Research Network
Sustainable Global Supply Chains


# Decent Work in Global Supply Chains

## Sustainable Global Supply Chains Annual Report 2024

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GIGA German Institute for Global and Area Studies Leibniz-Institut für Globale und Regionale Studien
ifw KIEL INSTITUT FÜR WELTWIRTSCHAFT
SWP Stiftung Wissenschaft und Politik German Institute for International and Security Affairs

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# Foreword by the **Federal Ministry for Economic Cooperation and Development**

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Dr. Bärbel Kofler

*Parliamentary State Secretary to the Federal Minister for Economic Cooperation and Development*

Throughout 2024, the sustainable design of global supply chains (GSCs) has continued to be a source of ongoing political debate and a defining issue in our cooperation with the countries of the Global South. Through regulatory instruments such as the Corporate Sustainability Due Diligence Directive (CSDDD), the European Union has hereby taken significant steps towards ensuring that member states and enterprises live up to their responsibilities, respect human rights on a binding basis and comply with environmental standards along their GSCs. One of the Federal Ministry for Economic Cooperation and Development's (BMZ) key objectives is to foster decent work worldwide. This is why the BMZ is providing support for the implementation of such legal regulations. They are instrumental for effectively realising the United Nations' Guiding Principles on Business and Human Rights and reaching international climate goals.

Two years after the introduction of Germany's Act on Corporate Due Diligence in Supply Chains, we can see that binding regulations on corporate due diligence have proved effective: employees' working conditions are getting better, engagement with unions is increasing and many enterprises have put human rights on the agenda at board level. As the CSDDD is transposed into national law, it is now vital to draw on such lessons and make sure these regulations have even greater impact for the people at the start of the GSC.

To this end, it is vital that enterprises engage more with workers, unions and local stakeholders in recognising risks early on and taking targeted action to prevent them coming to pass. As companies – especially small and medium-sized enterprises – work on these tasks, they can draw on support from the German government and its partners. Examples include the training programmes and supplier training offered by the BMZ's Initiative for Global Solidarity and the Better Work programme run by the International Labour Organization.

One key achievement has been the inclusion of living wages and incomes in the CSDDD. Both can significantly improve the living conditions of those in other countries whose labour goes into making and extracting the products and raw materials we use in Germany and in the Global North – for instance, mine workers in the Democratic Republic of Congo, garment workers in India and coffee farmers in Ethiopia. Living wages and incomes are an effective tool to reduce poverty, they facilitate social development and they are instrumental to decent work. Women benefit in particular here, as those often faced most pressingly with precarious working conditions.

The CSDDD is a major step forwards along the road to fair and sustainable GSCs. However, the Directive alone cannot solve each and every challenge. This requires a smart mix of legal provisions, voluntary initiatives and effective multistakeholder platforms. That is why the BMZ supports such endeavours as the German Initiative on Sustainable Cocoa and the Partnership

for Sustainable Textiles. These platforms offer a forum for dialogue and cooperation between enterprises, governments, civil society and academia, and they help to pilot practice-oriented ideas for sustainable and socially just GSCs.

The annual report of the Research Network Sustainable Global Supply Chains, 'Decent Work in Global Supply Chains', highlights the key importance of the science sector to this transformation of approach. The report critically considers positive but also unintended impacts brought about by due-diligence regulations. For example, important insights for practical work along GSCs can be gained from research on indicators of and a critical reflection on living incomes as well as from research on digital technology and decent work. The report thus helps to close current knowledge gaps in the research landscape, with the new insights generated serving the development of well-founded policy recommendations. Such transfer of knowledge and international cooperation are what the Network is all about. These are essential elements in the ongoing joint effort to make GSCs resilient, socially just and sustainable.

# Introduction to the Sustainable Supply Chain Report 2024 'Decent Work in Global Supply Chains'

## 1. Introduction

Jann Lay

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The integration of economies into global supply chains has fundamentally transformed labour markets worldwide. In recent decades, global value chains (GVC)[1] have become a key driver of globalisation, with an offshoring boom in the 2000s leading to their sustained prominence – they now account for around 45 per cent of world trade.[2] This growing integration both offers opportunities and carries risks, in particular in the Global South: while GVCs can create employment, facilitate technology transfer, and contribute to broader economic development, they can also expose workers to precarious conditions, low wages and labour-rights violations. Accordingly, the evidence on decent work in GVCs highlights both the potential for improved livelihoods and the persistent challenges related to labour-rights enforcement and corporate responsibility.

The impact of GVC participation on workers and labour markets is strongly influenced by uneven patterns of integration across regions, sectors and firms. Some economies, particularly in Asia, have used GVCs for industrialisation and job creation, while others, including many countries in Africa and parts of Latin America, remain primarily raw-material suppliers with limited value added. This differentiation is reflected in GVC participation patterns: most Asian economies have a high degree of backward integration, importing inputs for further processing and export, while most African economies are largely engaged in forward participation, exporting unprocessed commodities with minimal local processing or job creation. Even within regions, however, disparities persist, as illustrated by Morocco's thriving automotive-supply industry compared with much lower levels of industrial integration elsewhere on the continent. These uneven patterns have direct implications for wages, working conditions and the broader potential for decent work, highlighting the need to examine how local economic and

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[1] The terms 'global supply chains' and 'global value chains' are often used interchangeably in this report, as both refer to the cross-border networks through which goods and services are produced and traded. As the term 'global value chains' places greater emphasis on the value-added stages of production – such as design, manufacturing and marketing – this term is used more frequently.

[2] See Global Value Chain Report 2023: https://www.wto.org/english/res_e/booksp_e/gvc_dev_rep23_e.pdf.

institutional structures, labour-market conditions and governance shape the outcomes of GVC participation.

The Sustainable Supply Chain Report 2024 brings together recent and timely research on decent work in global supply chains. The report consists of 10 concise chapters, written by the hosts and members of the Research Network Sustainable Global Supply Chains, which distil the latest research on key issues related to achieving decent work and advancing labour standards in global supply chains. Central themes include the impact of GVCs on decent work; how GVCs can be leveraged for better jobs; and the crucial role of local labour regimes (such as workers' bargaining power) and of structural-transformation processes in shaping equitable outcomes. In addition, several of the report's chapters explore the sectorial differences that influence working conditions in global supply chains and discuss the implications of the growing number of supply chain due-diligence regulations, stressing the importance of clear, cost-effective reporting standards.

**In chapter 1, Lay and Tafese** examine the impact of GVC participation on decent work through case studies of Ethiopia and Vietnam. They explore both direct and indirect labour-market effects from a micro and macro perspective, assessing how different patterns of GVC integration affect employment conditions, wages and broader economic transformation in both countries. The chapter contrasts Vietnam's deep GVC integration with its positive, transformative effects on the labour market with Ethiopia's integration into textiles and apparel value chains that, so far, has had very limited local economic spillover and created jobs that often fall short of decent work standards.

Moving from case studies to aggregate effects, **chapter 2, by Winkler,** investigates how trade exposure and GVC participation shape employment and labour-market outcomes such as labour earnings, employment formalisation and wage inequality in developing countries. It highlights that mere integration into international markets may not be sufficient to create more and better jobs, and that complementary policies, including social safety nets, policies for enhanced labour mobility and for improving labour-market skills are essential herein.

In **chapter 3, Mensah** examines Africa's integration into GVCs and its implications for structural transformation and labour markets, highlighting how limited GVC participation on the continent – mainly as a supplier of raw materials – constrains industrialisation and shifts labour into low-productivity service sectors rather than manufacturing. The chapter also points out that manufacturing employment creation that might follow GVC integration will – because of higher automation and skill intensity – be more limited than elsewhere in the past. Successful GVC integration that creates decent jobs at scale will have to be multi-pronged. Africa should focus, among other things, on creating regional value chains, addressing poor working conditions in export processing zones, and recentring industrial policy away from presumedly labour-intensive industries and towards productivity-enhancing ones.

Turning to the role of technology, **chapter 4, by Banga,** examines how digitalisation is reshaping labour markets in GVCs in developing economies. It discusses the opportunities and threats brought about by digitalised trade in service GVCs and in platform work for employment, wages and job security. The chapter emphasises the tensions around digitalisation-induced job losses, the deskilling of service work, algorithmic biases and the rising precarity of digital work. It argues that lead firms should be held accountable for monitoring how AI and digitalisation are impacting the workforce throughout their digital value chains but also stresses the need for national and global labour-market policies on education and worker-reskilling programmes.

Worker agency and bargaining power is the focus of **chapter 5, by Marslev and Whitfield,** which examines the apparel industry across Madagascar, Cambodia and Vietnam. It considers how structural transformation, labour-market dynamics and economic alternatives affect workers' ability to negotiate better wages and conditions. The chapter argues that fierce global competition and an associated "supplier squeeze" limits the gains that workers can achieve in apparel GVCs. However, it also shows that wages and working conditions can improve in the sector when labour markets tighten and workers take collective action – as observed in Cambodia and Vietnam.

Shifting the focus to the mining sector, **chapter 6, by Carry and Jall,** investigates the challenges of ensuring decent work in South Africa's artisanal and small-scale mining sector. It examines the informal nature of the sector, the impact of formalisation efforts on workers' rights and livelihoods and the role of the growing number of supply chain due-diligence regulations in the Global North on working conditions in the sector. The chapter argues that it is imperative that stricter EU regulations on transparency and due diligence are complemented by programmes that target and support local producers.

**Chapter 7, by Kuruvilla and Judd,** looks specifically at due-diligence regulations in global supply chains and the difficulties in ensuring compliance with labour rights. It introduces standardised, outcome-based quantitative metrics that measure actual impact on workers. The chapter argues that the proposed outcome metrics are superior to the input measures required by existing frameworks. Further, focusing on just 25 metrics would reduce the undue administrative burden related to the new regulation for both firms and their regulators.

Continuing the focus on regulation and fair compensation, **chapter 8, by Lay and Ruml,** explores the potential and limitations vis-à-vis targeting living incomes for agricultural house-holds by adjusting commodity prices, with a particular focus on cocoa production in Ghana. The chapter critically examines the living-income methodology that can be criticised for its ad-hoc approach and its blurring of the distinction between absolute and relative concepts of poverty – the concept's practical merits notwithstanding. The chapter argues that potential unintended consequences of well-intended cocoa price increases, such as rising in-equality, deforestation, increased

child labour, and an overreliance on cocoa production, should be carefully monitored.

**Chapter 9, by Grabher-Meyer,** reviews the ILO/IFC Better Work programme and its approach to improving working conditions in the apparel industry. It describes the development of the programme through a series of impact evaluation studies to improve compliance, working conditions and worker well-being, as well as firm performance. It emphasises Better Work's engagement models at the factory, sectorial, national and global levels, along with its ability to bring together a diverse range of stakeholders, often with competing interests, and to facilitate evidence-based dialogue. However, the chapter also points out that questions remain about how to effectively sustain and scale Better Work's positive outcomes.

Finally, **chapter 10, by Kordalska et al.,** proposes a methodology for measuring human rights risks in GVCs – with a focus on child and forced labour. It shows that data for measuring human rights risks are scarce, often lacking granularity and comprehensive coverage across countries and industries. Using the best available data on child and forced labour combined with an input-output methodology, the chapter analyses the exposure of selected economies to human rights risks based on the supply chains in which they are embedded, accounting for risks along entire chains. The results highlight vast differences in exposure to human rights risks across countries and industries. Further, the origin of risks differs considerably: while they are 'home-grown' in some countries, foreign downstream and upstream sources of risk prevail in other countries and their supply chains.


# Assessing decent work in global value chains: Lessons from Ethiopia and Vietnam

# Assessing decent work in global value chains: Lessons from Ethiopia and Vietnam

## 1. Introduction

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Integration into the global economy through trade, foreign investment and the participation in global value chains (GVCs) is a potentially important driver of job creation and improved labour-market outcomes (World Bank, 2019). Integration into GVCs is therefore high on the development agenda of many states. Indeed, many developing countries, particularly in East and Southeast Asia, have become deeply integrated into GVCs over the past three decades through opening up to trade and foreign direct investment (FDI) by multinational firms. Despite geopolitical tensions and a growing number of trade and investment restrictions in the developed world (IMF, 2024), most developing countries – with some notable exceptions – have continued to pursue GVC integration through liberal trade and investment policies as a means of raising living standards at home (UNCTAD, 2024). Some, such as Vietnam and Mexico, have even benefitted as 'connectors' from the world's increasing geo-economic fragmentation, as their market shares in Chinese exports and United States imports have recently increased substantially (Alfaro and Chor, 2023).

Despite these potentially positive impacts on job creation, working conditions in GVCs continue to be critically debated, with some arguing that those employed herein are often poorly paid and adverse health outcomes frequent. Persistent violations of human rights and labour standards in certain supply chains have led to recent supply chain due diligence legislation in the Global North, such as the German Supply Chain Act and the EU Corporate Sustainability Due Diligence Directive. Others, however, contend that GVC participation, despite its shortcomings, can bring improvements in wages and working conditions over time and that GVC jobs in export industries are often better than local alternatives. However, this may matter little if export industries provide only very few of these 'more decent' jobs.

Therefore, the scale of GVC activities and spillover effects to the rest of the economy are crucial in assessing the impact of participation therein on decent work. Some argue that involvement can act as a catalyst for productivity-enhancing macro-economic structural transformation – the shift from low-productivity sectors, particularly agriculture, to higher-productivity ones, particularly manufacturing – and see broader positive development effects. Others question the inclusiveness and scale of these latter outcomes, particularly in contexts where domestic linkages to global production and beneficial

development spillovers are weak, most notably in mining. The complexities of GVC participation's 'direct' impacts on jobs and broader 'indirect' ones on the labour market and development prospects contributes to the ambiguous and heterogeneous – and sometimes contradictory – evidence on decent work arising herewith.

In this chapter, we hence assess the impact of GVC participation on decent work through case studies of Ethiopia and Vietnam. We do so on the basis of a conceptual framework that takes into account both 'direct' and 'indirect' effects here. We argue that it is important to assess GVC integration from both a micro perspective – suited to examine GVC job quality and working conditions against a deliberately chosen counterfactual job – and a macro perspective – as pertaining to economic, sectorial or local spillover effects. A comparison of Ethiopia and Vietnam is illustrative of the decent work implications of GVC integration, as both countries have been among the fastest globalisers in their respective regions over the past two decades, albeit following different patterns of GVC integration. This shared status as globalisation leaders has attracted considerable policy and academic attention, resulting in the accumulation of a robust body of data and empirical (econometric) research that provides a solid basis for a comparative analysis of our chosen subject matter.

The rest of the chapter is organised as follows. Section 2 presents a conceptual framework for assessing decent work in GVCs. Section 3 presents the recent GVC integration experiences of our two country cases, Ethiopia and Vietnam. While section 4 discusses the disparities in the quality of work within GVCs within and between both countries, section 5 examines the unequal broader labour-market effects locally. Finally, section 6 concludes by summarising the policy implications of our study alongside outlining some avenues for future research.

## 2. Conceptual Framework: GVC participation and decent work

GVCs refer to the full range of activities involved in the production of a good or service – from conception to final consumption – that are distributed across multiple countries.[1] Participation in GVCs can affect workers through direct and indirect channels alike. These respective impacts can be analysed from both a micro and a macro perspective.

First, GVCs affect all the workers and suppliers who carry out related

[1] GVCs are usually structured into multiple tiers, each representing distinct stages of production and distribution. For example, apparel assembled in Ethiopia typically use raw materials such as cotton grown in China and Pakistan and textiles processed in China and India, while electronics assembled in Vietnam typically use minerals such as cobalt mined in the Democratic Republic of Congo and processed into battery components in China, alongside screens manufactured in South Korea – both apparel and electronics are then often exported for consumption in Western markets.

activities, such as production, processing, assembly, transport or management – the 'direct' aspects of GVC involvement. This includes, for example, Ethiopian and Vietnamese apparel workers in exporting supplier factories, as well as self-employed Ghanaian cocoa farmers and Congolese cobalt miners. In other words, those employed in export industries that are part of GVCs.[2]

Second, GVCs have broader labour-market and development impacts through extensive interactions and linkages with non-GVC workers and suppliers – the 'indirect' aspects of GVC involvement. Most importantly, this indirect influence operates through domestic labour markets: non-GVC workers are affected when the increased demand for labour in GVC firms, which may offer higher wages and better working conditions, spills over to local labour markets. Other indirect channels include multiplier effects from higher employment and greater income, increased competition,[3] technology and skills transfer, impacts on education systems and levels, and/or (the enforcement of) labour legislation (e.g. a minimum wage).

As for the micro perspective hereon, it often compares the characteristics of a job (for example, wages, job security, working conditions, social-security coverage) directly linked to a particular GVC (e.g. in an exporting apparel factory) with those of a comparable job in a domestic activity (e.g. in an apparel factory that only produces for the domestic market). In addition to worker-level employment outcomes, it may also look at firm-level outcomes. This involves examining changes in productivity, access to technology and level of integration into global markets.

The macro perspective, on the other hand, looks at the economy- or sector-wide impacts of GVC activity. This captures the scale of both the direct and indirect effects occurring. Here, counterfactuals extend beyond the individual worker and refer to the economy-wide expansion (contraction) of formal (informal) employment opportunities, average wages and working conditions for workers (including both GVC and non-GVC ones, as well as average productivity).

In the following sections, we use our conceptual framework and the distinction between 'direct' and 'indirect' channels, as well as the micro and macro perspectives, to assess the impact of GVCs on workers for the cases of Vietnam and Ethiopia. Before doing so, however, we will examine the two countries' rapid but different patterns of integration into GVCs.

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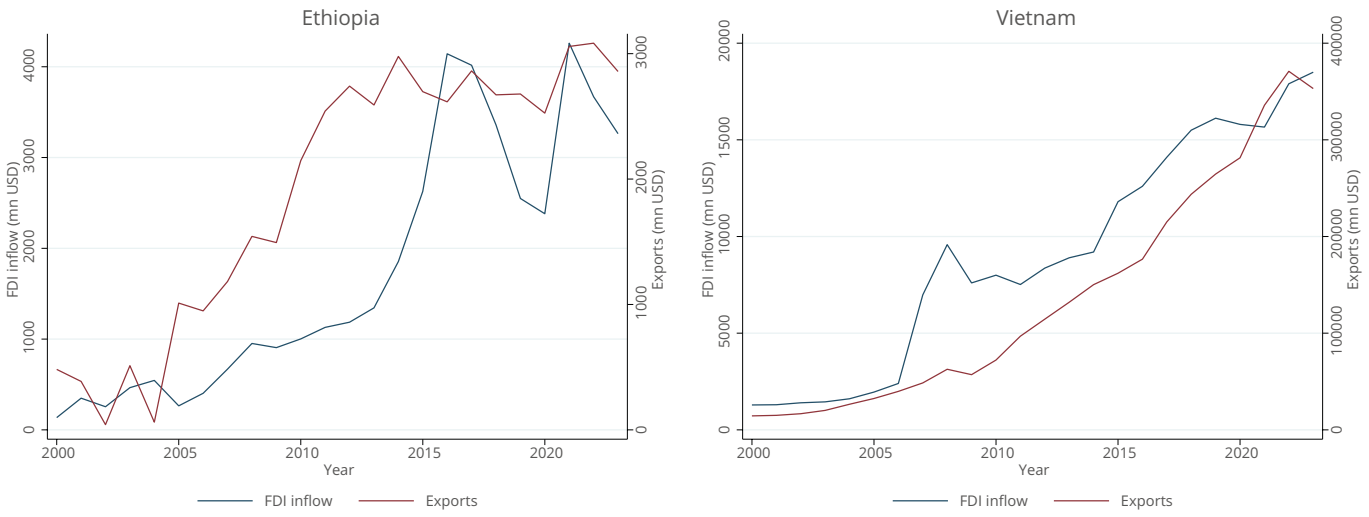
[2] Technically, these activities encompass all those that contribute value added to GVC exports. This includes domestic firms that provide inputs and services to exporting firms. This definition thus covers a wide range of activities, such as a domestic firm that manufactures specific electronic components for an exporting firm, as well as service providers (craft, catering and similar) who occasionally cater to exporters.

[3] Competition from foreign firms that are part of GVCs may also have (temporary) adverse effects on local firms and their workers.

## 3. Rapid but different patterns of integration into GVCs

We focus on Ethiopia and Vietnam because of their remarkable economic transformation and rapid integration into GVCs over the past three decades, despite both starting out as closed economies. Both countries have transitioned from centrally planned economies to market-oriented systems, implementing significant political and economic reforms that have recently led to dramatic increases in exports and FDI inflows, as shown in Figure 1 below. For Ethiopia, exports increased from USD 482 million in 2000 to USD 2.9 billion in 2023 and FDI inflows from USD 135 million in 2000 to USD 3.3 billion over the same period (left-hand panel). Vietnam's integration into GVCs has been even more remarkable, with exports rising from USD 14.5 billion in 2000 to USD 353 billion in 2023 and FDI inflows from USD 1.3 billion to USD 18.5 billion over the same time period (right-hand panel).

Figure 1: FDI inflows and exports, 2000–2023




**Source:** Authors' own compilation, based on UNCTAD data on FDI inflows from and UN Comtrade data on exports.

Both the Ethiopian and Vietnamese governments have leveraged special economic zones (SEZs) to boost exports and attract foreign investment (Tang, 2022).[4] Ethiopia has taken a highly centralised and top-down approach to developing its SEZs, with the central government and the Prime Minister's Office playing a key role in the process (Tafese and Weber, 2025).[5] Starting with the Eastern Industrial Zone in 2007, the country has expanded its network of IPs to 26 planned or established ones to date, as shown in the left-hand graph in Figure 2. Most of the operational IPs were established in the late 2010s – closely linked to the sharp increase in FDI inflows during this period[6] – and are state-owned. By comparison, Vietnam's approach to SEZ development has been much more decentralised, with provincial governments (i.e. the Provincial People's Committees), having considerable autonomy to develop SEZs in partnership with private, usually foreign, investors (Tafese et al., 2025). Vietnam's SEZ programme, which began already in the early 1990s, today includes more than 600 planned and established SEZs spread across all 58 of the country's provinces and its 5 municipalities, as shown in the right-hand graph in Figure 2. In both Ethiopia and Vietnam, these zones are supported by liberal trade policies, tax incentives, preferential terms for land rent and investment loans, and infrastructure investments to attract mainly foreign investors producing for export markets.

