bank Economic Review*, 34(1), pp. 143-163.
- Heath, R., and A. M. Mobarak. 2015. Manufacturing Growth and the Lives of Bangladeshi Women. *Journal of Development Economics*. 115. pp. 1-15.
- Helpman, E., M. Melitz, and S. R. Yeaple. 2004. Export versus FDI with Heterogeneous Firms. *American Economic Review*. 94(1). pp. 300-316.
- Herkenhoff, P., S. Krautheim, F. O. Semrau, and F. Steglich. 2021. Corporate Social Responsibility along the Global Value Chain. *CESifo Working Paper Series*. 9498, CESifo.
- Herkenhoff, P., and S. Krautheim. 2022. The International Organization of Production in the Regulatory Void. *Journal of International Economics*. 137. 103572.
- Hing, V., S. M. Thangavelu, and D. Narjoko. 2020. Human Capital and Participation in Global Value Chains: Evidence from Small and Medium-Sized Enterprises in Indonesia. *ADB Working Paper*. No. 1142. Asian Development Bank Institute.
- Hjort, J., X. Li and H. Sarsons. 2022. Across-Country Wage Compression in Multinationals. *American Economic Review*. *Forthcoming*.
- Hoekman, B. 2021. Realizing European Soft Power in External Cooperation and Trade. RESPECT Policy Brief.
- Hoekman, B., J. F. Francois, F. Santi, and M. Manchin. 2022. Pursuing Environmental and Social Objectives through Trade Agreements. *Robert Schuman Centre for Advanced Studies Research Paper No. RSC\_73*.
- Hoekman, B., F. Santi, and A. Shingal. 2023. Trade Effects of Non-Economic Provisions in Trade Agreements. *Economics Letters*. 226. 111081.
- Hollweg, C., and A. O. Lopez. 2020. Exporting and Female Labor Market Outcomes in Georgia. *World Bank Policy Research Working Paper*. No. 9432.
- Hollweg, C. 2019. Global Value Chains and Employment in Developing Economies. In World Trade Organization, IDE-JETRO, Organization for Economic Co-operation and Development, University of International Business and Economics, World Bank Group, *Global Value Chain Development Report 2019: Technological Innovation, Supply Chain Trade and Workers in a Globalized World*. pp. 72-104.
- ILO (International Labour Organization). 2008. Promotion of Rural Employment for Poverty Reduction. International Labour Conference, 97th Session. Geneva: ILO.
- ILO (International Labour Organization). 2020a. Understanding the Gender Composition and Experience of Ready-Made Garment (RMG) Workers in Bangladesh, Issue Brief. Geneva: ILO.
- ILO (International Labour Organization). 2020b. Gendered Impacts of COVID-19 on the Garment Sector. Geneva: ILO.
- Im, H., and J. McLaren. 2023. Foreign Direct Investment, Global Value Chains, and Labor Rights: No Race-to-the-Bottom? *NBER Working Paper*. No. 31363. Cambridge, MA: National Bureau of Economic Research.
- IMF (2017). Fintechs and the Financial Side of Global Value Chains— The Changing Trade-Financing Environment. *Thirtieth Meeting of the IMF Committee on Balance of Payments Statistics*. BOPCOM—17/21

- Iyoha, E. 2022. Estimating Productivity in the Presence of Spillovers: Firm-level Evidence from the US Production Network. Unpublished.
- Javorcik, B. S. 2004. Does Foreign Direct Investment Increase the Productivity of Domestic Firms? In Search of Spillovers through Backward Linkages. *American Economic Review*. 94(3). pp. 605-627.
- Javorcik, B. S. 2015. Does FDI Bring Good Jobs to Host Countries? *The World Bank Research Observer*. 30(1). pp. 74-94.
- Jensen, R. 2012. Do Labor Market Opportunities Affect Young Women's Work and Family Decisions? Experimental Evidence from India. *The Quarterly Journal of Economics*. 127(2). pp. 753-792.
- Juhász, R., M. P. Squicciarini, and N. Voigtländer. 2020. Technology Adoption and Productivity Growth: Evidence from Industrialization in France. *NBER Working Paper*. No. 27503. Cambridge, MA: National Bureau of Economic Research.
- Juhn, C., G. Ujhelyi, and C. Villegas-Sanchez. 2014. Men, Women, and Machines: How Trade Impacts Gender Inequality. *Journal of Development Economics*. 106. pp. 179-193.
- Kasahara, H., and J. Rodriguez. 2008. Does the Use of Imported Intermediates Increase Productivity? Plant-level Evidence. *Journal of Development Economics*. 87(1). pp. 106-118.