While both Ethiopia and Vietnam have integrated significantly into GVCs over the past two decades, relying heavily on SEZs, the nature hereof has been different for each. Ethiopia remains predominantly integrated into agricultural GVCs, which is reflected in the fact that four of its top five exports are agricultural products, as shown in the left-hand panel in Figure 3 below. Coffee and spices are by far the country's most important commodities, accounting for USD 1.2 billion of exports in 2023 (41 per cent of total exports). By comparison the value of apparel, Ethiopia's only industrial product in its top five exports, reached only a fraction of that amount at USD 94 million in 2023, despite a significant increase since 2010 and especially up to 2019. Vietnam, on the other hand, is much more integrated in manufacturing GVCs, with all of its top five exports in this category, as shown in the right-hand panel in Figure 3. While exports of all five have

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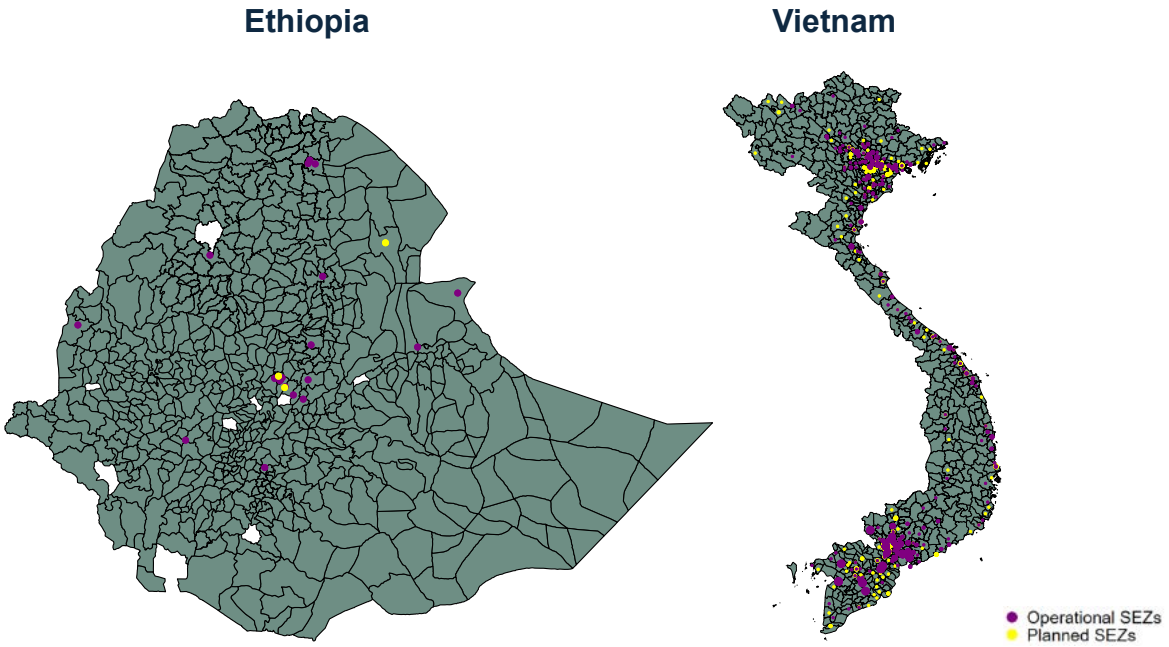
[4] Most SEZs in Ethiopia and Vietnam are industrial parks (IPs), which are clearly demarcated areas dedicated to the production of industrial (mostly export) goods and the provision of services to support industrial needs (Tafese et al., 2025; Tafese and Weber, 2025).

[5] Three federal agencies lead the promotion and development of Ethiopia's IPs: the Ethiopian Investment Board, chaired by the Prime Minister, which oversees investment policy and incentives; the Ethiopian Investment Commission, which manages the day-to-day investment promotion and licencing activities; and the Industrial Parks Development Corporation, a state-owned enterprise responsible for the development and management of public IPs.

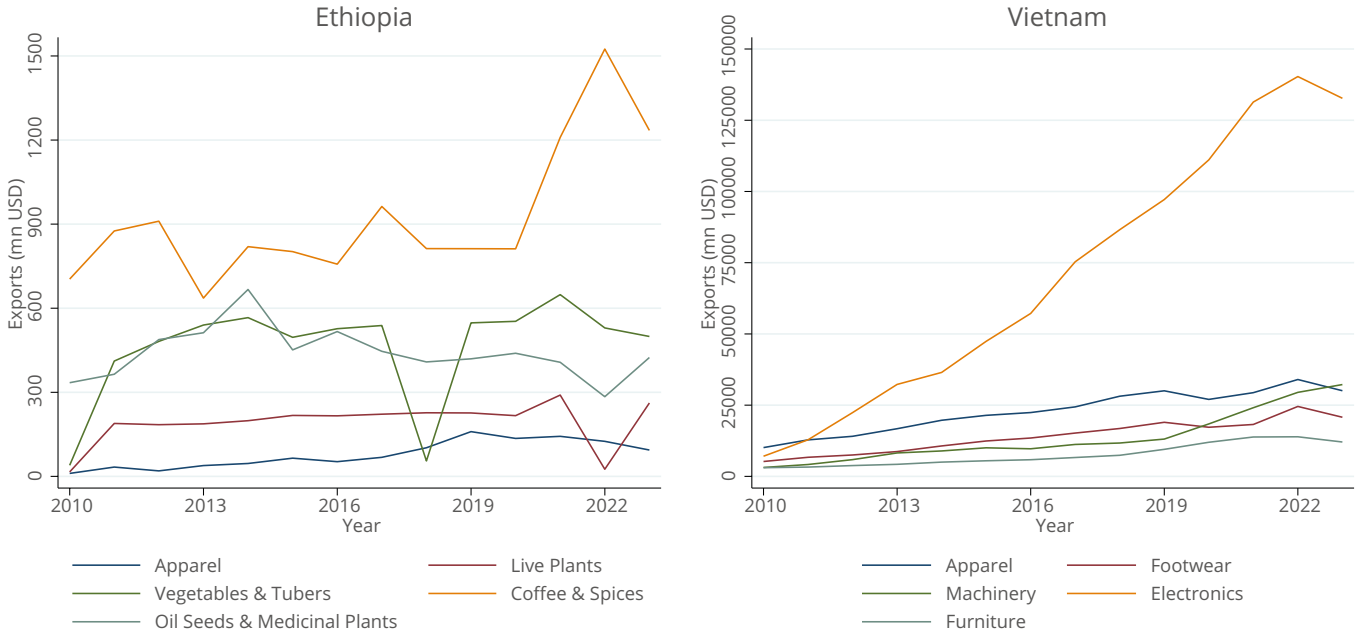
[6] For example, H&M and PVH could be attracted to IPs as 'anchor' investors, leading to large follow-on investments by other foreign companies.

## Figure 2: Distribution of SEZs across Ethiopia and Vietnam




**Source:** Authors' own compilation, based on Tafese et al. (2025) and Tafese and Weber (2025).

## Figure 3: Top five export products




**Source:** Authors' own compilation, based on UN Comtrade data.
**Notes:** Exports are reported per the Harmonized System's two-digit codes. Live plants=06; Vegetables & Tubers=07; Coffee & Spices=09; Oil Seeds & Medicinal Plants=12; Apparel=61 & 62; Footwear=64; Machinery=84; Electronics=85; Furniture=94.

grown significantly since 2010, those for electronics far outpace every other product: the value hereof went from USD 7 billion in 2010 to a whopping USD 123.7 billion in 2023.

## 4. Disparities in the quality of work in GVCs

As Ethiopia and Vietnam have become more integrated into GVCs over time, concerns have been raised about whether the jobs created by these activities constitute 'decent employment' – that is, whether they provide fair remuneration, security and dignity, and respect equality and fundamental rights at work.[7] Building on our conceptual framework, this section examines the direct effects of GVC participation on workers from a micro perspective, comparing the characteristics of jobs linked to GVCs with those of ones forming part of the local economy instead. We do this by drawing on detailed micro data from Ethiopia and Vietnam and a growing body of rigorous empirical research in both countries. As fair remuneration is a key component of decent work, we place particular emphasis on analysing wage differentials between GVC and non-GVC jobs within and between the two countries.

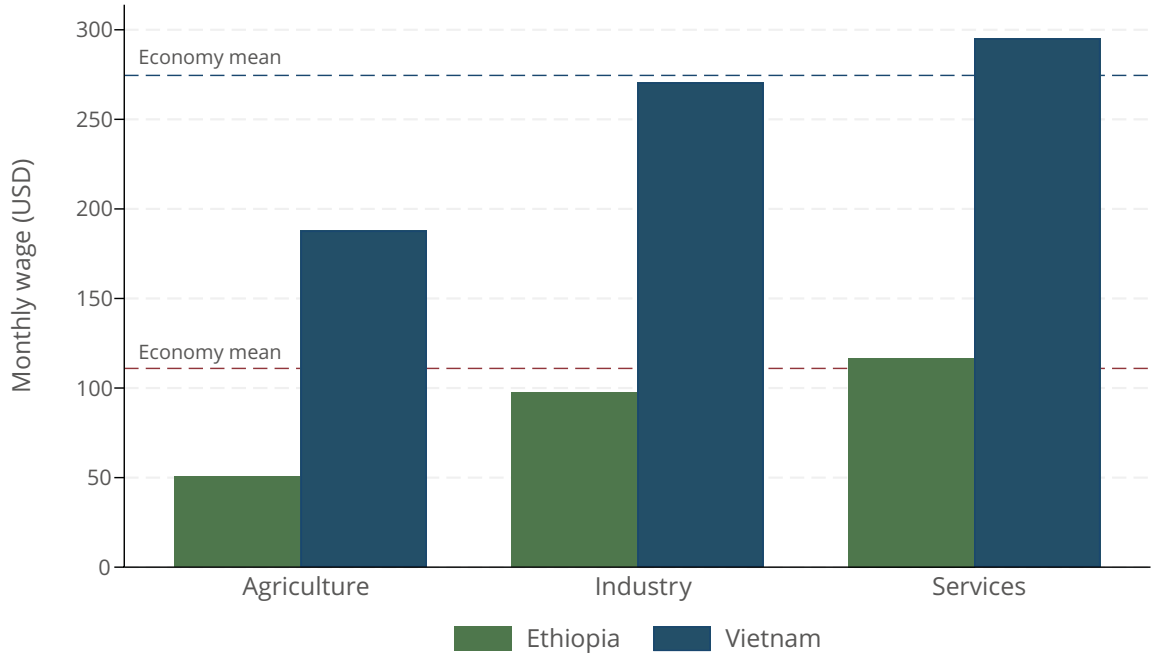
As a starting point for understanding the local wage structures of each, Figure 4 below shows the average sectoral monthly wage (hereafter, just 'wage'), using nationally representative Labour Force Surveys (LFSs) at the worker level from 2019 and 2021 for Vietnam and Ethiopia, respectively.[8] At USD 275 versus USD 111, the economy-wide wage in Vietnam is about 2.5 times higher than in Ethiopia.[9] This significant difference also holds when comparing wages in the same sector across the two countries. There are significant differences in wages across sectors within Ethiopia and Vietnam alike as well. Agriculture is by far the lowest-paying one – even more so in Ethiopia, where agricultural wages are less than half of the economy-wide wage – while services is the highest-paying sector. While wages in industry – which includes of both manufacturing and construction – are between those in agriculture and services in both countries, they are well below the economy-wide wage in Ethiopia and almost the same in Vietnam. Finally, it should be noted that the earnings gap between agriculture and the two other sectors is likely to be even wider in reality, as we exclude from Figure 4 own-account workers and contributing family workers, who make up the vast majority of agricultural employees and

[7] Decent work is a core element of the United Nations' Sustainable Development Goal 8: 'Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all'.

[8] For more details on the LFSs' design, sampling and coverage, see Tafese and Weber (2025) for Ethiopia and Tafese et al. (2025) for Vietnam.

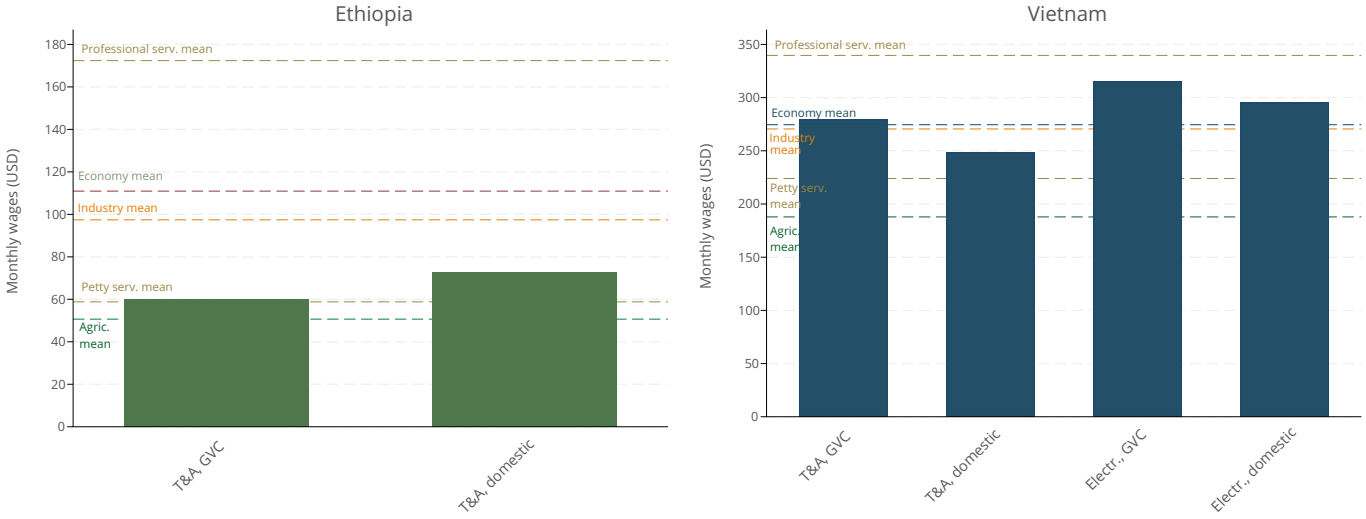
[9] We convert monthly wages denominated in their local currencies, Ethiopian birr and Vietnamese dong, to US dollars using the current exchange rates at the time of each survey.

## Figure 4: Sectoral wages




**Source:** Authors' own compilation, based on the 2019 Vietnam LFS and the 2021 Ethiopia LFS.
**Notes:** The sectoral classifications follow ISIC Revision 4 codes. Workers in a firm with a 4-digit ISIC code that is part of section 'A' are classified in Agriculture, those with a code part of sections 'B–F' in Industry and those with a code part of sections 'G–U' in Services. Only wage workers are included.

## Figure 5: Wages in manufacturing GVCs and other local activities




**Source:** Authors' own compilation, based on the 2019 Vietnam LFS and the 2021 Ethiopia LFS.
**Note:** See footnote 11 for the definition of domestic and GVC workers in T&A and electronics in Ethiopia and Vietnam.

who tend to have even lower labour earnings than agricultural wage workers.[10]

We now compare wages in export-oriented GVCs with those for other local employment activities, using the detailed worker-level information found in the national LFS. While we do not have direct information on whether a worker is employed in a GVC firm – this would require matched employer–employee data – we can infer this from the detailed worker-level information on occupations employment sectors and firms. We focus on textile and apparel (T&A) manufacturing for both Ethiopia and Vietnam, as well as additionally on electronics manufacturing for the latter, as the two countries' main manufacturing GVC activities.[11]

Three points stand out when comparing wages in GVC jobs within and between Ethiopia and Vietnam (see Figure 5). First, there is a large difference between wages in the T&A manufacturing GVC sector in the two countries, with those in Vietnam being more than four times higher than they are in Ethiopia, despite very similar activities being performed. Second, while wages in Ethiopia's T&A GVC sector are lower than in its domestic T&A manufacturing sector, the opposite is true for Vietnam, where there is a significant wage premium in its T&A as well as electronics manufacturing GVC sectors. Third, GVC jobs in T&A manufacturing in Ethiopia are among the lowest-paid ones, well below the industry- and economy-wide wage, similar to those in petty services and only slightly above agriculture. On the other hand, GVC jobs in T&A and electronics manufacturing in Vietnam are among the highest-paid ones, above earnings in industry and the overall economy, and well above petty services and agriculture.

These descriptive findings are in line with a growing literature that uses specially designed surveys and experiments to demonstrate the often indecent conditions found regarding factory work in Ethiopia's export-oriented T&A sector. For example, high turnover and industrial conflict

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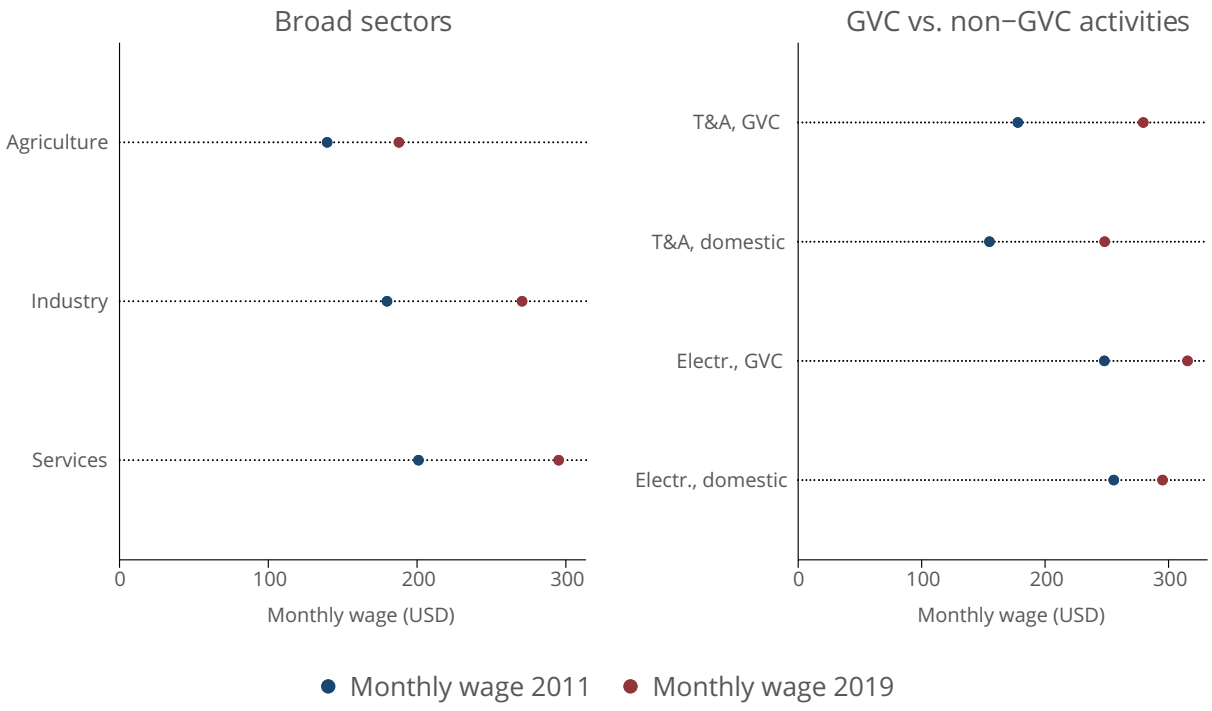
[10] We exclude own-account and contributing family workers as the Ethiopian LFS does not collect earnings data for these groups. For consistency, we also include only wage workers from the Vietnamese LFS, although earnings data are collected for all types of workers hereby.

[11] We make some plausible assumptions based on the local context to classify workers into realms of GVC activity. For Vietnam, a worker is considered part of a T&A or electronics manufacturing GVC if the following two criteria are met: first, the employer has a two-digit ISIC code of 13 (textiles), 14 (apparel) or 15 (leather) for T&A and 26 (computers) or 27 (electrical equipment) for electronics. Second, the employer enterprise is foreign-owned, as the vast majority hereof are involved in GVCs – that is, they import inputs and export their output. We use the same first criterion for Ethiopia. However, as the Ethiopian LFS does not provide information on the ownership of the employer firm, we use as a second criterion whether a worker is a 'plant and machine operator and assembler' (ISCO code 08), as these occupations are almost exclusively performed in foreign-owned firms within the country's T&A sector.

between (foreign) employers and workers in IPs (Chu and Fafchamps, 2022; Oya and Schaefer, 2021) as well as the short-term negative health effects of industrial work (Abebe et al., 2020; Blattman and Dercon, 2018) have been documented here. Consistent with our descriptive findings, it has been shown experimentally that pay for IP workers is generally no better than it is in local alternatives (Abebe et al., 2024; Blattman et al., 2022).

However, it is important to note that Ethiopia is still at an early stage of GVC integration and there is room for improvement in the quality of work, including in T&A. Indeed, there is a lesson to be learned from Vietnam's own experience, which suggests that wage growth in the export-oriented T&A manufacturing sector can be substantial. Figure 6 below shows that wages in the latter increased by more than 50 per cent between 2011 and 2019, outpacing wage growth in electronics and converging with electronics wage levels.[12] At the same time, Vietnam's domestic T&A manufacturing sector experienced very similar wage growth over the examined time period. This points to

## Figure 6: Wage growth in Vietnam between 2011 and 2019




**Source:** Authors' own compilation, based on the 2011 and 2019 Vietnam LFS.
**Notes:** The definition of broad sectors is the same as in Figure 4. See footnote 11 for the definition of domestic and GVC workers in T&A and electronics.

[12] We inflate wages from 2011 using 2019 price levels from the Vietnamese CPI to compare wages in both years in real terms.

the potentially broader indirect labour-market effects of GVC integration in Vietnam, which have contributed to overall income growth in the country and which we will discuss next.