- Khandelwal, A. 2010. The Long and Short (of) Quality Ladders. *The Review of Economic Studies*. 77(4). pp. 1450-1476.
- Kim, M., A. H. Liu, K. L. Tuxhorn, D. S. Brown, and D. Leblang. 2015. Lingua Mercatoria: Language and Foreign Direct Investment. *International Studies Quarterly*. 59(2). pp. 330-343.
- Kim, S. J., and H. S. Shin. 2023. Theory of Supply Chains: A Working Capital Approach. *BIS Working Papers*. No. 1070.
- Kinkel, S., A. Jager, and C. Zanker. 2015. The Effects of Robot Use in European Manufacturing Companies on Production Off-shoring Outside the EU. In *Proceedings of the 22nd International Annual EurOMA Conference*. Neuchâtel, Switzerland.
- Klymak, M. 2023. The Trade Effects of Information Provision about Forced and Child Labor. *World Development*. 167. pp. 106217.
- Koenig, P., and S. Poncet. 2022. The Effects of the Rana Plaza Collapse on the Sourcing Choices of French Importers. *Journal of International Economics*. 137. pp. 103576.
- Koenig, P., S. Krautheim, C. Löhnert, and T. Verdier. 2021. Local Global Watchdogs: Trade, Sourcing, and the Internationalization of Social Activism. CESifo Working Paper Series No. 9068.
- Krautheim, S., and T. Verdier. 2016. Offshoring with Endogenous NGO Activism. *Journal of International Economics*. 101. pp. 22-41.
- Kruger, D. I. 2007. Coffee Production Effects on Child Labor and Schooling in Rural Brazil. *Journal of Development Economics*. 82(2). pp. 448-463.
- Krzywdzinski, M. 2017. Automation, Skill Requirements, and Labour-Use Strategies: High-Wage and Low-Wage Approaches to High-Tech Manufacturing in the Automotive Industry. *New Technology, Work and Employment*. 32(3). pp. 247-267.



- Kugler, M., and E. Verhoogen. 2012. Prices, Plant Size, and Product Quality. *The Review of Economic Studies*. 79(1). pp. 307-339.
- Kumar, R. 2017. Global Value Chains: A Way to Create More, Better, and Inclusive Jobs. *Jobs Development Blog*, World Bank, Washington, DC.
- Kumar, R. S., and M. B. Subrahmanya. 2010. Influence of Subcontracting on Innovation and Economic Performance of SMEs in Indian Automobile Industry. *Technovation*. 30(11-12). pp. 558-569.
- Laget, E., A. Osnago, N. Rocha, and M. Ruta. 2020. Deep Trade Agreements and Global Value Chains. *Review of Industrial Organization*. 57. pp. 379-410.
- Lan, J., and B. Shepherd. 2019. Women and the Services Sector. In *Leveraging Services for Development: Prospects and Policies*. Asian Development Bank.
- Lawrence, Z. 1996. Regionalism, Multilateralism, and Deeper Integration. Washington, DC: Brookings Institution Press.
- Lendle, A., M. Olarreaga, S. Schropp, and P. L. Vézina, 2016. There goes gravity: eBay and the Death of Distance. *Economic Journal*. *Royal Economic Society*. 126(591). pp. 406-441.
- Li, B. 2018. Export Expansion, Skill Acquisition, and Industry Specialization: Evidence from China. *Journal of International Economics*. 114. pp. 346-361.
- Lundquist, K. 2023. MNC Supplier Transparency. GVC Development Report Background Paper.
- Lundquist, K., and J. W. Kang. 2021. Digital Platforms and Global Value Chains. In *Global Value Chain Development Report 2021: Beyond Production*. Asian Development Bank, University of International Business and Economics, World Trade Organization, IDE-JETRO.
- Joshi, A., and N. Lahiri. 2015. Language Friction and Partner Selection in Cross-border RandD Alliance Formation. *Journal of International Business Studies*. 46. pp. 123-152.
- Macchiavello, R. 2022. Relational Contracts and Development. *Annual Review of Economics*. 14. pp. 337-362.
- Macchiavello, R., and J. Miquel-Florensa. 2019. Buyer-driven Upgrading in GVCs: The Sustainable Quality Program in Colombia. *CEPR Discussion Papers*. No. 13935.
- MacGarvie, M. 2006. Do Firms Learn from International Trade? *Review of Economics and Statistics*. 88(1). pp. 46-60.
- Maertens, M., and J. F. Swinnen. 2009. Trade, Standards, and Poverty: Evidence from Senegal. *World Development*. 37(1). pp. 161-178.