## 5. Unequal and broader labour-market impacts of GVC integration

As outlined in our conceptual framework, GVC integration not only affects workers directly engaged in GVC activities but also has broader indirect impacts through the extensive interactions and linkages that exist with non-GVC workers and suppliers. These wider effects often reverberate through domestic labour markets, where GVC firms' increased demand for labour can create spillover effects on wages, working conditions and employment structures. A key mechanism through which these spillovers occur is the backwards linkages between GVC lead firms and local suppliers. These ties may generate positive spillovers by fostering contractual relationships, technology and skills transfer, and demonstration and imitation effects, ultimately leading to job creation and rising wages. However, GVC integration may also generate negative spillovers, as increased competition with global markets and rising wage pressures may lead to a deterioration in working conditions or job losses due to downsizing or the closure of domestic firms. The net effect of GVC participation may thus be positive or negative, depending on the nature of the interactions and linkages found in participating economies.

Recently, a growing body of research has emerged empirically assessing the labour-market impacts of GVC integration, including both direct and indirect ones, during periods of accelerated economic liberalisation – such as World Trade Organization accession or the conclusion of trade and investment agreements or related reform programmes.[13] In line with our conceptual framework, we draw on recent research on Ethiopia and Vietnam to examine these labour-market effects of GVC integration from both a micro and macro perspective; in other words, how changes at the worker or firm level may lead to aggregate changes at the sector or economy level. To operationalise the local labour-market effects of GVC integration, studies typically use outcomes from micro data, such as household- and firm-level surveys, and tend to focus on either trade

[13] Studies typically employ (quasi-)experimental econometric methods to identify the causal effects of GVC integration in specific country cases.

integration, (greenfield) FDI or on SEZs[14] as empirical measures of global market integration.[15]

In Ethiopia, the labour-market effects of GVC integration have been found to be very localised and limited in scope. Studies focusing on greenfield FDI, such as Abebe et al. (2022), highlight modest positive employment spillovers in local manufacturing firms near foreign investment projects. Similarly, Crescenzi and Limodio (2021) show that Chinese FDI has boosted employment in the East African country's upstream and downstream sectors but negatively affected firms in the same sector due to increased competition. Evidence on trade liberalisation in Ethiopia also points to a modest positive impact: Giovannetti et al. (2022) find that districts with greater tariff reductions experienced a shift from agriculture to services, particularly for women, but little movement into manufacturing. Complementing these findings, Tafese and Weber (2025) show that the expansion of Ethiopian IPs has primarily led to a shift in employment from unpaid family and own-account work in agriculture to wage employment in construction in places nearby. However, this is geographically concentrated in areas in close proximity to IPs and does not spur broader industrialisation at scale. Nor do these authors find that Ethiopia's integration into GVCs through IPs has had broader positive income effects in the local labour markets where those sites are established.

In contrast, Vietnam's GVC integration has had much broader and more transformative indirect effects on its local labour markets. For example, McCaig and Pavcnik (2018) document how Vietnam's 2001 bilateral trade agreement with the US facilitated a large-scale transition from informal household businesses to formal enterprises, significantly boosting labour productivity. Follow-up studies (McCaig et al., 2022) attribute much of this employment growth to the entry of foreign-owned firms, particularly exporters.

[14] In many developing and emerging economies, SEZs have been the hubs for FDI-driven GVC integration over the past two decades. SEZs come in many varieties and – depending on their exact definition – include export processing zones, IPs and possibly multiple other forms (see Farole, 2011). For our purposes, a definition that emphasises the presence of a regulatory regime distinct from the rest of the economy (typically customs or tax rules) is most useful.

[15] In addition to the research on Ethiopia and Vietnam cited below, there is a rapidly growing corpus examining the impact of global-market integration on local labour markets in other developing and emerging economies. On the impact of trade on labour markets in Brazil, see: Dix-Carneiro et al. (2019); in Mexico: Ben Yahmed and Bombarda (2020); in South Africa: Erten et al. (2019); in Vietnam: McCaig and Pavcnik (2018). On the impact of (greenfield) FDI on labour markets for Africa as a whole, see: Hoekman et al. (2023) and Mendola et al. (2021); in Mozambique specifically: Toews and Vézina (2022). On the impact of SEZs on labour markets in Cambodia, see: Brussevich (2023); in China: Wang (2013) and Zhao and Qu (2023); in India: Alkon (2018) and Galle et al. (2023); in Vietnam: Tafese et al. (2025).

Additionally, recent scholarship (Mayr-Dorn et al., 2023; Nguyen and Lim, 2023; Rotunno et al., 2023) reveals that Vietnam has been a major beneficiary of the US–China trade war, with trade diversion driving increases in employment, working hours and wages, as well as seeing a significant shift from informal agriculture to formal manufacturing. SEZs have played a pivotal role in amplifying these effects in Vietnam. Tafese et al. (2025) demonstrate that SEZ expansion has facilitated a rapid transition from own-account and family-based agricultural work to wage employment in foreign-owned manufacturing firms. Importantly, SEZs have generated substantial local spillovers, improving wages and formal employment opportunities not only within SEZ firms but also in household businesses and domestic firms. Women, in particular, have benefitted heavily from these broader labour-market shifts.

In summary, while GVC participation has had broader effects on local labour markets in both Ethiopia and Vietnam, the scale and breadth of such impacts have markedly differed. In the Ethiopian case, they have been relatively localised and sector-specific; in Vietnam's, however, transformative changes have ensued across its labour market, reflecting its more advanced stage of GVC participation and deeper integration into global production networks.

## 6. Conclusion

This chapter has assessed the impact of GVC participation on decent work. This has been achieved by drawing on the cases of Ethiopia and Vietnam, illustrating each country's rapid integration into GVCs but also the stark differences regarding respective patterns of integration and their implications for workers. Ethiopia's GVC integration has focused primarily on agriculture and low-value T&A manufacturing, as driven by a centralised strategy based on IP expansion. Vietnam, in contrast, has pursued a decentralised and diversified approach hereto, leveraging a wide network of SEZs to integrate deeply into various manufacturing GVCs, particularly in electronics and T&A.

Using the conceptual framework presented in this chapter, we distinguished between direct and indirect impacts here, combining micro and macro perspectives in assessing the implications of GVC integration for decent work. Our findings show clear differences in working conditions in jobs linked to GVCs, i.e. the direct channel, between the two countries. In Ethiopia, GVC jobs, particularly in the T&A sector, often fall short of decent work standards, with wages barely above those in agriculture and minimal labour protections. In Vietnam, by contrast, GVC jobs in both T&A and electronics provide significantly higher wages and better working conditions than most local alternatives, reflecting the country's more advanced stage of GVC integration and stronger labour-market institutions.

The analysis also showed that the broader labour-market effects hereof, which operate through direct GVC job creation and indirect spillover effects, differ between the two countries. In Ethiopia, these impacts remain localised, with migration out of agriculture largely confined to places nearby expanding IPs. Studies find very limited manufacturing expansion and spillovers of IPs, of FDI and other measures to open up the economy. In contrast, Vietnam's GVC integration has had transformative effects, driving structural shifts from informal agricultural to formal manufacturing employment and raising productivity and wages across sectors. These shifts are strongest in SEZs – the 'focal zones' of integration – but do also spill over to the economy at large. This contrast highlights the importance of the scale and depth of GVC integration, sectoral dynamics, institutional frameworks and local labour-market conditions in shaping both the direct and indirect consequences of GVC participation.

Three critical insights emerge from this chapter. First, the sharp differences in labour-market outcomes for similar jobs in the same sector across countries highlight the need to carefully assess the quality of work performed as part of GVCs. Not all jobs in apparel GVCs are bad – as in Vietnam, where related wages are above average industry- and economy-wide counterparts – but some indeed are. In Ethiopia, jobs in apparel GVCs are not even better than other local opportunities, which often tend to offer poor working conditions and low wages. Second, wages may not remain so low in Ethiopia's firms participating in GVCs. Even in the apparel industry, a domain characterised by fierce price competition, Vietnamese workers have experienced very substantial income gains over time, in line with and even above those seen in other sectors in the country. Third, and relatedly, the broader indirect effects of GVC participation, such as structural shifts in employment and economic spillovers, are as important as direct job outcomes – or even more so besides. The conceptual framework we introduced thus provides a useful tool for capturing these multidimensional effects and different levels of impact.

The findings also have several policy implications. For Ethiopia, it is still too early to judge whether its attempts to integrate into global markets have been a success or failure. However, a key lesson from the experience of the last decade is the need to strengthen the broader linkages between GVCs and the local economy, as well as to improve working conditions within GVC-linked industries. Ethiopia's apparel industry – or its other manufacturing sectors in the future – has to strike a better balance between retaining competitive labour costs and offering improved working conditions, including through compliance with core standards and investment in skills development. This could be a first step towards the benefits of GVC integration diffusing more broadly across the entire economy. However, creating spillovers at scale will require much more than a narrow focus on IPs, including investment in education and infrastructure as well as a political and policy environment conducive to private investment. Vietnam began its integration into GVCs at least a decade earlier than Ethiopia and has since achieved remarkable economic gains. The country's success is the

results of many reforms and policies – with its SEZ programme only one important element among many. The key challenge for Vietnam now is to sustain this success while moving up the ladder and improving its position within GVCs. At the same time, fostering stronger linkages with informal and vulnerable workers – who remain outside the formal GVC sectors – will be essential to ensure inclusive and equitable development.

Taken altogether, this highlights the importance of formulating context-specific policies that take into account both the core characteristics of the GVC in question and the institutional and labour-market dynamics of the country involved. Future research should further explore the interplay of these factors and assess how tailored policies can maximise the benefits of GVC participation while promoting decent work for all.

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# Leveraging global value chains for better jobs and shared prosperity in developing countries

# Leveraging global value chains for better jobs and shared prosperity in developing countries

## 1. Introduction

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The policy objective of creating more and better jobs is essential for developing economies aiming to alleviate poverty and reduce income inequality, while also fostering a sense of purpose, dignity and social cohesion among their populations. This chapter summarises fresh empirical evidence from the World Bank hereon[1], zooming in on how trade exposure more broadly and participation in global value chains (GVCs)[2] specifically are linked to better jobs and shared prosperity.

Historically, trade exposure has been seen as a key instrument in achieving these goals, with participation in GVCs often enhancing such outcomes. 'Trade exposure' refers to the extent to which firms, sectors or economies are affected by trade, through mechanisms such as access to export markets or the adoption of foreign technologies. The anticipated positive effects of trade on jobs have come under scrutiny in recent years, however. Labour markets in both advanced and developing countries have been disrupted by rapid technological advancement, the relocation of production and intense import competition. Additionally, trade has been destabilised by policy shifts towards greater protectionism and a series of shocks which have cast doubt on GVCs' reliability.

The empirical literature is ambiguous on how trade and GVC participation impact workers exactly. Some have emphasised the positive distributional and social consequences ensuing herewith: the increasing demand for labour from heightened trade and GVC exposure helps reduce poverty by

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1 This chapter provides a summary of new empirical evidence on the linkages between trade and employment, based on a recent World Bank report titled 'Leveraging Trade for More and Better Jobs'. It incorporates findings from six empirical studies using novel, detailed data from numerous countries across various stages of development. These background studies are: Aguilar Luna and Winkler (2024); Kruse et al. (2023); Lewandowski, Madoń and Winkler (2023); Rocha and Winkler (2019); Vazquez and Winkler (2023); and Winkler et al. (2023). The findings, interpretations and conclusions expressed in this chapter are entirely those of the author. They do not necessarily represent the views of the World Bank Group and its affiliated organisations, its executive directors or the governments they represent.

2 GVCs are international networks of goods and services, with the respective stages of production taking place in different countries.

boosting employment opportunities (Castilho, Menéndez and Sztulman, 2012; Engel et al., 2021; McCaig, 2011; Rodríguez-Castelán, Vazquez and Winkler, 2020). This can also lower inequality by raising the relative wages of unskilled workers (Amiti and Davis, 2012; Chiquiar, 2008). Additionally, higher household incomes resulting from trade can lead to a reduction in child labour (Edmonds and Pavcnik, 2006). In low-income countries, trade exposure often enhances employment opportunities for women, particularly in the apparel- and footwear-export sectors (Lopez-Acevedo and Robertson, 2016; Robertson et al., 2020; World Bank and WTO, 2020). To compete in global markets, firms must formalise, which can apply regarding the labour force as well (Artuc et al., 2019; McCaig and Pavcnik, 2018).

Other scholars, however, have highlighted certain negative aspects here, such as the increased market power of incumbent firms and a 'race to the bottom'. Trade liberalisation can boost the market power of existing firms by enabling them to lower production costs, which leads to reduced margins and higher markups (De Loecker et al., 2016). The advantages of greater international integration may be captured by a few dominant players, such as advanced joint ventures among low-productivity local firms (Aitken and Harrison 1999) or large buyers with significant monopsony power over numerous local suppliers (Javorcik, Keller and Tybout 2008). Establishing an international framework to support trade is simpler than ensuring compliance with environmental and labour standards across countries. This imbalance incentivises states to compete in global markets on the basis of weakening workers' bargaining power, social-protection laws and health-and-safety standards (Davies and Vadlamannati, 2013; Olney, 2013).

To capture 'better jobs' in GVCs, section 2 differentiates between overall labour earnings and job quality. Job quality depends on related benefits, such as employment security and access to healthcare and pensions, making formal jobs generally more desirable than informal ones. It also relates to the nature and social status of the work involved; for example, jobs in engineering, design or finance are typically preferred over those in product assembly or transportation. But participation in GVCs can also promote 'shared prosperity' in developing countries, as discussed in section 3. The chosen metrics for the latter include within-country wage inequality and female labour-force participation. Finally, section 4 concludes and discusses some of the policy implications arising with these findings.

## 2. GVC participation and better jobs

### Labour earnings

What is the relationship between trade exposure and labour earnings? An analysis by Winkler et al. (2023) shows that increased trade exposure is clearly linked to higher labour earnings. The latter is a combined measure of more and better jobs.[3]

[3] Labour earnings in a sector are the product of the number of workers and the average wage rate per employee.

Their study examines 48 countries at various development levels (23 high-income, 11 upper-middle income, 12 lower-middle income and 2 low-income) in the years between 1995 and 2018,[4] covering economic activity in 45 sectors. An instrumental variable approach – a quasi-experimental method – is applied to control for the potential endogeneity of all trade indicators at the sector level.[5] The analysis differentiates between export, intermediate and final import volumes and trade from GVC participation. The authors find that labour income in a given sector rises significantly as its trade volumes increase, regardless of the type of related indicator used. Labour earnings are particularly responsive to changes in the import of intermediate inputs (see Figure 1 on the next page, left panel).

In addition, there is a more substantial income boost from forward rather than backward GVC participation. While increasing the import of intermediates for export production (backward GVC participation) by 10 per cent is linked to sectoral income growth of 3 per cent, a 10 per cent rise in domestic value-added in third countries' exports (forward GVC participation) yields even greater income benefits of 7.8 per cent growth. The absence of low-income countries in the sample may explain the significant positive elasticity of forward GVC participation, as intermediate exports used in downstream export production often include higher value-added inputs like research or design services, rather than raw commodities – as is the case in lower-income economies. A sectoral analysis reveals that manufacturing shows the strongest link between forward GVC participation and labour earnings, while incomes rise notably in the mining sector as well (Winkler et al., 2023).

Interestingly, the estimated effects on labour earnings are consistently larger than those on employment levels (Winkler et al., 2023), particularly for trade in intermediates, though the gap persists across all trade indicators (Figure 1, right panel). This suggests that trade exposure boosts total labour earnings more than it increases overall job numbers, meaning it is existing workers who directly benefit. However, this is not the case for countries participating in commodity GVCs – as opposed to those involved in limited manufacturing GVCs or advanced manufacturing and services GVCs. A plausible explanation for this is that manufacturing and services exports require more labour than exports rooted in commodities (such as oil or metals and minerals), which are often more capital-intensive even within the manufacturing sector (including the likes of petrochemicals or processed metals and minerals). This capital intensity leads to modest employment and income benefits. In low-income countries, consequently, the labour market may not immediately

[4] Data in accordance with these countries' World Bank income per capita classification for 1995.

[5] The analysis uses trade of similar countries as instruments at the country–sector level, namely trade of both neighbouring ones and of others elsewhere part of the same GVC taxonomy group (see World Bank 2020).

Figure 1: Labour earnings and employment rise with exposure to trade


**Source:** Winkler et al. (2023).
**Notes:** The figures report the estimated percentage change in labour earnings and employment respectively for a 10 per cent change in trade volumes. Regressions include the corresponding (instrumented) trade indicator and fixed effects for country–sectors, country–time and sector–time. All results are statistically significant at the 10 per cent level and above the critical value for the Kleibergen-Paap test.

experience the full advantages of increased trade exposure. Indeed, additional analysis (Aguilar Luna and Winkler, 2024) suggests that while exports within GVCs are positively associated with increases in average labour earnings per worker, this does not apply to the group of commodity-exporting economies.

### Formality of jobs

In low- and middle-income countries, but particularly the former, significant portions of the workforce are engaged in informal labour. In the absence of a public system paying unemployment benefits, the informal labour market in low- and middle-income countries serves as a stronger buffer against external shocks by absorbing workers who lost their formal jobs. But there are significant downsides. Informal workers usually include the self-employed (for example, street vendors) and those performing unpaid family duties. They often face poor working conditions, have little to no access to healthcare or retirement benefits, and are more likely to be exposed to occupational safety and workplace hazards as well as extortion, bribery, repression and harassment. They are also less likely to be organised, further accentuating their vulnerability. In contrast, those contracted into formal employer–employee relationships typically have higher incomes, more legal and social protection, workplace security as well as a voice (International Labour Office Bureau of Employers' Activities and ILO Regional Office for Asia and the Pacific, 2015).

How, then, is exposure to trade associated with worker formality? A background study by Winkler et al. (2023) examines how the share of salaried jobs in total employment changes with export growth. While salaried jobs can be informal (and thus

## Figure 2: GVC participation and formality in low- and middle-income countries

**Export growth versus paid employment share difference, 1995–2019**


**Source:** Winkler et al. (2023).

**Notes:** For country abbreviations (also in later figures), see: https://www.iso.org/obp/ui/#search. CAGR = compound annual growth rate. The slope in the figure indicates the relationship between the deviation in the share of salaried employment relative to its predicted value and the cumulative growth rate of exports. Export growth is based on constant 2015 USD terms.

do not fully capture informality), they often offer more stable earnings and are more likely to be formal compared to self-employment or household-business jobs. Using data from 82 countries covering the years between 1995 and 2019, the study finds a clear, positive relationship between export growth and salaried employment (Figure 2).[6]

An econometric case study by Vasquez and Winkler (2023) applies panel data with fixed effects and an instrumented export indicator[7] to about 2,000 municipalities in Mexico during the period 2004 to 2014. While there are limits to the generalisability of this case, the country's experience under the North American Free Trade Agreement offers valuable insight into the causal

[6] Data in accordance with these countries' World Bank income per capita classification for 1995.

[7] The study uses the growth rate of sectoral exports from other low- and middle-income countries (excluding Mexico) to the United States as its instrument. These Bartik-type instruments are widely used in the literature to estimate the local labour-market impacts of trade.

impact of global-market integration on workforce formalisation. The authors reveal that an increase in local exports helped expand the labour force by attracting more migrants and reduced the informality rate, defined as the percentage of employees without pensions or retirement benefits. A 10 per cent expansion in exports per worker lowered the informality rate by 0.24 percentage points on average. This formalisation effect is more pronounced in Mexico's poorer southern regions, while the migration effect is stronger in the country's wealthier north. Although both effects are observed across sectors, formalisation is specifically linked to manufacturing. These findings are aligned with those of a recent study (Tafese et al., 2023) that special economic zones in Vietnam have significantly improved the quality of employment by offering better wages and more formal jobs.

**Activities performed in exports**

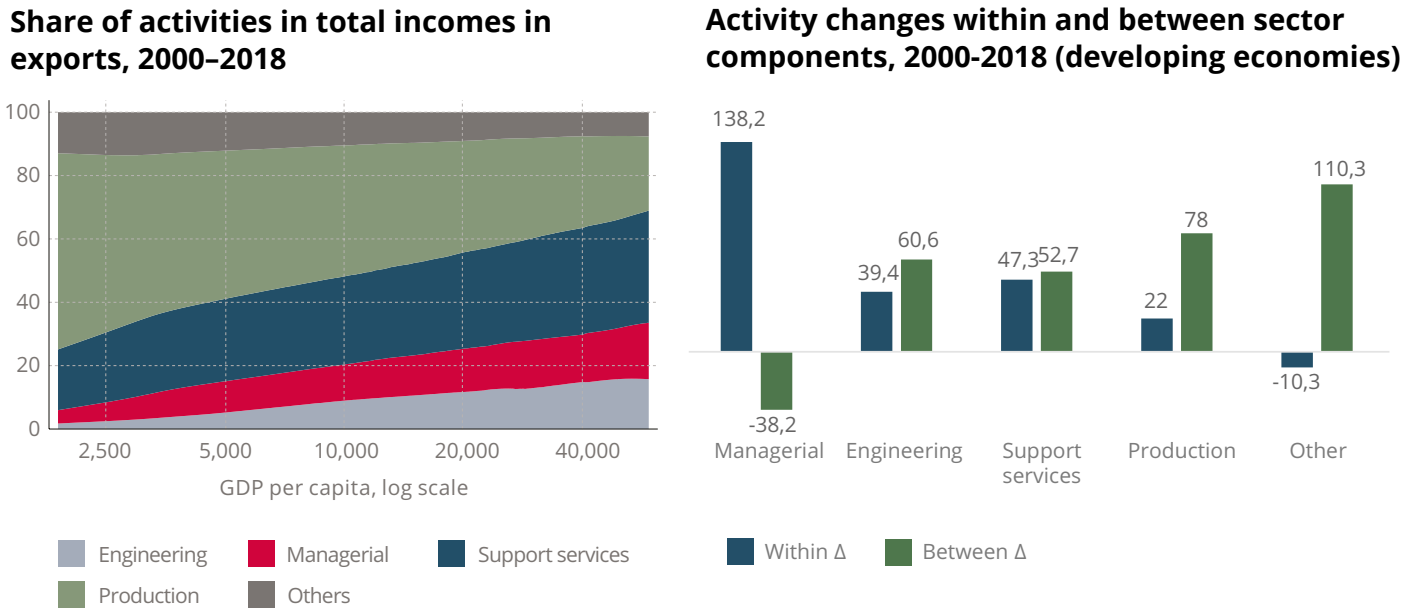
Another of the background studies (Kruse et al., 2023) informing this chapter leverages detailed occupational data to evaluate whether trade exposure correlates with more non-production jobs. The study in question covers 52 countries at various development levels (24 high-income, 18 middle-income and 10 low-income) for the years 2000 to 2018,[8] covering 35 sectors and 5 occupational groups. Looked at here is the share of labour income earned per different types of activity within export production. This approach can also be applied to employment shares, yielding similar results (Winkler et al., 2023). What activities do workers typically perform at the different stages of development?

Findings indicate that the share of direct and indirect activities in export production – such as those performed by craft workers, machine operators and farm labourers – is lower in wealthier countries compared to poorer ones. As states grow richer, their share of non-production activities – including managerial, engineering and support services – expands (see Figure 3 on the next page, left panel). Additionally, labour incomes from agriculture, mining and 'light' manufacturing (like food and textiles) decline, while those in 'heavy' manufacturing (such as electrical and transport equipment) and services (like cargo drivers and handlers) increase.

The analysis for select countries suggests that resource-intensive ones like Brazil, Ghana, Indonesia and the Kyrgyz Republic tend to have smaller shares of production activity in exports compared to GVC-intensive peers such as Ethiopia, Mexico, Poland and Vietnam. Managerial and engineering jobs matter more for countries like Mexico, Poland and Sri Lanka, namely ones which have successfully participated in manufacturing GVCs for several decades now. While Vietnam's GVC entry – especially in electronics – has been praised as a success story (World Bank, 2020), its main challenge remains to upgrade to more non-production activity in exports with only little progress made thus far on aggregate.

[8] Data in accordance with these countries' World Bank income per capita classification for 2000.

Figure 3: The share of non-production activities in exports increases as countries develop




**Source:** Kruse et al. (2023).
**Notes:** The left figure show the shares of income activity in exports in percentage terms. Gross domestic product per capita is measured based on constant 2017 USD prices. The lines were obtained using a non-parametric smoother. Support services include other professionals, clerical-support staff and sales workers. Production includes craftspeople, machine operators, agricultural workers and cargo drivers and handlers. Included in Others are legislators, healthcare professionals, teachers, personal-support staff and other workers.

The study also explores how this transition relates to international trade participation over the period 2000–2018. In developing countries, trade exposure shifts specialisation across sectors (between-sector effect), each with its own occupational mix, such as moving from apparel to electrical equipment (Figure 3 above, right panel). In advanced economies, the main driver of change is specialisation within sectors – or transitioning from production roles to engineering or managerial positions (also called 'functional upgrading'). Thus, the traditional structural shift from agriculture to industry and services is followed by an occupational one towards higher-quality jobs (Kruse et al., 2023).

The speed of this occupational transformation varies across countries. A comparison of developing ones undergoing significant structural change reveals a common pattern. While production activities remain key in Brazil and Ethiopia, though, a large share of export-related activity (including engineering) in China and Mexico shifted to non-production by the end of the examined period.[9]

[9] The World Bank's Activities in Exports dashboard tracks these shifts for 68 economies worldwide. See: https://rb.gy/d9xca0.

## 3. GVC participation and shared prosperity

### Wage inequality within countries

Participating in international markets affects both average labour earnings and their distribution, with GVCs playing a crucial role here. Jobs in GVCs differ significantly, and not all are outsourced equally. In developing countries, GVC participation raises demand for unskilled workers performing routine-intensive tasks. They typically earn less, so such developments should increase their pay relative to skilled workers and reduce wage inequality directly. However, a higher routine intensity of tasks is also linked to lower earnings because such endeavours are often repetitive, well-structured and require being precise and accurate rather than creative (Autor and Handel, 2013; de la Rica et al., 2020). As routine intensity increases with GVC participation, wages at the lower end may fall further, indirectly widening inequality. What is the net effect in and for developing countries?

A background study (Lewandowski, Madoń and Winkler, 2023) analyses these direct and indirect effects across 38 countries of varying development levels (19 high-income, 19 low- and middle-income) and 23 sectors,[10] using survey data from 2011–2018. It measures wage inequality using the Gini Index, which ranges from 0 (absolute equality) to 100 (maximum inequality). The Gini Index is computed based on individual predicted wages obtained from Mincerian regressions which control for GVC participation, routine job intensity as well as sector, job and worker characteristics, and fixed effects (baseline scenario).

The model then predicts individual wages and the Gini Index of a counterfactual scenario of no GVC participation.[11] Comparing both Gini Indices yields the 'direct effect' of GVC participation on wage inequality. To isolate the 'indirect effect' of GVC participation via its impact on the routine intensity of jobs, the model estimates counterfactual related measures assuming no GVC participation.[12] The latter are then used to predict individual wages and the corresponding Gini Index. Comparing this with the baseline index again helps infer the indirect effect of GVC participation.

The results confirm that GVC participation directly reduces the Gini Index (see Figure 4 on the next page, top panel). Conversely, it increases the Gini Index indirectly (Figure 4, bottom panel). The net effect is a reduction in wage inequality in poorer countries like Mexico and an increase therein in richer ones like the US, with the threshold dividing developing and advanced economies.

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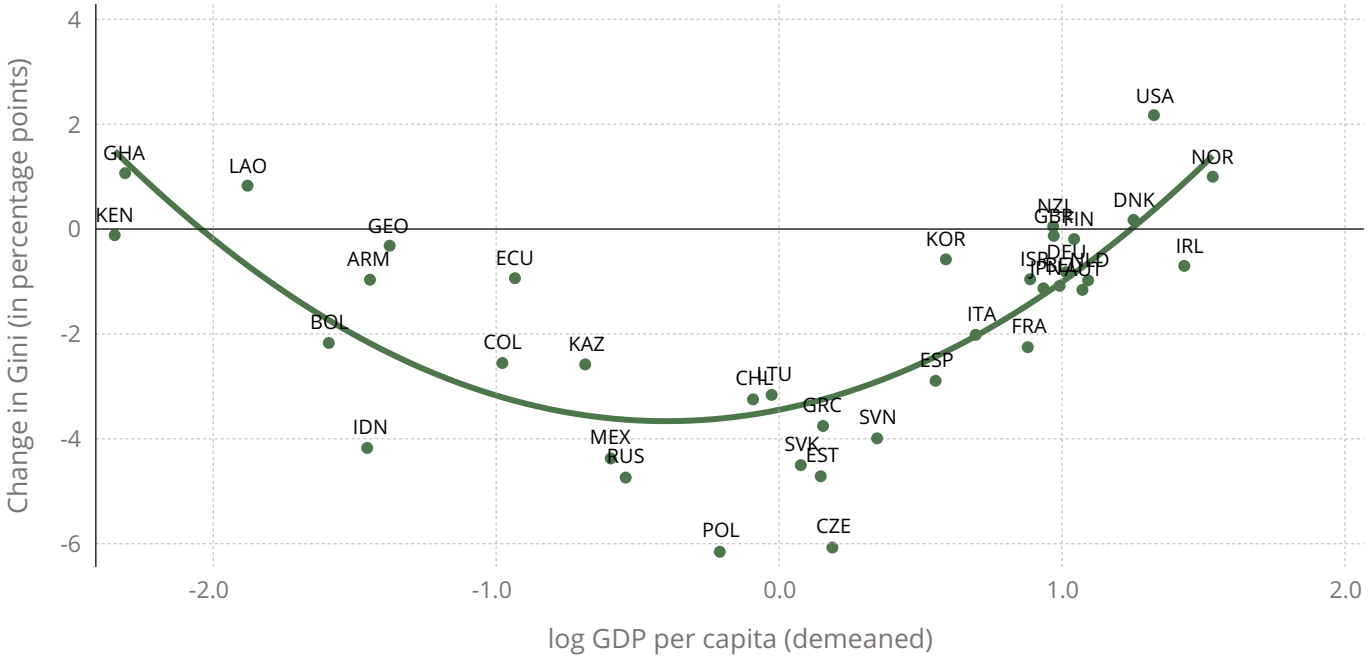
[10] Data are in accordance with these countries' World Bank income per capita classification for the respective survey year.

[11] GVC participation values are set to 0 in this scenario.

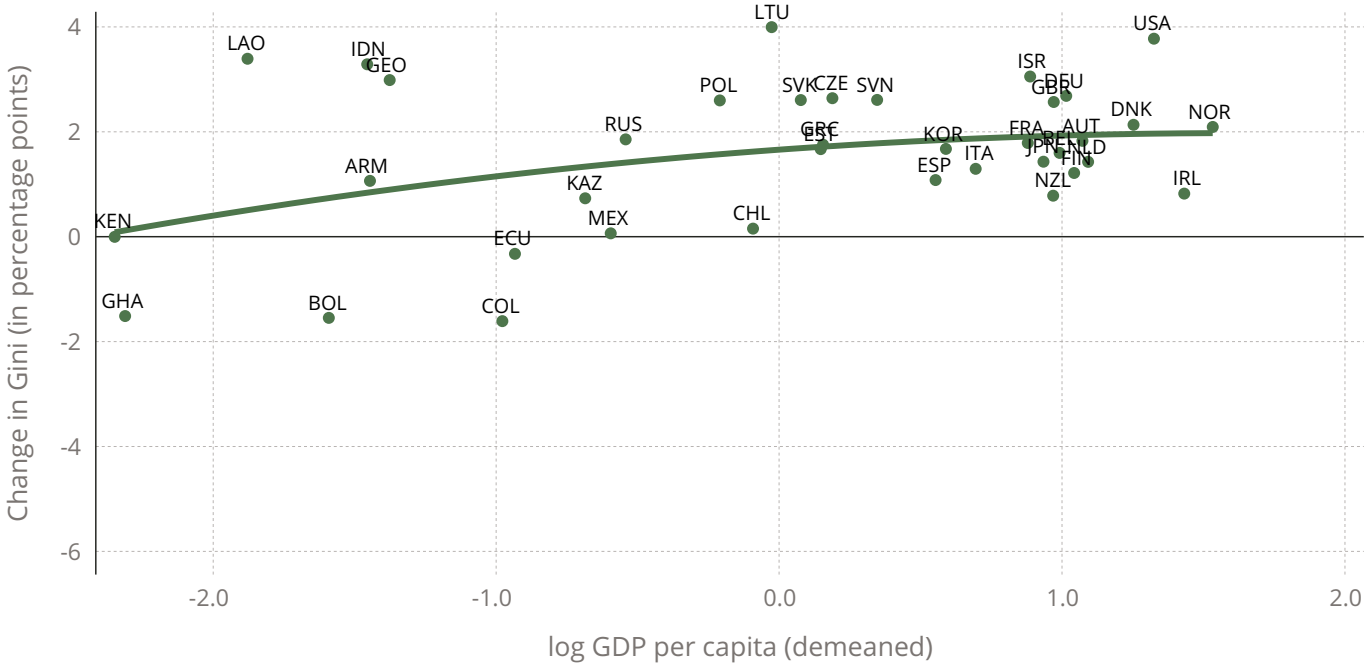
[12] In this model, the dependent variable is routine job intensity, while the independent variables include technology, worker skills, occupational characteristics and sector fixed effects. The values of GVC participation are set to 0.

## Figure 4: Exposure to trade is linked to reduced inequality regarding labour earnings in developing countries

**Direct effect**




**Indirect effect**




**Source:** Lewandowski, Madoń and Winkler (2023).
**Notes:** The figures report the estimated wage deviations in the Gini Index from GVC participation. Estimates control for sectors, jobs and worker characteristics. GDP per capita is reported relative to the mean.

Overall, the analysis suggests that GVC participation benefits labour earnings in low- and middle-income countries, both vis-à-vis averages and distribution, even in the post-global financial crisis (GFC) years. However, the study also highlights a key concern: in several poor countries like Kenya or Laos, the association between GVC participation and labour-earnings inequality is negligible. Both the direct and indirect effects are small or cancel each other out here.

**Female labour-force participation**

Focusing on female employment is crucial for development due to its positive impacts on marriage age, fertility rates, investments in children and women's agency (World Bank, 2012; World Bank and WTO, 2020). Another analysis (Rocha and Winkler, 2019) examines the gender breakdown of employment in manufacturing firms engaged in international trade compared to the rest of the economy. Do those involved in GVCs employ more women?

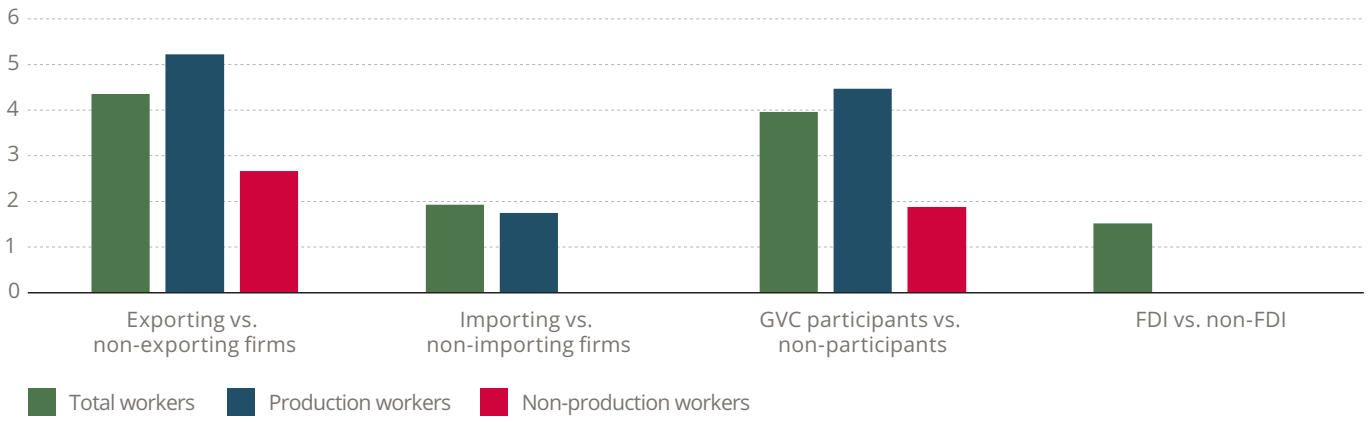
To explore this, the authors analyse data from 64 low- and middle-income countries for the years between 2010 and 2017, covering more than 29,000 firms across 22 manufacturing sectors.[13] Findings reveal that firms engaging in international trade, regardless of the nature of their participation therein, consistently hire more women (see Figure 5 on the next page). The female labour-share premium is particularly strong among exporting firms and those in GVCs, averaging around 4 percentage points. GVC participants have an average female labour share of 37 per cent (compared to 25 per cent for non-participants), with trading status explaining roughly one-third of this gap. The female labour-share premium is also significant among importers and foreign-owned firms (foreign direct investment), albeit smaller.

These results are not driven by specific sectors like apparel or computing services. Even when excluding such domains, the positive relationship between international-market exposure and female employment persists. Overall findings are driven by production workers, while the female labour-share premium for non-production ones only holds for exporters and GVC participants. However, female labour shares vary widely across countries, from over half in parts of the former Soviet Union to less than one-fifth in many Middle Eastern, North African and South Asian countries. Increasing female employment through active participation in international markets could help drive, then, significant development progress.

[13] This cross-sectional study assesses econometrically whether manufacturing-trading firms have a female labour-share premium relative to non-trading firms, applying Ordinary Least Squares regressions. It focuses on four types of trading firms: exporters, importers, GVC participants and foreign firms. Controlled for here are: firm output, capital intensity, total factor productivity and fixed effects. The study also distinguishes between production and non-production workers. Data are in accordance with these countries' World Bank income per capita classification for the respective survey year.

Figure 5: Firms better integrated into the global economy employ more women

**Female labour-share premium (percentage points)**




**Source:** Rocha and Winkler (2019).
**Notes:** The figures report the estimated difference in the share of female employment in terms of percentage points for the corresponding trade indicator and type of worker. The underlying regressions include the trade indicator, firm characteristics and country, region, time as well as sector-related fixed effects. All reported results are statistically significant at the 10 per cent level. FDI = foreign direct investment.

## 4. Summary and policy implications

As this chapter has outlined, exposure to GVCs has generally led to higher labour earnings and helped reduce income inequality in many low- and middle-income economies. The boost to total labour earnings has been stronger than to overall job numbers, implying direct benefits for those already in employment. Enhanced job quality has also included shifts towards more salaried – and therewith presumably more formal – employment and occupations beyond production. Moreover, the female labour-share premium is particularly strong among manufacturing exporting firms as well as those in GVCs. From this perspective, trade and GVC exposure have been associated with better jobs and shared prosperity in developing countries.

Nevertheless, the six respective analyses drawn on throughout also support some of the concerns which have been articulated by critics. A major issue involves the consequences hereof for low-income countries. In contrast to middle-income peers, trade exposure in these countries does not seem to significantly alleviate income inequality. This is consistent with the minimal impact of trade exposure on employment levels despite the abundant supply of unskilled workers in lower-income economies (Winkler et al., 2023). Recent empirical evidence, for instance, finds no impact of GVC participation on formal manufacturing employment in low- and middle-income countries, despite positive

productivity effects (Pahl and Timmer, 2020). In addition, female labour-force participation varies widely across countries, with many Middle Eastern, North African and South Asian economies exhibiting low shares of women workers.[14]

The second key finding is that merely integrating into international markets may not suffice. Trade policy alone has its limitations. To create more and better jobs, developing countries – and particularly low-income ones – must adopt broader development strategies in tandem. Indeed, complementary policies for people, sectors and places are essential across all levels of development. But there is no one-size-fits-all approach here (Shepherd and Winkler, 2023). Policies for people include social safety nets and labour-mobility support, but also skill enhancement to help countries upgrade their GVC participation and seize the growing opportunities in services driven by rapid digitalisation. Regarding sectors, covered should be issues like investment and competition policy and the protection of intellectual property – besides trade policy. As for places, policymakers could aid with domestic-market integration, linking less-developed sub-national regions to the global market despite limited labour mobility. Additionally, improving the business environment, including reducing corruption, is crucial for the private sector to convert trade opportunities into further investment and job creation (Shepherd and Winkler, 2023).

[14] Another concern not discussed due to constraints of space is the weakening of the previously positive links between trade exposure and employment levels in the GFC's wake (Winkler et al. 2023).

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# Global value chain integration and structural change in Africa: Implications for labour markets and decent work

# Global value chain integration and structural change in Africa: Implications for labour markets and decent work[1]

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## 1. Introduction

Integration into global value chains (GVCs) is widely regarded as an important pathway to structural change in developing countries. This is primarily due to the ability of GVC participation to alleviate constraints on structural transformation stemming from insufficient demand. For example, China's integration into GVCs, initially through low value-added activities in the production and assembly phases of the value chain, has driven rapid economic growth, substantial job creation and technological upgrading (Los et al., 2015; World Bank, 2020). Thus participation in regional value chains (RVCs) and GVCs acts as an important catalyst for structural transformation by fostering economic shifts and diversification. Despite these established advantages, however, the literature thus far indicates that Africa's participation in value chains, both regionally and globally, has been lacklustre at best (see Mensah and de Vries, 2024; World Bank, 2020; Van Biesebroeck and Mensah, 2019; IMF, 2015; Foster-McGregor et al., 2015). To the extent that African countries are even integrated into GVCs at all, it is first and foremost as suppliers of primary inputs and raw materials with minimal participation in secondary processing or production activities.[2]

Structural change in Africa has been atypical compared to the historical experience of other developing regions, whether as a cause or consequence of their limited GVC participation. For the most part, Africa's structural change has not been associated with rapidly increasing levels of industrialisation (McMillan and Zeufack, 2022); even in countries where green shoots are observed, this industrialisation is characterised by small, informal firms experiencing employment growth but with little or even negative productivity growth (Diao et al., 2024; Kruse et al., 2023). Instead, the growth-enhancing structural change taking place in Africa over the last two decades has largely been the result of shifts in

[1] I thank Tevin Tafese, Jann Lay, Calumn Hamilton, and James Powell for their helpful suggestions. Any errors in this chapter are my own.

[2] Even in Ethiopia and other countries, where direct government policy aims to stimulate industrial processing, evidence shows that opportunities for value capture and upgrading in GVCs are limited (Whitfield et al., 2020; Whitfield and Triki, 2023).

employment towards services, and mostly that industry's informal sectors (AfDB, 2024; McMillan et al., 2024).

These patterns of structural change appear consistent with demand-side constraints: that is, there is insufficient demand for manufactured goods from Africa. I argue here that this demand-side constraint is due in large part to insufficient levels of RVC and GVC participation across African countries. For instance, Diao et al. (2019) suggest that the unusual pattern of structural change seen in Africa is consistent with a (domestic) demand-side explanation. Kruse et al. (2023) also speculate that the so-called manufacturing renaissance of the 2010s was mostly induced by local demand, which explains the strong weighting towards informal production. Foreign demand seems to play a minimal role in this picture. Sufficient levels of GVC participation ensure greater access to global markets, thus alleviating demand constraints on structural change. In a seminal contribution, Goldberg and Reed (2023) emphasise demand as a binding constraint to structural change in Africa and other parts of the developing world.

How, then, do domestic demand and foreign demand (GVCs) account for the sectoral dynamics we currently observe in Africa? What are the implications hereof for decent work in Africa? The former is a development-accounting question which requires complete information on production networks. Input–output tables are required in order to deal systematically with this issue. However, up until now, most input–output databases include no, or only very few, sub-Saharan African countries other than South Africa. To address this concern, Mensah and de Vries (2024) develop national input–output tables for key African economies and use them to examine the role of domestic demand and foreign demand in accounting for structural change across the continent. They show that jobs embodied in exports mainly come from agriculture and services, predominantly from subsectors where employment is on contractual and seasonal terms. These findings have strong implications for African labour markets. This leads us to the second question, as stated above: What are the implications of these patterns of GVC participation for labour markets and decent jobs in Africa?