- Maggi, G., and A. Rodriguez-Clare. 2007. A Political-Economy Theory of Trade Agreements. *American Economic Review*. 97(4). pp. 1374-1406.
- Majlesi, K. 2016. Labor Market Opportunities and Women's Decision Making Power within Households. *Journal of Development Economics*. 119. pp. 34-47.
- Manaresi, F., A. Palma, L. Salvatici, and V. Scrutinio. 2022. Managerial Input and Firm Performance: Evidence from a Policy Experiment. Unpublished.
- Manova, K., and Z. Zhang. 2012. Export Prices across Firms and Destinations. *The Quarterly Journal of Economics*. 127(1). pp. 379-436.



- Mansour, H., P. Medina, and A. Velasquez. 2022. Import Competition and Gender Differences in Labor Reallocation. *Labour Economics*. 76. pp. 102149.
- Marotta, G. 2001. Is Trade Credit More Expensive than Bank Loans? Evidence from Italian Firm-level Data. Evidence from Italian Firm-level Data. *Working Paper*. UNIMORE.
- Mattoo, A., N. Rocha, and M. Ruta. 2020. *The Evolution of Deep Trade Agreements*. Washington, DC: World Bank.
- McCaig, B., N. Pavcnik, and W. F. Wong. 2022. FDI Inflows and Domestic Firms: Adjustments to New Export Opportunities. *NBER Working Paper*. No. 30729. Cambridge, MA: National Bureau of Economic Research.
- McCaig, B., and N. Pavcnik. 2018. Export Markets and Labor Allocation in a Low-Income Country. *American Economic Review*. 108(7). pp. 1899-1941.
- McCaig, B. 2011. Exporting out of Poverty: Provincial Poverty in Vietnam and US Market Access. *Journal of International Economics*. 85(1). pp. 102-113.
- McMillan, J., and C. Woodruff. 1999. Interfirm Relationships and Informal Credit in Vietnam. *The Quarterly Journal of Economics*. 114(4). pp. 1285-1320.
- Méndez, E., and D. Van Patten. 2022. Multinationals, Monopsony, and Local Development: Evidence from the United Fruit Company. *Econometrica*. 90(6). pp. 2685-2721.
- Minetti, R., P. Murro, Z. Rotondi, and S. C. Zhu. 2019. Financial Constraints, Firms' Supply Chains, and Internationalization. *Journal of the European Economic Association*. 17(2). pp. 327-375.
- Molina, T., and M. Tanaka. 2023. Globalization and Female Empowerment: Evidence from Myanmar. *Economic Development and Cultural Change*. 71(2). pp. 519-565.
- Monge-González, R., L. Rivera, and N. Mulder. 2021. Cultural Spillovers from Multinational to Domestic Firms: Evidence on Female Employment in Costa Rica. *Transnational Corporations Journal*. 28(1).
- Mosley, L. 2011. *Labor Rights and Multinational Production*. New York: Cambridge University Press.
- Muendler, M. A., and J. E. Rauch. 2018. Do Employee Spinoffs Learn Markets from Their Parents? Evidence from International Trade. *European Economic Review*. 105. pp. 159-173.
- Munshi, K., and M. Rosenzweig. 2006. Traditional Institutions Meet the Modern World: Caste, Gender, and Schooling Choice in a Globalizing Economy. *American Economic Review*. 96(4). pp. 1225-1252.
- Nano, E., and V. Stolzenburg. 2021. The Role of Global Services Value Chains for Services-led Development. In *Global Value Chain Development Report 2021: Beyond Production*. Asian Development Bank, University of International Business and Economics, World Trade Organization, IDE-JETRO.
- Nano, E., G. Nayyar, S. Rubinova, and V. Stolzenburg. 2021. Services Liberalization and Educational Attainment: Evidence from India. *WTO Staff Working Paper*. ERS-2021-10.

- Narula, R. 2020. Policy Opportunities and Challenges from the COVID-19 Pandemic for Economies with Large Informal Sectors. *Journal of International Business Policy*. 3. pp. 302-310.
- Ndubuisi, G., and S. Owusu. 2023. Global Value Chains, Job Creation, and Job Destruction among Firms in South Africa. *STEG Working Paper*. WP073.
- Newman, C., J. Rand, T. Talbot, and F. Tarp. 2015. Technology Transfers, Foreign Investment and Productivity Spillovers. *European Economic Review*. 76. 168-187.
- Ngoma, M. M. 2023. Chinese Imports and Industrialization in Africa: Evidence from Ethiopia. Unpublished.
- OECD (Organisation for Economic Co-operation and Development). 2023a. SME and Entrepreneurship Outlook 2023. OECD Publishing, Paris.