This chapter aims to provide a brief account of the related consequences ensuing from recent patterns of GVC integration and associated structural change in Africa. To this end, section 2 presents a conceptual linkage between GVC integration and structural change in Africa. Section 3 presents emerging evidence on the patterns and nature of structural change in Africa. Section 4 summarises the evidence on recent patterns of income and jobs embodied in exports (Mensah and de Vries, 2024), linking this with the existing literature on GVCs in Africa based on Mensah and van Biesebroeck (2019, 2023). I then present emerging evidence on the importance of GVC participation as a driver of productivity (Pahl et al., 2022) and structural change (Owusu, 2024) in Africa. After establishing the need for GVCs and the intertwined relationship between them and structural change, section 5 summarises the potential labour market consequences for sub-Saharan Africa (SSA) from integrating into GVCs, relying on the literature which emphasises the tensions between building value chains and

the 'race to the bottom' in labour markets. I conclude with policy recommendations, making the case for decent work in GVCs and inclusive growth in Africa in section 6.

## 2. GVC integration and structural change: A conceptual linkage

GVC integration and structural change are linked via demand. GVC integration ensures greater access to global markets and technology. This access alleviates demand and technical constraints to structural change in developing countries – in effect, firms are able to produce for much larger and wealthier markets than their domestic demographic situation allows. Trade has historically been characterised by international product cycles, where new products are initially manufactured in developed countries. It is only after the technology has become mature that production shifts to developing ones (Feenstra and Rose, 2000). GVC integration allows the latter to break this cycle by taking on elements of production regarding even the most advanced products. Production in GVCs is sliced up into different stages across countries. Developing countries need not wait for product maturity to imitate the entire production process. They can specialise in one stage of the production process and through this access frontier technologies. In fact, Rodrik (2018) argues that GVCs act as one of the main vehicles for the diffusion of new technologies.

Goldberg and Reed (2023) illustrate how access to these new technologies can drive structural change. GVCs can expand the effective market size of smaller countries. This integration involves selling in richer markets, exploiting economies of scale to generate critical revenue for investment in economic fundamentals human capital, infrastructure, and institutions. In this frame of thinking, structural change is linked with the adoption of technologies characterised by increasing returns to scale. The adoption of this technology initiates a process of structural transformation by making GVC sectors more productive and at the same time increasing demand for labour here. For example, African countries which are endowed with large swathes of unskilled labour can exploit this comparative advantage by specialising in low-skilled tasks along the value chain, hence increasing the demand for labour. The demand needed to offset the fixed costs of adopting new technology can come from either domestic or international markets. But most African countries are too small to generate local demand sufficiently large to offset the fixed costs of adopting this technology. Integration into GVCs, then, generates the effective demand needed to initiate this process of structural change instead.

## 3. The patterns and nature of structural change in Africa

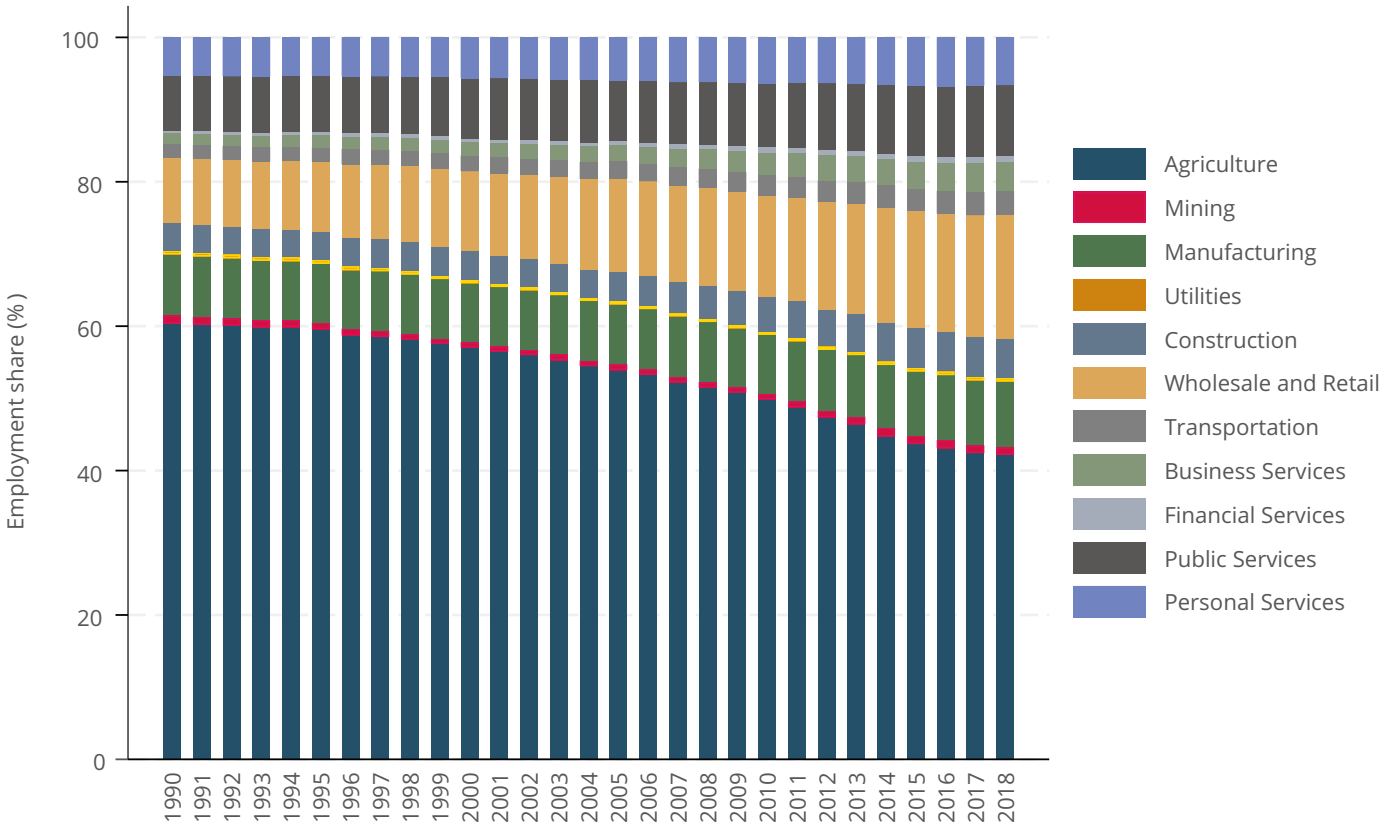
Structural change refers to the shift of labour from low-productivity to high-productivity sectors. Traditionally, this process involves the reallocation of surplus agricultural labour to manufacturing on a large scale. Policymakers looking to achieve structural transformation had a clear goal: to drive industrialisation so as to absorb this surplus labour while

simultaneously boosting productivity growth in manufacturing and agriculture to sustain the process. This was mostly done via expansion of effective market size by integrating in global markets and value chains. This is the story of the 'East Asian Miracle', but it also applies to the manufacturing export-led growth of Mauritius on the African continent in the 1970s and 1980s.

Nowadays, the story of structural change in Africa seems markedly different. The phenomenon has not been strongly associated with increasing levels of industrialisation (McMillan and Zeufack, 2022). Instead, as noted, the growth-enhancing structural change which has taken place in Africa over the last two decades has largely been a result of an expansion of employment in services, mostly its informal sectors (AfDB, 2024; McMillan et al., 2024).

Figure 1 below depicts the evolution of sectoral employment shares in Africa since 1990. As expected, agricultural employment would decrease from 60 per cent in 1990 to 42 per cent in 2018. Of the 18 per cent of workers who left agriculture, only 0.6 per cent moved into manufacturing; the remaining 17.4 per cent, meanwhile, shifted to services. The majority of workers headed to the wholesale and retail sectors. This is not surprising, as the skill requirements in such informal services are similar to those in agriculture; the capital requirements are also low. Growth-

**Figure 1: Evolution of employment shares in Africa, 1990–2018**



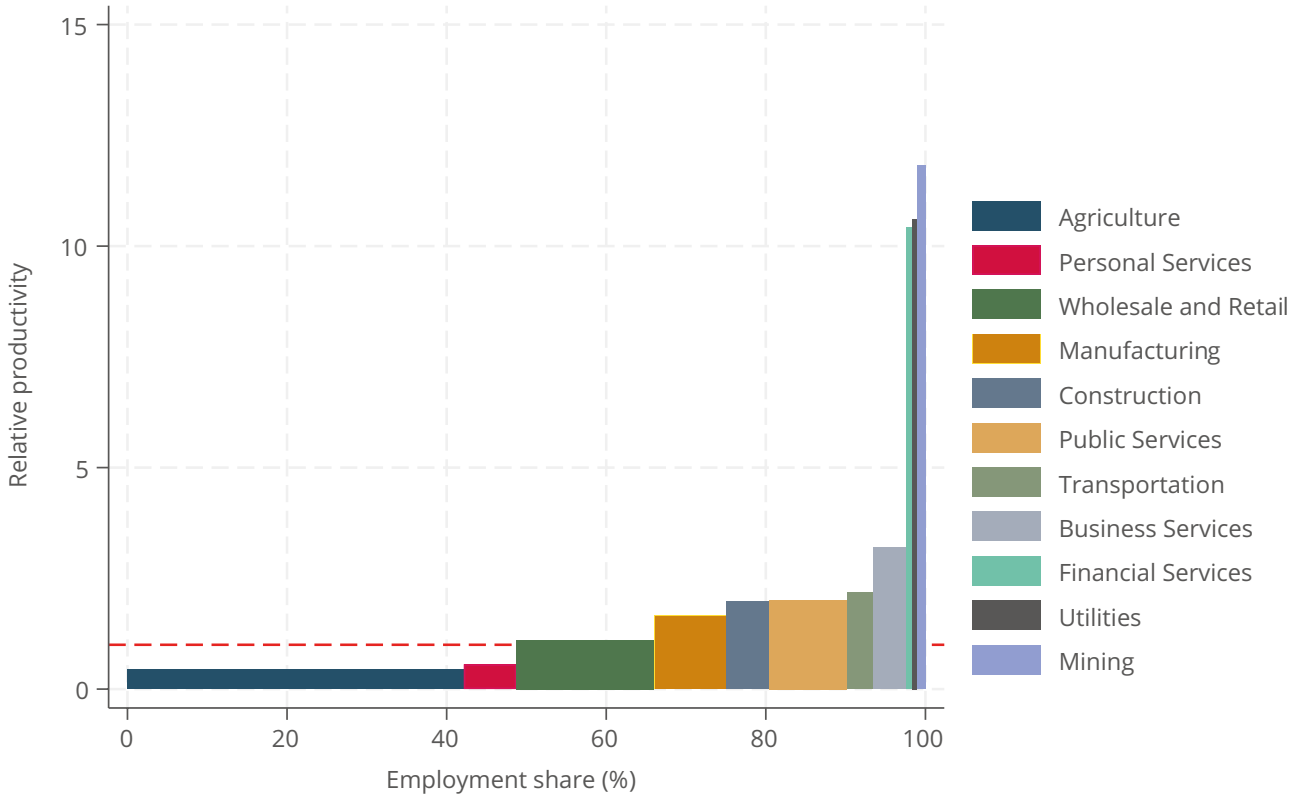

**Source:** Author's own illustration, based on the Economic Transformation Database (ETD) (Kruse et al., 2023).

enhancing structural change relies on the movement of workers from low-productivity to high-productivity sectors. Services is a heterogeneous field, with some subsectors exhibiting productivity levels higher than manufacturing, while others have productivity only marginally above that of agriculture.

To illustrate the nature and direction of structural change in Africa, Figure 2 below examines whether the sectors with higher productivity are employing the most workers. The figure displays the relative labour productivity of various sectors alongside their share of employment in 2018. Relative labour productivity is defined as the ratio of each sector's productivity to the average productivity of the economy. Figure 2 reveals there to be substantial productivity gaps across sectors. Financial services, utilities and mining have productivity levels 1,000 per cent above the economy's average but employ only 3 per cent of the workforce. In contrast, agriculture – which is 60 per cent less productive than the economy's average – employs over 40 per cent of the workforce.

Figure 1 indicates that Africa's whole sale and retail sectors are expanding, absorbing a large proportion of workers leaving agriculture. However, Figure 2 makes apparent that their productivity is the same as the economy's average. Relatively more productive services, such as transportation and business services, employ significantly fewer workers.

**Figure 2: Relative labour productivity across sectors in Africa, 2018**




**Source:** Author's own illustration, based on the ETD (Kruse et al., 2023).

These sectoral dynamics speak to potential allocative inefficiencies in Africa. However, they also highlight the opportunity for productivity-enhancing structural change if policies can encourage the reallocation of labour to higher-productivity sectors.

Figure 3 below quantifies the impact of labour reallocation on productivity growth, showing that structural change has been growth-enhancing in Africa since the 1990s. During the first decade of the new century and into the 2010s, structural change accounted for half of Africa's productivity growth. This is largely explained by the movement of workers from agriculture – as noted, a low-productivity sector – to wholesale and retail services, higher-productivity sectors relatively speaking. However, the impact of this structural change could have been greater if more workers had shifted into manufacturing, transportation and business services.

The remaining source of productivity growth comes from within the agriculture sector. Surprisingly, productivity growth within non-agricultural sectors was extremely low in the first two decades of the new millennium. This is concerning, as productivity growth within sectors – especially in services, which is absorbing the majority of labour from agriculture – needs to increase rapidly to sustain current patterns of structural change in Africa. Manufacturing, often associated with structural change, lacks dynamism in Africa, with productivity growth close to zero in the 2010s. An emerging literature has shown that African manufacturing is characterised by two counteracting forces: small, informal firms experiencing employment growth but little or negative productivity growth and large firms subject to rapid productivity growth but little employment growth (Diao et al., 2024). Most of these large firms are integrated into regional and global value chains and have high capital and skill intensity, which is unfavourable for the majority of workers in Africa.[3]

Current trends in Africa suggest that the traditional approach to structural transformation – where manufacturing firms are encouraged to enter GVCs, achieve productivity gains and employ unskilled workers en masse – is likely to be ineffective in terms of job creation. If contemporary global manufacturing technologies, which feature a high degree of automation and skill intensity, continue to spread then a typical manufacturing GVC firm in Africa may resemble Revital Healthcare (see footnote 3) more than a typical GVC firm in China in the 1990s, which thrived on low-cost labour expansion. This implies the need for a new approach to industrial and GVC trade policy in Africa (more in section 6).

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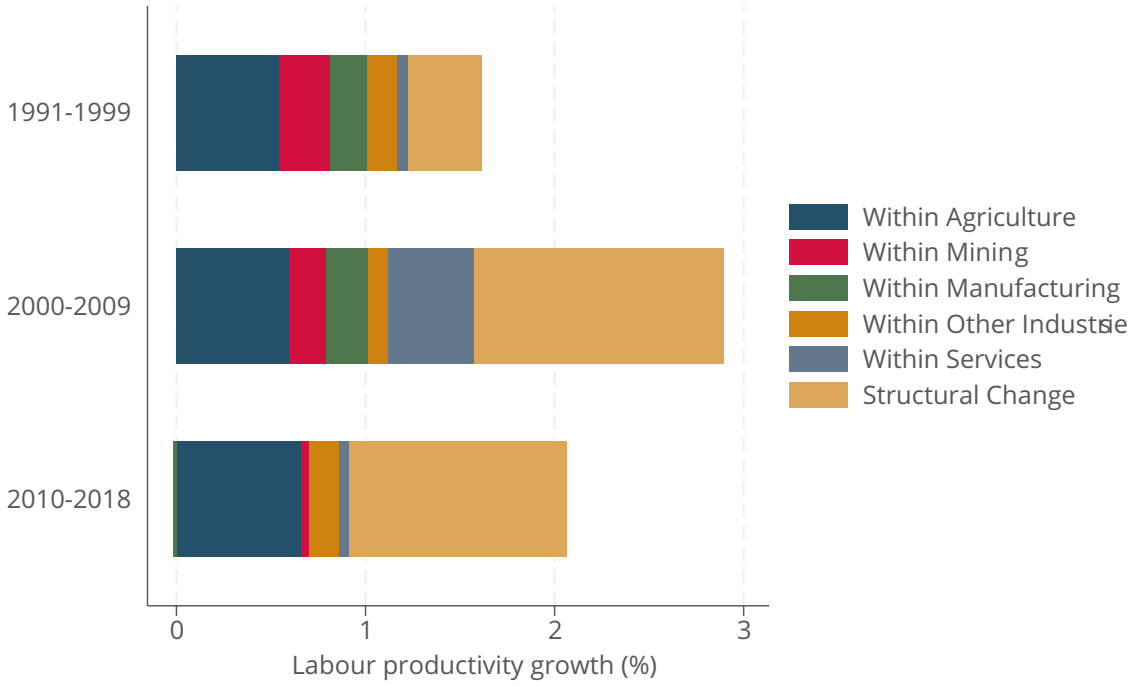
[3] For example, Revital Healthcare, a manufacturing firm in Kenya, produces precision medical devices which it exports across Africa and to the world at large. The 300 million syringes it produces per year (enough to meet half of Africa's routine immunisation needs), alongside other precision medical products such as advanced portable infant oxygen supply devices which function without electricity, face masks and more, are made by fewer than 700 workers (New York Times, 2024).

Figure 3: Labour productivity growth in Africa




**Source:** Author's own illustration, based on the ETD (Kruse et al., 2023).
**Note:** Labour productivity growth is broken down into within-industry effect and structural change, following McMillan and Rodrik (2011).

## 4. GVC integration in Africa

A key theme of this chapter is that the key link between GVC participation and structural change in Africa is the role of demand. How has Africa's exposure to global markets stimulated structural change within its respective countries? Up until now, data limitations placed a major constraint on the ability of scholars to answer this question. Mensah and de Vries (2024) developed a new database in order to resolve this constraint: the Africa Supply and Use Tables (ASUT) database provides time-series input–output tables for 11 major economies of SSA for the first time. Preliminary results from ASUT indicate that domestic demand predominantly accounts for contemporary structural change patterns witnessed in Africa, consistent with the speculation of Diao et al. (2019). In the case of services, however, foreign demand accounts for an increasing share of value-added expansion. Jobs in exports are mostly accounted for by agriculture and services. These results have important implications for labour market outcomes. Below, I reproduce and summarise some of Mensah and de Vries' (2024) key findings in this regard.

Table 1 shows the share of domestic value added and jobs embodied in African exports by sector in the three benchmark years of 1990, 2007 and

2019. The domestic value added in exports increased from 15.8 per cent in 1990 to 19.2 per cent in 2007 (prior to the global financial crisis), before declining to 17.3 per cent in 2019. Compared to other world regions, these shares of value added embodied in exports are low, implying a smaller role of foreign demand in driving production in Africa as compared to elsewhere (see IMF, 2015; World Bank, 2020; Los and Timmer, 2018).[4] Even more striking is the change in the structure of domestic value added supported by exports. The value added contained in agricultural exports decreased from 3.3 per cent in 1990 to 2.4 per cent in 2019, while mining stayed the same at about 4 per cent. The value added embodied in manufacturing exports decreased from 2.9 per cent in 1990 to 2.5 per cent in 2019, implying that foreign demand is actually less important now for driving manufacturing production in Africa than it was 30 years ago. Value added embodied in services exports accounts for the increasing patterns of domestic value added.

Turning to the latter columns of Table 1, jobs embodied in exports decreased from 13.3 per cent of total jobs in 1990 to 10.7 per cent in 2019.[5] The

**Table 1: Share of income and jobs embodied in exports**

| | Value added embodied in exports (percent of GDP) | | | Jobs embodied in exports (percent of total employment) | | |
|---|---|---|---|---|---|---|
| **from:** | **1990** | **2007** | **2019** | **1990** | **2007** | **2019** |
| Agriculture | 3.3 | 3.5 | 2.4 | 6.3 | 6.6 | 3.2 |
| Mining | 3.9 | 3.6 | 4.0 | 1.9 | 1.7 | 1.0 |
| Manufacturing | 2.9 | 3.0 | 2.5 | 4.0 | 4.9 | 3.5 |
| B&F services | 1.8 | 3.1 | 2.5 | 0.1 | 0.3 | 0.4 |
| Other services | 3.9 | 5.9 | 5.9 | 1.1 | 1.9 | 2.6 |
| **Total** | **15.8** | **19.2** | **17.3** | **13.3** | **15.5** | **10.7** |

**Source:** Reproduced from Mensah and de Vries (2024).
**Note:** B&F services are business and finance services (ISIC rev. 4 codes JtK).

[4] For example, the value added embodied in exports is 31 per cent for advanced economies and 27 per cent for emerging Asian countries (IMF, 2015; World Bank, 2020). Similarly, only 9 per cent of value added is embodied in intra-African exports, compared to 18 per cent in Latin America and 45 per cent in Asia (Slany, 2019).

[5] Compared to 14.6 per cent in the European Union in 2019 (see https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Employment_and_value_added_in_EU_exports_-_an_analysis_with_FIGARO_data).

share of jobs embodied in agricultural exports decreased by almost half from 6.3 per cent to 3.2 per cent in the same period. The jobs embodied in exports decreased by about 1 per cent in mining and 0.5 per cent in manufacturing, too. The jobs embodied in services exports, on the other hand, increased rapidly, even though this started from a low base.

These results are consistent with the broader patterns discussed in section 3, whereby services are driving structural change in Africa. They are also in line with the more general observation that services are increasingly becoming tradeable (Baldwin and Forslid, 2023) and that the arrival of high-speed Internet and the proliferation of 4G across Africa has increased employment in high-skilled occupations via net job creation in exporting firms (Hjort and Poulsen, 2019). The analysis also shows that in services, where value added in exports is expanding rapidly, jobs embodied in exports are expanding for high-skilled occupations. However, overall employment in exports is not booming at the same pace as value added in exports, suggesting potential bias against unskilled labour where export is growing but it is only skilled workers who benefit from this process (Rodrik, 2018; Reijnders et al. 2021).

These results relate also to the emerging literature on GVCs and structural change in Africa. In particular, Pahl et al. (2022) demonstrate Ethiopia's and Senegal's high productivity within GVCs in terms of value added but limited accompanying job growth. Mensah and Van Biesebroeck (2023) study the geographical specialisation of the continent's manufacturing industries. In capital-intensive advanced manufacturing industries, export success in global markets is found to precede regional exports success, but in labour-intensive light manufacturing industries regional export success precedes global export success. Firms exporting to regional markets produce basic goods with less room for product differentiation (and higher profits and wages) compared to firms exporting semi-processed metals to developed countries. Taken together, these findings have significant implications for labour markets and decent work in Africa.

Mensah and de Vries' (2024) results come with both cause for excitement and for concern. On the one hand, they are positive because they show that, apart from manufacturing, other sectors such as agriculture and services are becoming more tradeable than has traditionally been the case. This tradeability appears to be responsible for creating increasing levels of domestic value added and jobs, although the former is outpacing the latter. It also shows that African countries can move away from exclusive dependence on manufacturing-led models and embrace a more diverse set of economic sectors for development. On the other hand, these new priority sectors come with increasing levels of uncertainty for workers (Mensah et al., 2023). For example, export jobs in Africa are currently largely accounted for by agricultural products such as cut flowers (in East Africa) and cocoa and coffee (in West Africa). Jobs in these sectors are not necessarily better than local alternatives in hospitality or manufacturing. Several exposés have revealed that these export-oriented jobs have poor working conditions, and

most farms do not comply with health and safety standards or provide basic medical coverage (The Economist, 2016). Even in African countries where integration into manufacturing GVCs is a policy goal, working conditions are often poorer compared to local (informal) alternatives (Blattmann and Dercon, 2018).

## 5. Implications for labour markets and decent work

Africa's GVC participation is characterised by low value-added activities and precarious labour-market conditions. At the same time, governments face increasing pressure to provide employment for a rapidly growing youth population, even when these jobs come with question marks over working conditions. Promoting GVC integration through industrial policy has been seen as an effective strategy for job creation in addition to wider growth objectives. This is understandable, as GVC participation in the past was associated with job growth – much of which actually led to improvements in living standards. For example, after joining the World Trade Organization, China integrated into the global production network, absorbing a large portion of its unskilled rural labour and leading to significant poverty reduction. In South Asian countries, similarly, the evidence suggests that small wage premia in export industries induce women to shift from household farming activities to formal wage employment in manufacturing (Lopez-Acevedo et al., 2016). Higher wages and improved working conditions, compared to non-exporting firms, make a compelling case for encouraging investments in the export-oriented manufacturing sector. However, the positive view of the job-related benefits of GVC trade has come under scrutiny due to risks from emerging technologies, geopolitical tensions and increasing protectionism (for overview of the debate and new evidence on trade and employment, see Maliszewska and Winkler, 2024).

In the context of Africa, GVC integration may not automatically guarantee better-quality jobs due to the potential for a 'race to the bottom' effect and the continent's current position within such value chains. Unlike in the case of China, one very large country with a strong central government, Africa is extremely fragmented and highly diverse, leading to potential competition between countries over the attraction of export-oriented firms. Due to the increasing political pressure to create jobs for young people, African policymakers often accept foreign direct investment (FDI) or GVC firms which promise employment in industrial parks or export processing zones (EPZs) without sufficient attention being paid to workers' rights and employment conditions (Torvikey, 2018; Pasquali, 2021; Cheru et al., 2019). In fact, countries tend to liberalise labour and environmental laws to appear as 'business-friendly' as possible per international indices helping to sway these firms' decision-making, with negative implications for workers in established local firms as well as those employed by the newly attracted businesses. Furthermore, many African countries at least on paper have quite extensive labour regulations, even if they are not enforced in the informal sector (Bhorat et al., 2017). Rather than requiring new international firms to comply with these regulations in the formal sector,

however, they are often instead relaxed for so-called special economic zones (SEZs) (Torvikey, 2018).

GVC firms operating in Africa's industrial parks and EPZs are notorious for exploiting labour-market loopholes. Here, I illustrate two examples from Ethiopia and Ghana. To promote job creation, Ethiopia has built SEZs (industrial parks) to attract FDI in manufacturing exports. The Hawassa Industrial Park is a prime example of such policy initiatives. Before the Covid-19 pandemic, Meyer et al. (2021) reported that industrial parks across Ethiopia employed about 88,000 workers between them. In contrast to expectations, the authors' systematic evidence suggests that employment conditions in the country's industrial parks are not better than those in comparable jobs at firms focused on the domestic market or self-employment.

They also examine whether jobs in industrial parks in Ethiopia pay higher wages than local alternatives and whether the base pay in these parks is sufficient to cover the basic needs of workers. The median base wage in industrial park firms is ETB 1,800 per month, compared to ETB 2,135 in the domestic industrial sector and ETB 2,876 in services. However, the wage in agriculture is ETB 812 per month, which is lower compared to the base pay in industrial parks. Meyer et al. (2021) show that the base salary of industrial-park workers falls below the local poverty line for 21 per cent of the sampled firms. In a similar study, Blattman and Dercon (2018) studied workers' preferences for industrial jobs versus self-employment. They found that workers favoured local self-employment and informal work over industrial jobs (GVC jobs), at least in the short run. This preference was due to the poor working conditions in industrial jobs, which also paid about 25 per cent lower wages than informal employment. These differences between industrial jobs and local self-employment seem to have dissipated in the long run (Blattman et al., 2022). Jobs within EPZs, which are intended to help low-income workers in Ethiopia escape poverty through higher earnings, offer no significant advantage over local-employment alternatives.

A less well-known example is the case of Ghana. Similar to Ethiopia, the latter established several EPZs across the country through the Ghana Free Zone Act of 1995 (GoG, 1995) to create jobs for young people. Unlike Ethiopia, though, Ghana did not build physical infrastructure in these zones; instead, large areas with potential for agro-processing and manufacturing were designated EPZs. The goal was to attract investors to the export processing and manufacturing sectors by offering targeted incentives, including a ten-year tax exemption and various concessions such as the ability to repatriate profits freely (Torvikey, 2018). However, several studies indicate that labour market outcomes have not met expectations, including zero net job creation and increased labour casualisation in EPZs – contradicting Ghana's fundamental objectives here.

Obeng et al. (2015), for instance, show that despite the creation of new jobs within Ghana's EPZs, an equivalent number are simultaneously lost. Torvikey (2018) depicts how some prominent firms active in Ghana's EPZs exploit the country's weakened labour

laws to casualise labour; the new Labour Act would introduce greater flexibility for employers.[6] The author also reveals that some employers may use this to offer contracts of no more than six months to the majority of workers.[7]

Systematic recent evidence on the conditions of horticultural workers in East Africa highlights the precarious nature of such GVC jobs (De Blasis, 2020). For example, The Economist (2016) and the BBC (2024) have illustrated the harsh realities faced by workers on the region's flower farms, including low pay, the seasonal and temporary nature of jobs, gender discrimination and a lack of social protection. Similar conditions are frequently reported in cocoa value chains in West Africa, including instances of child labour (UNICEF, 2020; Busquet et al., 2021). These examples clearly show the disadvantages of participation in GVCs, which include undesirable labour market outcomes.

To be clear, GVC participation can offer good jobs. Those in high-skill occupations such as clinical research scientists, lawyers and chartered financial analysts who offer services to global lead firms enjoy lucrative conditions. South Africa, for example, exported USD 16 billion worth of services to the world in 2017, employing 40,000 people as back-office workers – mostly for foreign companies (The Economist, 2020). While it is well-established that international firms tend to pay better than local alternatives, this advantage largely depends on the firm's position within the value chain in question (Ndubuisi and Owusu, 2022). Countries participating predominantly in more upstream value-chain activities, as specialising in low value-added tasks with limited opportunities for product differentiation, often experience more challenging labour market conditions. African countries are predominantly involved in such activities; it is unsurprising, then, that there are significant caveats over the quality and conditions of these GVC jobs overall.

## 6. Conclusion and policy recommendations

This chapter builds on recent evidence indicating that Africa is experiencing growth without formal industrialisation (AfDB AEO, 2024; Diao et al., 2024; McMillan and Zeufack, 2022; Kruse et al., 2023), but that structural transformation is still broadly positive from the perspective

[6] Article 74(1) of the Labour Act 2003 (Act 651) (GoG 2003) mandates that temporary (contract) workers must be granted permanent status if they have been employed continuously by the same employer for six months. However, Part 73(1) of the Labour Act introduces greater flexibility for employers compared to earlier legislation, allowing them to 'hire a worker on terms that suit the operations of the enterprise' (GoG 2003: 27).

[7] For example, Blue Skies, a prominent fruit processing and packaging exporter, increased its proportion of casual workers from 39 per cent in 2007 to 72 per cent in 2013. 'Casual contracts of no more than six months' duration could be synchronised with the seasonality of production, so that workers could be hired to work during the annual peak of production and laid off at the end of the season' (Torvikey, 2018: 36).

of productivity growth. I argue that, despite the presence of growth-enhancing structural change, this represents a suboptimal situation: not only could growth be higher and more inclusive with a sustained engine of manufacturing production, but growth via manufacturing will look different from the past. Due to increasing levels of capital intensity, skill intensity and automation, manufacturing will not be able to solve the widespread youth unemployment or informal employment currently prevailing in Africa. However, plugging in to manufacturing GVCs may provide opportunities for creating value added but not jobs en masse.

I also posit that in a shifting and evolving global geopolitical context – one characterised by new trade barriers and `friend-shoring', whereby lead economies are seeking to refocus trade and value chains towards smaller sets of allied countries –, Africa must seek to take advantage of this situation rather than fall victim to it. Additionally, its countries should seek to increasingly form regional production networks and value chains in order to benefit from trade with each other. As well, the continent should offer itself as an alternative home for production which has been diverted away from elsewhere for geopolitical reasons.

The lack of sufficient levels of industrialisation and of manufacturing GVC participation, alongside the rise of employment in services, has led to certain policy concerns. Based on more traditional theories and models of industrialisation-led development, the clear recommendation would therefore be for African countries to seek further integration into GVCs at the manufacturing stages of production. This would be hoped to promote productivity-enhancing industrialisation for those intermediate stages of production, as was the case in 1990s China and earlier in other East Asian economies, too. Many governments in SSA are taking precisely this approach, actively seeking to support sectors which can insert themselves into GVCs and drive inclusive growth. The case of Ethiopia is a prominent example of this. Such strategies are important not just to boost aggregate welfare, but also to absorb rapidly increasing youth populations into productive economic activity against a backdrop of widespread underemployment. However, exposure to GVC trade does not automatically lead to employment creation and better jobs, higher labour productivity and earnings, or better working conditions (Maliszewska and Winkler, 2024).

African countries are seeking to attract GVC firms, aiming to create jobs in the industrial parks and EPZs traditionally considered better prospects than local alternatives. In an effort to appeal to such firms, though, these countries often neglect workers' rights and employment conditions. Unlike in the case of China, Africa is highly fragmented and its countries may compete over doing business with international export firms, leading to a risk of a 'race to the bottom' in terms of wages and employment regulation. There are indications that some African countries may have relaxed labour-market regulations to entice investment in industrial parks and EPZs already, as represented by Ghana's aforementioned 2003 Labour Act. Contrary to expectations on job creation and quality, the

evidence indicates that those offering employment in these newly built industrial parks and EPZs may not pay higher wages than local alternatives. In some cases, the base pay in these parks is insufficient to meet workers' basic needs. In addition, new evidence on export-related jobs shows that most GVC ones are in agriculture, where employment is on contractual or seasonal terms and working conditions are also often poor.

Trends in global manufacturing, which indicate its increasing capital intensity, skill intensity and degrees of automation, speak to Africa potentially being unable to absorb the majority of its low-skilled workers via this sector's further development. As a result, there may be a need to refocus industrial policy: it should, accordingly, rather be on targeting firms with the potential for significant productivity growth and innovation, with less emphasis on employment generation. Additionally, industrial policy for services should prioritise labour laws and social safety nets to protect workers in vulnerable and low-productivity services subsectors, as well as to support services-oriented firms with high employment potential. Policymakers should also consider the tensions between building successful RVCs and GVCs and the potential negative labour market outcomes accompanying their activities. For instance, African countries could standardise laws within the African Continental Free Trade Area to protect workers and the environment while avoiding a 'race to the bottom'. This approach has the potential to achieve decent work in GVCs and inclusive growth in Africa.

Finally, countries with large firms operating in or sourcing intermediate inputs from Africa can also play a key role in promoting decent work within GVCs. The recent EU Corporate Sustainability Due Diligence Directive (CSDDD) marks progress towards this goal by aiming to prevent, end or mitigate adverse impacts of corporate activities on people – such as via child labour and worker exploitation – and planet. Under the CSDDD, EU companies with 1,000 or more employees and an annual turnover of at least EUR 450 million will be required to identify potential human rights violations and specific environmental risks across their value chains as well as implement preventive and remedial actions. The CSDDD extends beyond Germany's Supply Chain Due Diligence Act (LkSG), as focused primarily on direct suppliers.

While the CSDDD is certainly a positive step, research indicates that the large multinational enterprises targeted by this legislation typically present fewer challenges in the African context. Systematic evidence, such as that provided by Mendola et al. (2024), shows that these MNEs tend to create more stable and higher-quality jobs compared to local firms. Thus, it is concerning that small and medium-sized enterprises – which are predominant in value chains like horticulture, cocoa and manufacturing, and often associated with poorer working conditions – are not directly affected by the CSDDD's stipulations.

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# Digitalisation and decent work in global value chains

# Digitalisation and decent work in global value chains

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## 1. Introduction

The rise of digitalisation in global value chains (GVCs) has fundamentally transformed the way industries operate in domains ranging from research and development to design, manufacturing, branding and distribution. Digital technologies, such as cloud computing, big data and blockchain, have not only streamlined operations – therewith helping improve efficiency and transparency across the entire supply chain – but also impacted logistics and trade. The recent expansion of artificial intelligence (AI) is disrupting traditional GVCs by optimising decision-making, forecasting demand and even altering the nature of production itself. This wave of technological advancement brings both opportunities and challenges regarding decent work, serving to change the global landscape vis-à-vis employment, required skills and contemporary labour practices.

Much of the existing scholarship on digitalisation in GVCs and the labour-market repercussions has focused on high-income countries, where such markets are relatively formalised. In developing ones, in contrast, digitalisation, GVC integration patterns and labour markets all have distinct characteristics, making it difficult generalise existing findings to these countries. The digitalisation of GVCs is taking place in a context characterised, according to some (see Sen, 2019), by new patterns of structural transformation – particularly in low-income countries, where workers are bypassing manufacturing and transitioning directly from agriculture to services. In Africa, such a shift has occurred into small-scale (mostly informal) retail, trade and personal services, plus transport and logistics (Baccini et al., 2023). Certain 'smokestack-less industries' – sectors such as tourism, information and communication technology (ICT), food processing and horticulture- are now emerging as potential engines of economic growth (Newfarmer et al., 2019). These domains have the capacity for adding value and generating employment.

Within the manufacturing sector, digitalisation has likely exacerbated the 'decent work deficit' (ILO, 2001), with employment rates waning, wage stagnation, reduced benefits and an overall decline in job stability. While automation can directly create/destroy some manufacturing jobs, the adverse effects of automation on employment may be higher in developing countries compared to developed ones (Carbonero et al., 2018). Developing countries are vulnerable to multinational corpo-

rations / GVCs' lead firms changing their production locations on the basis of automation's arrival. The accompanying fall in the costs of capital in developed economies can undermine the comparative advantage developing ones hold regarding low-wage labour, leading to the reshoring of manufacturing tasks (Hallward-Driemeier and Nayyar, 2017). Moreover, automation in developed economies can also have a back-stopping effect on manufacturing-sector wages, whereby developing countries feel pressurised to lower them to remain competitive under the threat of reshoring and limited future offshoring (Banga and te Velde, 2018).

Beyond the net negative/positive effects on employment, the rise of digital technologies is also altering the demand for skills across the GVC's various stages, from procurement to manufacturing to customer relations. Largely driven, as noted, by evidence on developed economies,[1] the extant literature suggests a 'job polarisation' effect arising with digital technologies, whereby automation has increased employment in low-wage services (e.g. nursing, healthcare, sales, teaching) and high-skilled domains (e.g. computer and cloud services) at the expense of semi-skilled labourers performing routine-intensive tasks (Autor and Dorn, 2013; Goos and Manning, 2003). In the manufacturing sector, this concerns machine operators and craft workers (Graetz and Michaels, 2018); in the services one, bookkeeping and clerical work are among the professions affected. The prevalence of routine tasks – especially across the service industry's low-skilled subsectors – suggests, for instance, that more than two-thirds of jobs in hospitality, gastronomy and retail can potentially be automated (Nayyar et al., 2021).

Baldwin and Forslid (2023) argue that, in contrast to the manufacturing sector, digital technologies are likely to significantly reduce the cost of trade-related services but not the labour-cost shares thereof. Traditionally, developed economies have out-sourced semi-skilled tasks such as administrative work, scheduling, payroll management and customer services to developing economies offering cheap labour. However, the spread of robotic process automation, AI and machine learning (ML) promises to vastly reduce the demand for human labour through its replacement with chatbots, automated accounting software and back-office operations.

Overall, these shifts are all related to, and driven by, digitalisation, with key implications for the changing dynamics of GVCs' global labour markets. New policy frameworks are, as such, required to identify alternative models of development and job creation in developing countries in light of these developments. Further, there is an urgent need to ensure decent work in emerging (digital) services value chains.

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[1] In developing countries, there is very little evidence of job polarisation due to the presence of a large agricultural sector, significant informal labour, precarious working conditions and acute labour-market tensions (Banga and te Velde, 2018b).

Given this, I investigate how digitalisation has reconfigured labour markets and decent work in GVCs, with a particular focus on the service industry in developing countries. I do not examine the effects of specific technologies on employment but instead offer a broader exploration of how digitalisation is shaping the future of decent work within GVCs. Section 2 discusses the potential both opportunities and threats of digitalised trade in services in GVCs, with a focus on the BPO sector. Section 3 discusses digitalisation-related challenges to decent work, including tensions around precarity, flexibility of work and fair compensation. Section 4 concludes with policy recommendations on how to boost decent work. I highlight the potential for services-oriented GVCs to drive inclusive and scalable economic growth, while emphasising that such benefits can only be realised via targeted policy frameworks which support small firms and women workers in these countries.

## 2. Digitalisation – a new engine of decent work in services-related GVCs?

Digital technologies offer several innovative opportunities to services-related GVCs, enabling them to act as a 'new and alternative engine' for growth (Hallward-Driemeier and Nayyar, 2017; Loungani et al., 2017; Miroudot and Cadestin, 2017). Such tools can significantly reduce costs through economies of scope and scale as well as by eliminating information asymmetries. This can lead to an improvement in the overall tradability of the service industry, enhancing the value added by its exports (Baldwin and Forslid, 2023; Kan et al., 2022). In particular, these emerging technologies can enhance the cross-border flow of intermediate services (Baldwin, 2022), potentially altering GVCs' respective dimensions and configurations by allowing new intercountry relationships to emerge. China, India, Ireland and Israel, for example, have emerged as global market leaders of intermediate IT services over time, alongside France, Germany, the Netherlands, United Kingdom and United States here (Blazquez et al., 2022).

Digital technologies can also boost productivity and innovation in the service industry, leading to the development of new business models within its GVCs and pioneering methods of delivery. This will enable upgrading of services GVCs from low to high value-added activities (Kan et al., 2022). This will create jobs in related sectors such as software development, digital marketing and data analysis, as well as see the expansion of gig-economy platforms (e.g. for freelancing and remote work).

New challenges are also arising here, however, in terms of job destruction and required skills, as best exemplified by the case of the business process outsourcing (BPO) sector. India, Kenya and the Philippines, all developing countries, are key suppliers of BPO services globally but are now each undergoing rapid transformation regarding the offering of decent work due to the convergence of 'platformisation', AI and automation. The advent of digital technologies is a major concern for employment – particularly of youth – in the BPO sector.

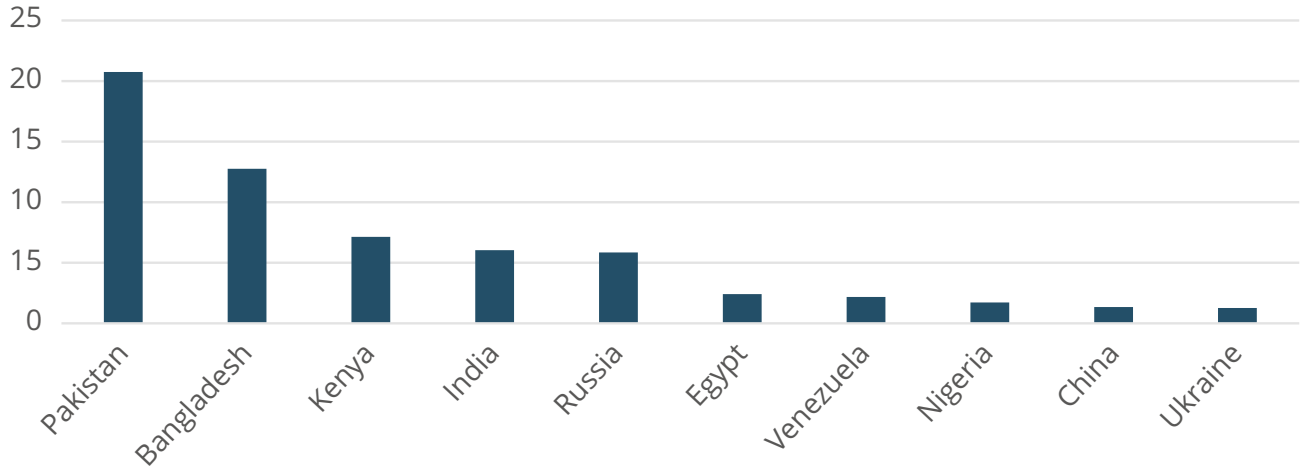
In the Philippines, the latter employs about 1.3 million workers in call centres, knowledge process outsourcing (KPO) and back offices, software development, game development and the like, generating USD 30 billion a year or 7 per cent of gross domestic product (Tay, 2024). However, the advent of AI and automation has increased concerns over job losses; around 60 per cent of BPO employers have reported the adoption of digital technologies, and an estimated 1.1 million Filipinos will have lost their jobs because of AI by 2028 (ADB, 2021). Concerns regarding chatbots automating low-end repetitive jobs are also rampant in India (Sagara and Das, 2020).