- OECD (Organisation for Economic Co-operation and Development). 2023b. Informality and Globalisation: In Search of a New Social Contract. OECD Publishing, Paris.
- Oster, E., and B. M. Steinberg. 2013. Do IT Service Centers Promote School Enrollment? Evidence from India. *Journal of Development Economics*. 104. pp. 123-135.
- Ouyang, D., W. Yuan, and Y. Zi. 2022. Empowered Young Women: Trade Liberalization and Women's Family Decisions in China. *Working Paper*. Centre for Economic Policy Research.
- Pedemonte, M., T. Vishwanath, and R. D. Zarate. 2019. Trade, Robots and Automation: The Impact of US Robots on Labor Outcomes in Developing Countries. Unpublished.
- Pham, L. T., and Y. Jinjark. 2023. Global Value Chains and Female Employment: Evidence from Vietnam. *The World Economy*. 46(3). pp. 726-757.
- Piermartini, R., and S. Rubínová. 2021. How Much Do Global Value Chains Boost Innovation?. *Canadian Journal of Economics/Revue canadienne d'économique*. 54(2). pp. 892-922.
- Pietrobelli, C., A. Marin, and J. Olivari. 2018. Innovation in Mining Value Chains: New Evidence from Latin America. *Resources Policy*. 58. pp. 1-10.
- Ponczek, V., and G. Ulyssea. 2022. Enforcement of Labour Regulation and the Labour Market Effects of Trade: Evidence from Brazil. *The Economic Journal*. 132(641). pp. 361-390.
- Poole, J. P. 2013. Knowledge Transfers from Multinational to Domestic Firms: Evidence from Worker Mobility. *Review of Economics and Statistics*. 95(2). pp. 393-406.
- Reyes, M. I. 2023. Did Competing with China Affect Chilean Manufacturing Jobs? Evaluating Gender Differences in Employment During 1995–2006. *Feminist Economics*. 1-25.
- Rifin, A., and D. Naulu. 2020. The Impact of Involvement in the Global Value Chain on Coffee Farmers in Indonesia: Case Study of Margamulya Coffee Producer Cooperative and Mitra Malabar Cooperative, Bandung, Indonesia. *ADBI Working Paper*. No. 1143. Asian Development Bank Institute.
- Rodriguez-Clare, A. 1996. Multinationals, Linkages, and Economic Development. *The American Economic Review*. 852-873.
- Rossi, A., A. Luinstra, and J. Pickles (Eds.). 2014. Towards Better Work: Understanding Labour in Apparel Global Value Chains. Springer.

- Saliola, F., and A. Zanfei. 2009. Multinational Firms, Global Value Chains, and the Organization of Knowledge Transfer. *Research Policy*. 38(2). pp. 369-381.
- Sancak, M. 2022. The Varying Use of Online Supplier Portals in Auto Parts-Automotive Value Chains and Its Implications for Learning and Upgrading: The Case for Mexican and Turkish Suppliers. *Global Networks*. 22(4). pp. 701-715.
- Sharma, S. 2020. The Impact of Foreign Direct Investment on Gender Inequality in India. *Transnational Corporations*. 27(3).
- Shastry, G. K. 2012. Human Capital Response to Globalization: Education and Information Technology in India. *Journal of Human Resources*. 47(2). pp. 287-330.
- Shepherd, B., and S. Stone. 2012. Global Production Networks and Employment: A Developing Country Perspective. *Working Paper*. TAD/TC/WP(2012)29, Trade and Agriculture Directorate, Organisation for Economic Co-operation and Development, Paris.
- Sok, K., R. Phim, S. Keo, and V. Kim. 2020. Connecting Cambodia's SMEs to Regional Value Chains: The "Bridging Gap" and "Missing Link". *ADB Working Paper*. No. 1150. Asian Development Bank Institute.
- Standing, G. 1999. Global Feminization through Flexible Labor: A Theme Revisited. *World Development*. 27(3). pp. 583-602.
- Stapleton, K., and M. Webb. 2020. Automation, Trade, and Multinational Activity: Micro Evidence from Spain. SSRN Papers. [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3681143](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3681143).
- Startz, M. 2021. The Value of Face-to-Face: Search and Contracting Problems in Nigerian Trade. Unpublished.
- Stolzenburg, V., M. Matthee, C. Janse van Rensburg, and C. Bezuidenhout. 2020. Foreign Direct Investment and Gender Inequality: Evidence from South Africa. *Transnational Corporations Journal*. 27(3).