The rising adoption of automation and AI is likely to contribute to a 35 per cent decline in the share of low-skilled workers in India's ICT and BPO sectors (Indian Express, 2024). As of Jan 2024, the top four Indian IT companies – Tata Consultancy Services, Infosys, HCLTech and Wipro – had already cumulatively dropped 37,299 jobs over the past two quarters (Economic Times, 2024). It is critical to note that it is the women workforce which is most at risk of automation-induced job displacement. Women workers tend to be concentrated in relatively lower-value BPO roles offshored to India (such as call-centre operators) due to their 'feminine social skills', and are over-represented in routine, insecure and low-paid occupations (Tejani and Fukuda-Parr, 2021). With the emergence of generative AI, machine learning and the advent of large language models, such as ChatGPT, even higher-skilled workers and professionals have now become prone to automation (Berg and Gmyrek, 2023).

The extent to which the automation-displaced BPO workforce is absorbed elsewhere depends on the labour market frictions in the economy. For example, the absorption of displaced workers and their adjustment to new roles will be tougher for those like India, with its acute labour-market tensions and high labour-mobility costs (Hollweg et al., 2014). These issues, ones often overlooked in the 'hollowing out' literature, are critical to shaping the effects of automation on jobs and wages in the service industry. The future is therefore bleak for those workers who are not reabsorbed, often tending to be women.

The rise in 'telemigration' can, to some extent, offset the negative effects of automation in the BPO sector. The digitalisation of services globally has enabled an unbundling or spatial separation of offices in ways allowing everyday tasks to be completed remotely (Baldwin, 2019). Advancements in collaborative software suites, videoconferencing applications and secure, cloud-based document sharing, could incentivise lead firms in developed economies to outsource even high-skilled BPO work to 'telemigrants' in developing economies, rather than hiring domestic workers (ibid). Such trends could revolutionise the language and translation sector, creating new opportunities for BPO workers in Pakistan, Bangladesh, Kenya, India and Russia, whose citizens perform most of such gig work (see Figure 1).

Figure 1: Top ten suppliers of gig work in language and translation (%)




**Source:** Online Labour Index (2024), see: http://onlinelabourobservatory.org/.
**Note:** % refers to country shares in total supply of gig work in language and translation.

## 3. Tensions around decent work in digitalised services-related GVCs

Beyond job creation/destruction, further tensions coming with the adoption of digital technologies in services-related GVCs include those related to wages and fair compensation, the quality of work as well as algorithm-based discrimination and its repercussions.

Despite the promise of growth, many workers in digitalised services-related GVCs – particularly BPO ones – face lower remuneration compared to global standards or wage stagnation, as lead firms seek to keep costs competitive through outsourcing or automation. Even on digital platforms, global disparities in supply and demand vis-à-vis gig work contributes to unfair wages. Much of the demand originates from developed countries, while the supply comes from developing ones: per the Online Labor Index, Bangladesh, India and Pakistan between them account for over half of all online freelancers worldwide (Stephany et al., 2021). This leads to low-paying digital tasks, such as click work, often being outsourced to developing countries with poor employment conditions and offering only modest wages (Graham et al., 2017).

Women, in specific, are being excluded from fair work opportunities on gig platforms, as arising from their more limited access to computers and broadband as well as due to wider socio-economic norms (Banga and Faith, 2021). Bidding for gig work on digital platforms tends to be undertaken in the early hours of the morning in Asian countries

(D'Cruz and Noronha, 2016). Due to women's greater caregiver burden, this adversely affects their ability to compete for such opportunities. Women online gig workers in the developing economies of Africa, Asia and Latin America tend to perform fewer hours of paid employment than men, though the number of hours spent on unpaid tasks (e.g. searching for opportunities online) remain similar for both (Rani and Furrer, 2020).

A second tension is around the flexibility provided by online platforms versus the precarity of such work. While digitalisation can help increase access to employment and offer flexibility (e.g. regarding telework in the BPO sector), it can also blur the boundaries between one's work and personal life. Those employed in services-related GVCs, especially in customer services, may have to accommodate irregular hours across different time zones to meet international demand. The introduction of gig and freelance platforms, such as Upwork, has ushered in a new era of microwork providing opportunities to recent entrants to this online marketplace. However, this too is occurring on the back of increased informalisation via outsourcing, subcontracting and temporary work (Barnes, 2015; Hammer and Karmakar, 2021). Further, the microtasks offered on crowdsourcing platforms provide an example of how work processes are being restructured to deskill and degrade their overall quality (Howcroft and Bergvall-Kåreborn, 2019).

Additionally, there is an important gendered dimension to this: while men can take up gig work full-time, resulting in higher pay and better skills to negotiate with offerings posted on their digital platforms of choice, women often pursue online forms of employment because of the flexibility involved. Online gig work enables them to juggle domestic and caregiving responsibilities with earning an income. However such flexibility comes with rising precarity, solidifying existing vulnerabilities for women. Online women gig-economy workers experience longer hours spent in positions of vulnerability, without access to social security, safety measures or collective bargaining power. Benefits such as maternity leave and health insurance remain inaccessible to women seeking employment via the South African platform SweepSouth (Tandem Research and The Cloudburst Group, 2020); Indian women active on platforms such as Amazon Mechanical Turk are forced to accept lower-paying tasks timed to suit the US's working day (Gurumurthy et al., 2021).

A third tension is around digital workplaces employing algorithm-based management approaches to matters ranging from advertising job vacancies to evaluating worker performance, and even promotions. These systems often lack transparency and create a power imbalance which reduces workers' capacity for collective bargaining. There is evidence of women facing AI-led discrimination on online platforms, causing their exclusion from fair work opportunities and lower pay based on their gender (and nationality). For example, Facebook's algorithm learns from existing societal biases and perpetuates them online (Imana et al., 2021). This is evident from the gender skew in the

advertising of vacancies on Facebook: its algorithm mimicked existing biases and delivered Reeds adverts (for jewellery) to relatively more women than a Leith ad (for an automotive dealership). Another example of such bias is women-led enterprises being disadvantaged in the data-based scoring processes of Amazon's Buy Box algorithm (IT for Change, 2019). The algorithm ranks each vendor based on performance metrics- such as competitive pricing, free shipping, customer communication, and product stock level- and displays the best offer in the buy box. Despite paying high commissions, women-led enterprises in developing countries are often marked down in this ranking as they tend to be small size businesses with low output levels, thin price margins and little capacity to bear inventory and customer service overheads (ibid).

Even in the workplace, digital technologies such as monitoring platforms, real-time tracking software and AI-based management systems now oversee employee activity in unprecedented detail. These tools can track everything from keystrokes, emails sent/received, Internet usage, screen time and even physical movement in some industries. In sectors like BPO, customer services and gig work, constant surveillance using real-time monitoring systems can reduce workers' sense of dignity and privacy. For example, today's call centres are using a wide range of digital mechanisms to control and monitor employee behaviour, drastically changing working conditions. These include electronic wallboards for shaming and building peer pressure, real-time feedback on performance ratings, dashboards for identifying which workers are 'outliers' and automatic analysis of calls to rate staff on their 'friendliness' and 'empathy' (Christl, 2023).

## 4. Policy frameworks for decent work in digitalised services-related GVCs

This chapter has identified the key areas of intervention required to ensure decent work in light of GVCs' ongoing digitalisation of services. More research is still needed on the effects of automation on the labour markets of the Global South and how labour rights are being adapted (or not) to the digital economy. It is clear that taking a multifaceted approach is compulsory if the tensions around digitalisation-induced job losses, the deskilling of service work, algorithmic biases and the rising precarity of work are to be fully addressed. Below, I highlight some key aspects to this vital outlook.

Lead firms, especially those operating globally, should be held accountable for monitoring how AI and digitalisation are impacting the workforce throughout their value chains. This includes collecting and assessing data using metrics on worker pay, platform fees and time spent on unpaid tasks like searching for work. Moreover, lead firms should evaluate whether AI is contributing to fair labour practices and equal pay within their supply chains. By taking responsibility, these firms can mitigate the negative effects of AI on employment conditions. The Directive on Corporate Sustainability Due Diligence (EU Directive 2024/1760), which came into effect on 25 July 2024, reinforces these efforts

by aiming to foster sustainable and responsible corporate behaviour. This directive mandates that companies operate responsibly throughout their GVCs, ensuring ethical practices, transparency and sustainability in their operations. It is a critical step towards holding companies accountable for how AI and digitalisation are influencing both their own labour practices and the broader socio-economic environment.

There is growing concern that AI-based algorithms and automated systems can perpetuate bias, leading to the exclusion especially of women from job opportunities or their unfair treatment on online platforms. Governments must develop, accordingly, coherent policy frameworks regulating AI usage to ensure fairness and equal access to digital work for those impacted. A number of policies on cross-border digital and data flows are currently being negotiated as part of digital trade agreements (DTAs),[2] implying that such legislation can be an important tool for responsible digital development. A key aspect of regulating digitalisation is retaining space in DTAs to demand access to AI source codes, when necessary. Herewith governments can ensure that AI systems are transparent and accountable, helping to protect vulnerable populations from discrimination.

New DTAs should also ensure online platforms disclose their terms of service, data-management practices and the criteria used in their algorithms – as determining access to work, forms of compensation and reputation. It is also important to harmonise and establish global standards for digital labour and decent work, including on aspects of job security, workplace surveillance, hours of employment and similar. These formalised standards should be embedded in DTAs to ensure that GVCs uphold fair labour practices across the board. Moreover, cooperation provisions must be added to DTAs as regards training and capacity-building for women workers.

As the gig economy grows, especially through digital platforms, there is an increasing need to guarantee that workers receive fair wages, healthcare and social protection. One of the key concerns in the gig economy is that many platform workers do not enjoy a guaranteed minimum wage or employment benefits. This is partly due to their classification as 'independent contractors' rather than 'employees'. Some countries have begun to address this issue through legislation. For example, the Fair Work Foundation in the UK has developed a ranking system[3] for online platforms based on how well they comply with related standards. It has pushed for these sites to offer minimum-wage guarantees, even for self-employed workers. Governments should also support collective bargaining to ensure digital workers are able to participate in unions and engage in joint negotiations on decent work and

[2] Digital trade covers that in goods and services enabled by the Internet, as well as by other ICT formats.

[3] https://fair.work/en/ratings/uk/.

fair pay. Deliveroo workers in Italy, for instance, recently secured a minimum hourly rate hereby (Fairwork, 2024).

Lastly, there is a need for national and global labour-market policies on education and worker reskilling programmes. Currently, less than 50 per cent of the firms surveyed across several developing countries offer any sort of formal training to their workers (Banga and te Velde, 2019). Targeted skills development should focus on enhancing the capabilities of the existing workforce through on-the-job training and specific training programmes. In the long run, education systems must prioritise science, technology, engineering and mathematics as well as technical and vocational education and training. In addition, informal TVET programmes should be available to out-of-school youth, providing them with the opportunity to engage in meaningful work in the digital economy.

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# Labour-Market dynamics and worker power in apparel global value chains

# Labour-Market dynamics and worker power in apparel global value chains

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## 1. Introduction

The apparel industry is notorious for its poor wages and rampant labour-rights violations, with Covid-19 having aggravated these problems (Anner, 2022). However, the pandemic disruption was more than an aberration, continuing a long deterioration of workers' rights in global manufacturing hubs.[1] Tellingly, 16 of the 20 largest apparel-exporting countries in the Labor Rights Indicators saw their scores worsen between 2012 and 2019, while the number receiving the worst rating in the International Trade Union Confederation's Global Rights Index rose from 9 in 2016 to 14 in 2024.[2] What accounts, then, for the general lack of decent work in apparel global value chains (GVCs)?

This chapter shows that process of structural transformation are central to increasing worker power, and that worker power is central to achieving better wages and working conditions.[3] 'Structural transformation' refers to a set of processes which include the absorption of un- and underemployed labour into the formal economy through improved access to alternative livelihoods in the formal sector. This occurs as agricultural productivity increases and the industrial sector grows and diversifies, happening in tandem with declining fertility rates which serve to change the size and composition of the labour force. The pace, scale and depth of such structural transformation can boost workers' economic and political bargaining power. Economic bargaining power refers to the ability to disrupt the production process with the aim of extracting concessions

1 Verisk Maplecroft, Worldwide decline in labour rights strikes at heart of global supply chains: Human Rights Outlook 2021, available at https://www.maplecroft.com/insights/analysis/worldwide-decline-in-labour-rights-strikes-at-heart-of-global-supply-chains/.

2 Center for Global Workers' Rights, Labour Rights Indicators. Retrieved from http://labour-rights-indicators.la.psu.edu/ (date accessed: 20 August 2024); International Trade Union Confederation, Global Rights Index 2024. Geneva: ITUC.

3 This chapter is a summary of a forthcoming article by Kristoffer Marslev and Lindsay Whitfield.

from their employers regarding wages and working conditions, while political bargaining power refers to the ability to influence their government's policies regarding wages and working conditions. Notably, GVC participation can be a driver of the growing industrial sector and thus the formation of an industrial working class with sufficient size, strength and political significance to make a difference.

However, these 'decent work' gains can be eroded to a certain degree by the responses hereto of apparel-export firms as well as governments. This is because apparel manufacturing is characterised by its limited scope for economic upgrading, while the investment returns potentially enabling an increase in factory efficiency are usually captured by the brands and retailers involved (through falling unit prices) instead. Thus, firms respond to rising wages with labour regimes which intensify work, leading to declining working conditions and violations of rights; governments, meanwhile, use labour repression to undermine workers' collective action.

These points are illustrated through a comparison of the apparel industries in Madagascar, Cambodia and Vietnam, which all started exporting in the 1990s. In Cambodia and Vietnam, structural transformation (of varying kinds) has led to the erosion of wage premiums in apparel-export factories because the prices paid by buyers have been on a downwards trend or stagnant ever since, while wages in other sectors continue to increase. The erosion of the apparel-export wage premium and labour shortages have, though, given workers greater bargaining power. In Madagascar, tightening labour markets have not occurred, so apparel-export factories have continued to attract workers by offering superior conditions even despite unliveable wages and excessive overtime. With worsening conditions in subsistence farming and a complete lack of alternatives, apparel workers there have remained acutely dependent on their employers and possess low bargaining power.

## 2. Madagascar, Cambodia and Vietnam: Different structural transformation trajectories

Madagascar, Cambodia and Vietnam integrated into apparel GVCs around the same time in the 1990s and under similar socio-economic conditions. Export-oriented apparel manufacturing was started by foreign suppliers establishing assembly factories in these countries to benefit from lower labour costs as well as preferential market access to the United States in the case of Madagascar and to the European Union in that of Cambodia and Vietnam (Whitfield and Staritz, 2021; Marslev, Staritz and Raj-Reichert, 2022). At that time, all three countries had largely agrarian economies characterised by their low productivity, with the vast majority of employment concentrated in (subsistence, own-account) agriculture (Marslev, 2019; Whitfield and Marslev, 2023). Despite these similar starting points, the three countries' trajectories would diverge over time: the apparel-export industries in Cambodia and Vietnam expanded in the context of, and contributed to, rapid structural transformation. In 2021, Vietnam's apparel industry was the third-largest in the world in terms of export value, while Cambodia's ranked seventh.

Table 1 below summarises these divergent trajectories in terms of the pace of structural transformation in Cambodia and Vietnam compared to in Madagascar.

Largely driven by the apparel- and footwear-export industries, Cambodia experienced a significant shift of labour from agriculture to industry, whose share in total employment grew from 9 per cent in 2000 to 25 per cent in 2021. In parallel, employment in agriculture declined while agricultural productivity increased. A similar process played out in Vietnam, where the share of industry in total employment grew from 12 per cent in 2000 to 33 per cent in 2021, although industrialisation was more diversified.

**Table 1: Apparel-export volumes and the pace of structural transformation in Madagascar, Cambodia and Vietnam**

| | Apparel-export industry | | Structural transformation in national economy | | | | |
|---|---|---|---|---|---|---|---|
| | **Export revenue, 2021** | **No. workers, % of total employment, % of manufacturing employment** | **GDP/ capita (2011 PPP), 1990** | **GDP/ capita (2011 PPP), 2020** | **Agricultural growth & productivity** | **Industrial development & diversification** | **Demographic change** |
| Madagascar | USD 670 million | 120,000 (2021)<br>0.1% of employment<br>19% of manufacturing employment | USD 1,262 | USD 1,301 (ninth-lowest in the world) | Low | Low | Little |
| Cambodia | USD 8 billion | 770,000 (2019)<br>9.8% of employment<br>59% of manufacturing employment | USD 1,404 | USD 3,728 | High | Medium | Slight contraction in youth labour force |
| Vietnam | USD 31 billion | 2.8 million (2021)<br>5.3% of employment<br>25% of manufacturing employment | USD 1,632 | USD 7,395 | High | High | Major contraction in youth labour force |

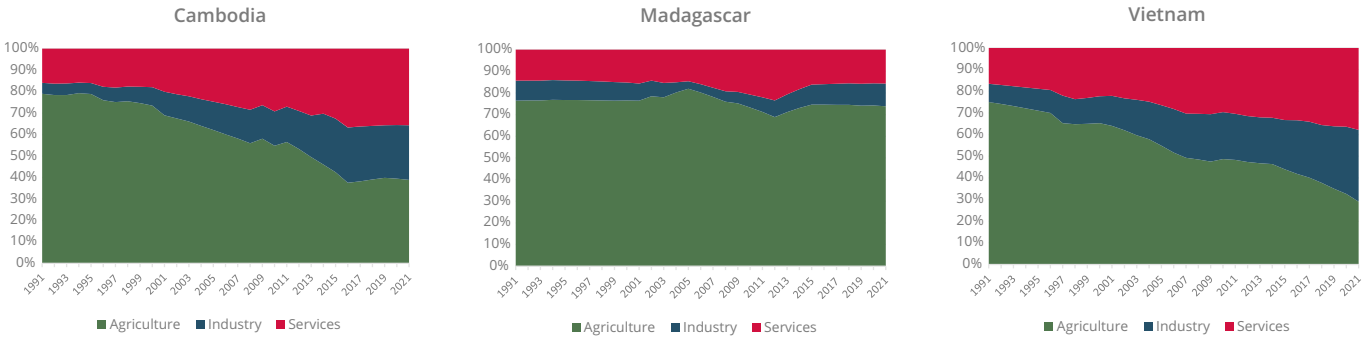
**Source:** Authors' own compilation, using trade data from stats.wto.org; employment data from ILOSTAT, Labor Force Survey Cambodia 2019 and Statistical Yearbook Vietnam 2022; and GDP data from Maddison data project.

In contrast, Madagascar's apparel-export industry contracted over time due to political instability, rather than expanding. By 2021, it only employed around 120,000 workers and exported USD 670 million worth of goods. In general, Madagascar has experienced little in the way of structural transformation: industrial employment only increased modestly from 8 to 10 per cent between 2000 and 2021, including in the mining sector.

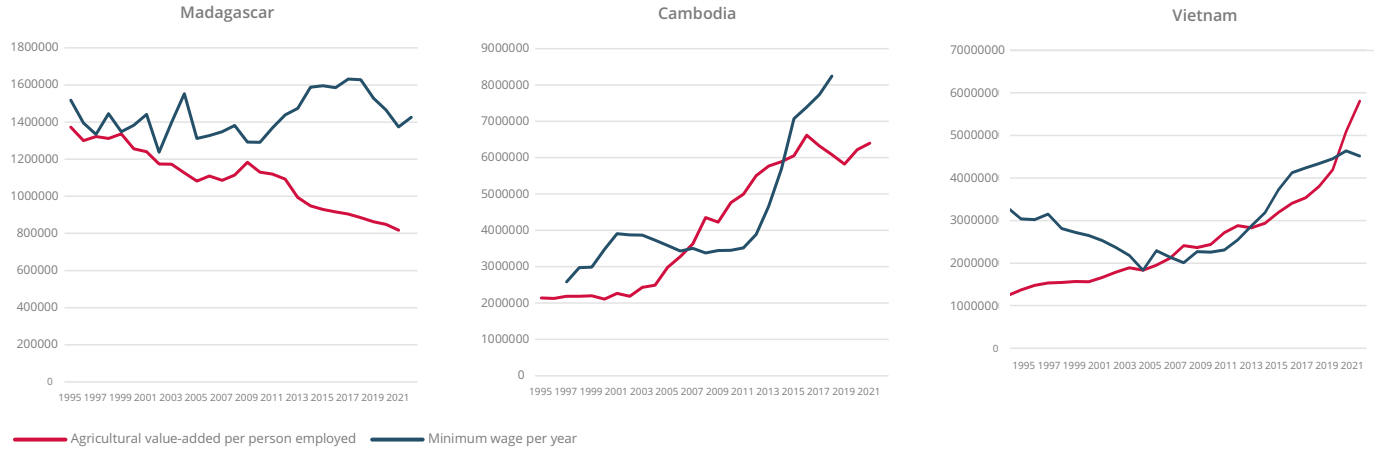
In the initial phases of apparel manufacturing for export, wages in this industry across all three countries were superior to those prevailing in rural and urban labour markets – constituting an apparel-export wage premium – but working hours were longer (Glick and Roubaud, 2006). However, their diverging trajectories regarding structural transformation created different labour-market dynamics. Cambodia and Vietnam experienced industrial expansion combined with rising agricultural productivity, rapid urbanisation and falling fertility rates alongside labour-force growth, which reduced the pool of un- and underemployed individuals (see first and third rows in Figure 1 below). By comparison, in Madagascar over the last three decades the share of agriculture in total employment has remained virtually unchanged; agricultural conditions have deteriorated due to an increasing number of natural disasters such as droughts and cyclones; and, with high population growth and insufficient job creation, informality and underemployment have deepened.