- Stolzenburg, V., D. Taglioni, D. Winkler, S. Ponte, G. Gereffi, and G. Raj-Reichert. 2019. Economic Upgrading through Global Value Chain Participation: Which Policies Increase the Value-Added Gains? In *Handbook on Global Value Chains*. pp. 483-505.
- Sudan, F. K. 2021. Leveraging the Participation of SMEs in Global Value Chains of the Automotive Industry: Insights from Maruti Suzuki India Limited. In *Enhancing SME Participation in Global Value Chains*. 398. Asian Development Bank Institute.
- Tanaka, K. 2022. The European Union's Withdrawal of Trade Preferences for Cambodia. *The World Economy*. 45(11). pp. 3398-3419.
- Tanaka, M. 2020. Exporting Sweatshops? Evidence from Myanmar. *Review of Economics and Statistics*. 102(3). pp. 442-456.
- Tang, H., and Y. Zhang. 2021. Do Multinationals Transfer Culture? Evidence on Female Employment in China. *Journal of International Economics*. 133. 103518.
- Thang, D. N., and L. T. Ha. 2022. Trade Credit and Global Value Chain: Evidence from Cross-Country Firm-level Data. *International Economics*. 171. pp. 110-129.
- Topalova, P. 2007. Trade Liberalization, Poverty, and Inequality: Evidence from Indian Districts. In *Globalization and Poverty*. pp. 291-336. University of Chicago Press.

- Topalova, P. 2010. Factor Immobility and Regional Impacts of Trade Liberalization: Evidence on Poverty from India. *American Economic Journal: Applied Economics*. 2(4). pp. 1-41.
- Topalova, P., and A. Khandelwal. 2011. Trade Liberalization and Firm Productivity: The Case of India. *Review of Economics and Statistics*. 93(3). pp. 995-1009.
- Trade and Technology Dialogue. 2023. Working Group 10 – Global Trade Challenges Roundtable on Due Diligence Report. EU-US Trade and Technology Council.
- Ugarte, C., M. Olarreaga, and G. Saiovici. 2023. Child Labour and Global Value Chains. *The World Economy*. 46(4). pp. 941-968.
- UNCTAD (United Nations Conference on Trade and Development). 2013. World Investment Report 2013: Global Value Chains: Investment and Trade for Development. Geneva: UNCTAD.
- UNCTAD (United Nations Conference on Trade and Development). 2021. Multinational Enterprises and the International Transmission of Gender Policies and Practices. Geneva: UNCTAD.
- Urata, S., and Y. Baek. 2021. Does GVC Participation Improve Firm Productivity? A Study of Three Developing Asian Countries. *ADB Working Paper*. No. 1245. Asian Development Bank Institute.
- Verhoogen, E. A. 2008. Trade, Quality Upgrading, and Wage Inequality in the Mexican Manufacturing Sector. *The Quarterly Journal of Economics*. 123(2). pp. 489-530.
- Winters, L. A. 2023. Trade Agreements and Non-Trade Objectives: A Cautionary Note. In *Beyond Trade: How Deep Trade Agreements Shape Non-Trade Outcomes*. CEPR Press.
- World Bank. 2020. World Development Report 2020: Trading for Development in the Age of Global Value Chains. Washington, D.C: World Bank.
- World Bank and WTO. 2020. Women and Trade: The Role of Trade in Promoting Gender Equality. Washington, D.C: World Bank.
- WTO (World Trade Organization). 2016. World Trade Report 2016: Levelling the Trading Field for SMEs. Geneva: WTO.
- WTO (World Trade Organization). 2019. World Trade Report 2019: The Future of Services Trade. Geneva: WTO.
- WTO (World Trade Organization). 2020. World Trade Report 2020: Government Policies to Promote Innovation in the Digital Age. Geneva: WTO.
- WTO (World Trade Organization) and IFC (International Finance Corporation). 2022. Trade Finance in West Africa: A Study of Cote D'Ivoire, Ghana, Nigeria, and Senegal.
- Yahmed, S. B. 2023. Gender Wage Discrimination with Employer Prejudice and Trade Openness. *World Development*. 170. pp. 106-319.
- Yildirim, A., R. Basedow, M. Fiorini, and B. Hoekman. 2021. EU Trade and Nontrade Objectives: New Survey Evidence on Policy Design and Effectiveness. *Journal of Common Market Studies*. 59(3). pp. 556–568.
- Yu, Jiantuo, X. Xu, L. Wang, and X. Yang. 2023. The Impact of Global Value Chain Participation on Income Distribution. China Development Research Foundation.
- Zavala, L. 2022. Unfair Trade? Monopsony Power in Agricultural Value Chains. Unpublished. <https://doi.org/10.1787/c945c24f-en>