## Figure 1: Structural change in Madagascar, Cambodia and Vietnam

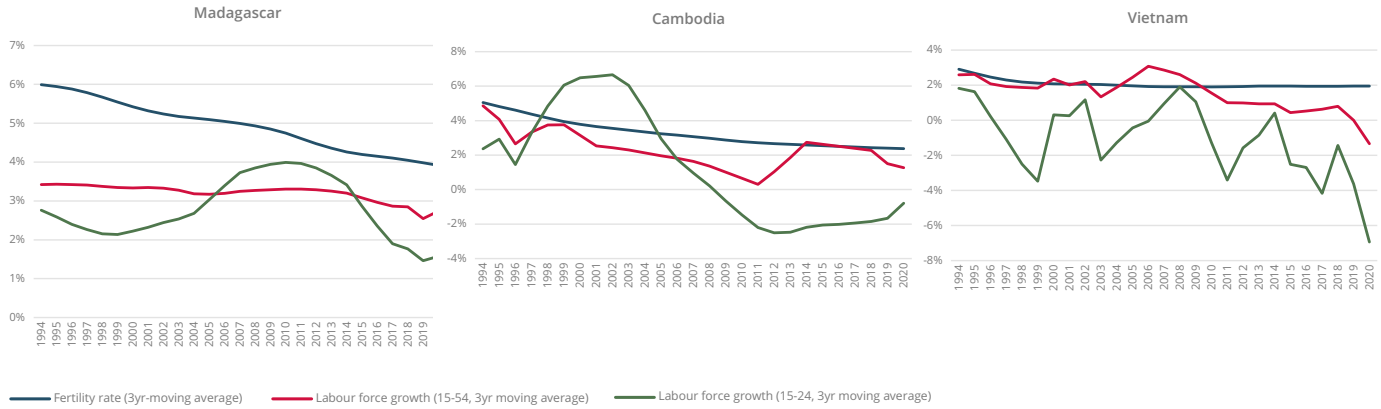
### Sectoral composition of the economy




### Labour productivity in agriculture compared to minimum-wage levels in apparel export (constant LCU, millions)




### Fertility rate and labour-force growth




**Source:** Marslev and Whitfield (forthcoming).

The best illustration of such divergence vis-à-vis structural transformation is that it took the agricultural sector in Cambodia and Vietnam around a decade to catch up with minimum-wage levels in the apparel-export industry, while the gap has substantially widened in Madagascar between minimum-wage levels in apparel export and value-added in the agricultural sector – going from 15–25 per cent between 2005 and 2010 to 70–80 per cent since 2015 (Figure 1, second row).[4] These trajectories had different implications for the ability of apparel-export factories to recruit and retain workers. In Cambodia and Vietnam, broad-based income gains in domestic labour markets combined with apparel-export firms' efforts to keep wages low in the context of the supplier squeeze (described in the next section) made jobs in this sector increasingly unappealing. In Cambodia, the minimum wage for apparel export was 50–70 per cent higher than the average value-added per person employed in agriculture in the early years of the new century; by the early 2010s, however, it was 30 per cent lower, and apparel had the second-lowest average female salary of all branches of the economy, 11 per cent below the national average.[5] This erosion of a wage premium in apparel export led to labour shortages here, as 56 per cent of employers in the sector had vacancies (Bruni et al., 2013).

In Vietnam, monthly wages in apparel (including overtime, bonuses and similar) went from being 13 per cent lower than the average for the enterprise sector in 2000 to being 32 per cent lower in 2007.[6] At the same time, the value-added per person employed in agriculture narrowed the gap to average apparel wages from 136 per cent in 2000 to 69 per cent in 2008, catching up with the minimum wage for apparel-export factories in urban areas by midway through the first decade of the new century. Furthermore, apparel wages deteriorated vis-à-vis

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4 In Figure 1, the minimum wage in Madagascar is economy-wide and thus a national minimum wage. For Cambodia, it is the minimum wage specifically set for apparel and footwear. In Vietnam there is a four-zone system for wages, and what is shown in Figure 2 is the minimum wage for zone 1, which applies to large urban areas where apparel-export factories were located initially; zones 2 through 4 have lower minimum wages but follow the same trend where labour productivity in agriculture catches up.

5 Calculated based on value added in agriculture from World Bank WDI, databank.worldbank.org, and employment in agriculture from ILOStat, ilostat.ilo.org. Labor Force Survey 2012 (only mining and quarrying, which was marginal in size, had a lower average wage).

6 Statistics were calculated based on data obtained from the Statistical Yearbooks of Vietnam, by dividing total compensation by employment in different sectors. This data only covers the enterprise sector, so it may not be representative of the larger rural areas where people are own-account workers or self-employed. It is difficult to obtain comparable data on incomes/wages per employee in the two sectors. The Statistical Yearbooks have data on gross domestic product (value-added) in agriculture and the population engaged in agriculture, from which the value-added per person engaged in agriculture can be calculated.

alternative income sources, especially new industries such as electronics assembly paying higher wages. As a result, by 2006 one-quarter of all foreign-owned enterprises lacked manpower, especially in the main industrial hubs located in the southern part of Vietnam.[7]

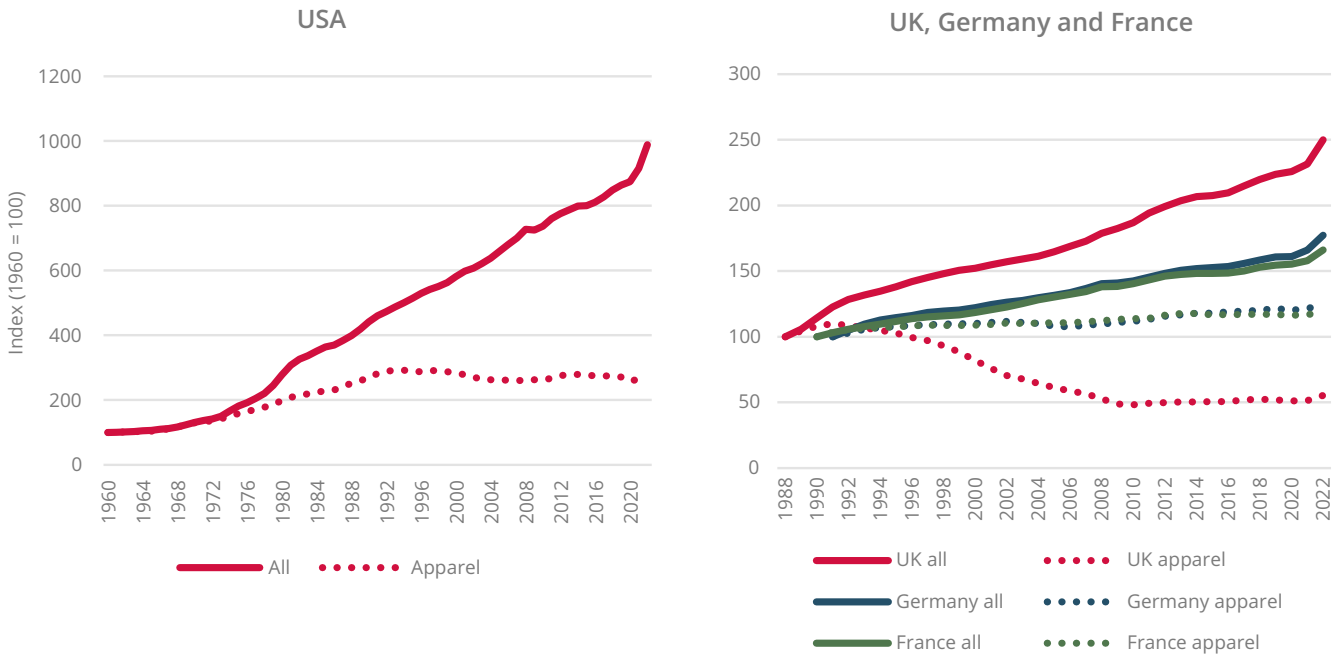
Madagascar's apparel-export sector continued to compare favourably to most alternatives in rural and urban labour markets. Wages in that sector were well below living-wage benchmarks, making work poverty pronounced. However, conditions in most alternative jobs were even worse. ONEF survey data from 2021 shows that four-fifths of workers in apparel-export firms were paid above the minimum wage, while only half of those in domestic apparel and one-quarter of those in cotton farming were. As a result, the share of respondents declaring their belonging to households living below the poverty line was significantly lower among those employed in apparel export (31 per cent) than in domestic apparel (51 per cent) and cotton farming (70 per cent). Apparel-export workers also had significantly better access to material benefits such as medical care, free meals, transport allowances and bonuses (see Marslev and Whitfield, 2023).

## 3. The supplier squeeze and economic-upgrading constraints in apparel GVCs

Apparel GVCs are dominated by brands and retailers which outsource production to supplier networks, with vast power asymmetries between buyers and sellers and an unequal distribution of costs, risks and rewards. Beginning in the 1980s, intensified competition among Western retailers led to relatively few buyers pushing down prices among many suppliers to maintain their markups without increasing retail prices (Milberg and Winkler, 2013; Taplin, 2014). With the global integration of China and India in the 1990s and the phase-out of the Multi-Fiber Arrangement after the turn of the millennium, the continued reduction of sourcing costs through lowering prices paid to suppliers, and offloading more functions and risks, became the backbone of apparel buyers' accumulation strategies, resulting in a squeeze on suppliers' profitability. These observations are confirmed by consumer-price indices and trade data, which show that price tags have remained virtually unchanged for three decades now in defiance of otherwise inflationary trends (see Figure 2 below). Falling apparel prices at the consumer end were enabled by, and drove, declining export prices in producer countries, as suppliers had to absorb buyers' deflationary pricing policies.

[7] Viet Nam News, 21 April 2006, 'Foreign firms in need of more blue-collar workers'.

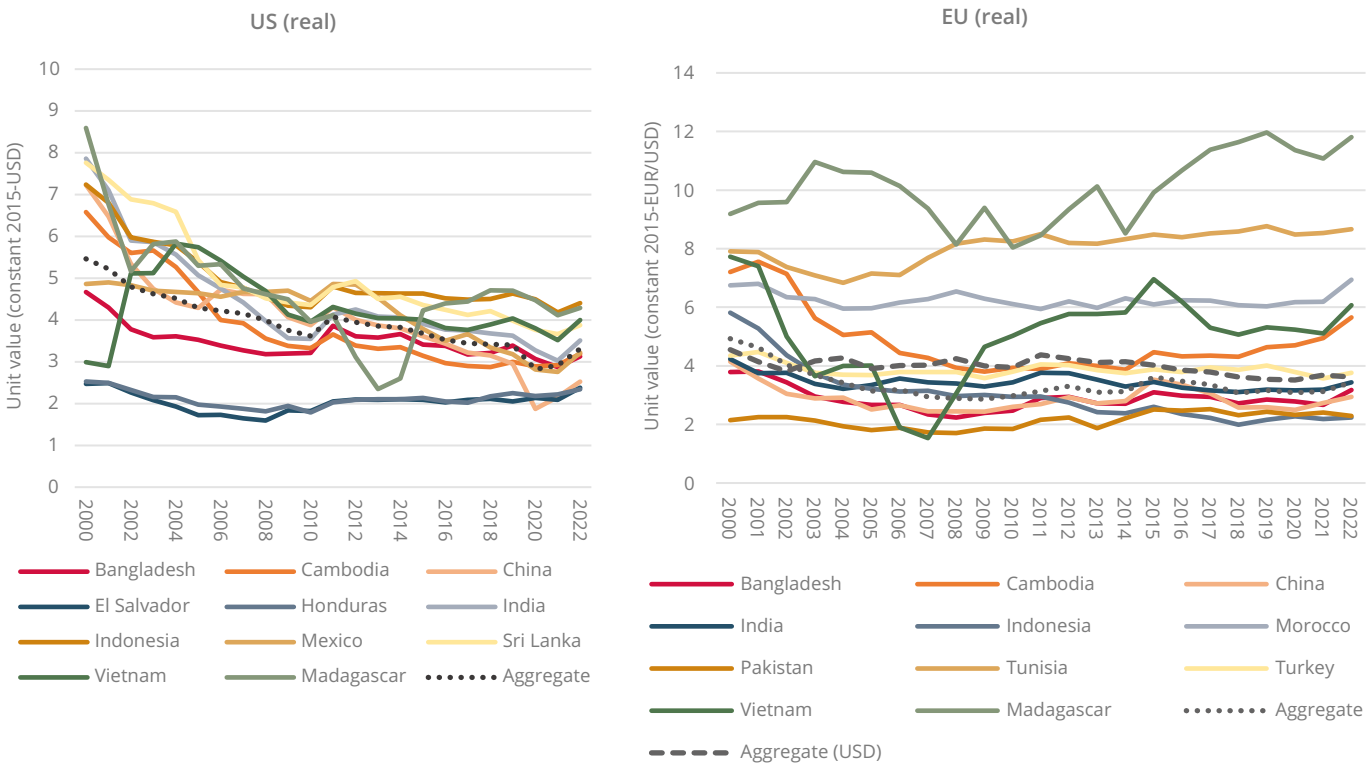
## Figure 2: Consumer prices for all items versus for apparel




**Source:** Authors' own compilation, based on data from the Bureau of Labor Statistics (US) and OECDStat (Europe).

Figure 3 below shows the average unit value of apparel imported by the US and the EU from the ten-largest supplier countries to each, with Madagascar added for comparative purposes. In real terms, all ten supplier countries to the US had lower unit values in 2022 than in the early years of the new century, with an average annual decline of 2.3 per cent witnessed between 2000 and 2021. For the EU, real unit values fell for all but Tunisia, Morocco and Pakistan – doing so by an average of 1.1 per cent per year over the same period. Madagascar has among the highest import unit values to both the US and EU markets, but notably a small number of locally owned firms export smaller volumes of complex products here. Political instability in 2002 led most of the large Asian and Mauritian firms to exit Madagascar, and the remainder left after the 2009 political coup and the country's subsequent loss of preferential market access to the US (which was not reinstated until 2016); by 2020, there were just under 40 firms exporting and none were subsidiaries of the large transnational first-tier suppliers which dominate the apparel-export industries in Cambodia and Vietnam (see Whitfield and Staritz, 2021). Thus, while apparel-export firms in Madagascar can access high prices per product, they export only very small volumes (see revenue figures in Table 1 above).

## Figure 3: Unit values of apparel imports to key end markets




**Source:** Authors' own compilation, based on USITC Dataweb (USA) and Eurostat ComExt (EU).
**Notes:** The US data only includes products with quantities denominated in the dozens, while that for the EU only includes quantitites denominated in pieces. GDP deflators (US and Eurozone) are from World Bank's World Development Indicators. For the EU, it should be noted that the picture may be distorted by the fact that trade statistics are recorded in euros, whereas most transactions between buyers and suppliers of apparel are in US dollars. Converted into the latter, the unit value of EU apparel imports has declined over the past decade.

Based on these observations as well as interviews with apparel buyers and supplier firms, we argue that the market power of global buyers here has led to product-specific 'ceiling prices'. In the global apparel industry, this ceiling price is linked to the 'standard allowed minute' (SAM) – meaning the time permitted by buyers for producing a given item. The SAM is dynamic, set by the most efficient supplier, and it serves as the norm against which other (potential) suppliers are benchmarked. All apparel factories know what the SAM is for the products they make, as it is given by buyers. A supplier's ability to meet the required price, at a given SAM, hinges on its labour costs per minute, line efficiency and profit margins. Each ceiling price, therefore, has an equivalent 'ceiling unit labour cost': a combined measure of wages (and other labour costs) and efficiency, above which specific items cannot be profitably produced by suppliers. The severity of this price pressure varies by product, market segment, buyer and end markets, but it represents an underlying gravitational force.

Ceiling prices and their respective ceiling unit labour costs constitute a 'moving line' which has shifted downwards as existing producers increased efficiency (driving down SAMs) and new supplier countries with lower wages emerged. This trend is also rooted in the 'open costing' requirements giving buyers full transparency over the efficiency and cost structure of their suppliers, allowing them to stoke competition in, and capture efficiency gains from, their supply base. Theoretically, ceiling prices could shift upwards if wages increased in the most important supplier countries and suppliers were unable to offset this through higher efficiency, in which case buyers would have to absorb higher labour costs into their pricing.

These features of apparel GVCs, especially their power asymmetries and distributional dynamics, influence labour regimes in several ways. The disjuncture between the ceiling prices imposed by oligopsonistic buyers and the tendentially inflationary context in which supplier firms operate acts as a structural profit squeeze on apparel manufacturers, caught between stagnant export prices and rising costs of production (especially regarding labour). This structural profit squeeze (mediated by exchange rates, since output and wages are paid in different currencies) not only compels producers to continuously seek various techno-organisational, product, spatial or other 'fixes' to stay afloat. It also makes profitability fragile and creates incentives to suppress wage increases, skimp on social-security payments or otherwise reduce labour costs (Anner, 2019, 2020). Moreover, there is high capital mobility in apparel GVCs: transnational supplier firms can relatively easily relocate production within and across countries, and buyers can swiftly shift sourcing locations. This undermines workers' bargaining power, as it makes it difficult for them to be in a 'strategic location' from where they can affect global production.

## 4. Cambodia and Vietnam: Tightening labour markets and workers' power

Tightening labour markets in Cambodia and Vietnam undergirded successful waves of related protest, with substantial material gains secured herewith. In Madagascar, where labour markets did not tighten, collective action by apparel-export workers was much more muted and they lacked the bargaining power and political influence to wrest meaningful concessions from factories and the government (see Marslev and Whitfield, 2023). Thus, this section explains apparel workers' increased bargaining power in Cambodia and Vietnam, the responses of their governments to higher wages being paid and the choices made by apparel-export firms in light of these greater labour costs.

### Cambodia

Cambodian apparel-export workers were among the most heavily unionised and strike-prone in Asia, but they failed to achieve material gains through several rounds of labour protests during the first decade of the new century. As a result, the purchasing power of their minimum wage dropped by 25 per cent between 2001 and 2011. This trend was broken by a wave of protests between 2012 and 2014. To pacify workers and global brands, the government

adopted several minimum-wage hikes, a new wage-fixing mechanism and other benefits such as employer-paid health insurance and higher maternity pay (Arnold, 2017). Apparel-export workers saw their real wages double in five years, edging towards living-wage levels.

This outcome resulted from the confluence of a tightening labour market and changing domestic politics. Labour shortages emerged gradually, but then intensified with a large influx of new investments as the apparel industry recovered from the financial crisis of 2008/2009, amplifying the effects of the strike wave from 2012 to 2014 in a way it had not done previously. Additionally, as the political opposition made higher minimum-wage levels central to its campaign promises regarding the 2013 election, widespread support from apparel workers and their families contributed to the near-defeat of Hun Sen and his Cambodia People's Party (CPP). The CPP had ignored the emerging industrial working class and their interests, drawing its political support from rural areas. But due to its drastic expansion, the apparel workforce had become a crucial voting bloc: it went from making up 1.4 per cent of eligible voters in 1998 to almost 10 per cent thereof in 2013, with one-fifth of all households having at least one member working in an apparel factory.[8] After the interests of the industrial working class and political opposition converged in the run up to the 2013 election, the ruling CPP took action to address workers' demands. This included several minimum-wage hikes, alongside efforts to woo apparel workers ahead of the 2018 election with promises of cheaper electricity bills, higher maternity benefits and employer-paid health insurance (Marslev, 2019).

The compressed doubling of wages instigated a crisis in apparel-export factories, where the gross profit margin was cut in half in five years, falling from 19.5 per cent in 2011, to 12.2 per cent in 2014 and then to 8.3 per cent in 2016.[9] Brands and retailers did not accommodate these wage hikes through setting higher unit prices, or only increased prices modestly, expecting their suppliers to absorb rising labour costs. Apparel-export firms, all of which were foreign-owned, largely responded by increasing production targets (making employees work faster) and allowing fewer breaks and less down time. Some factories introduced labour-saving technologies or moved into more complex products with higher unit prices, but the productivity gains immediately achievable were modest given the level of investment required and the fact that complex products tend to have smaller orders and lower

[8] Based on apparel employment estimates from the Labour Force Survey 2012 and figures on the number of eligible voters from COMFREL (2017).

[9] Gross operating surplus calculated as value-added in wearing apparel, textile and footwear (from National Accounts) minus wages (from Ministry of Commerce, obtained from the International Labour Organization) and divided by output (approximated by export value of garment and footwear products [HS 61, 62 and 64] from UN Comtrade), a feasible proxy as virtually the entire output is exported.

efficiency rates, thus cancelling out the higher unit prices.

In addition, the government launched a crackdown on organised labour, threatening lawsuits, intensifying union-busting and overseeing a raft of repressive legislation to undermine workers' collective action, while also pacifying apparel workers through populist concessions. Consequently, minimum-wage hikes in the apparel-export industry declined, but domestic inflation continued to increase. By 2022, as a result, real wages (purchasing power) had returned to 2018 levels, although still being higher than prior to the aforementioned strike wave. Another element of the government's strategy was to partially offset wage increases through concessions to factories, such as reducing export-management fees and delaying taxes – thus reducing benefits to the Cambodian state accruing from the industry.

**Vietnam**

A similar process unfolded in Vietnam, where apparel-export workers had engaged in strike action for some time without success. This changed with the emergence of labour shortages in the industrial hubs of southern Vietnam. Apparel-export workers' wildcat strikes during the 1990s and early years of the new century mostly failed to secure material improvements. The minimum wage for those employed by foreign-owned firms declined by 20 per cent between 1996 and 2005. In contrast, the strike wave from 2006 to 2012 – led by apparel workers, and reaching almost 1,000 strikes in 2011 alone – resulted in the government raising minimum-wage levels annually, with apparel-export workers' real wages doubling by 2015 and moving closer to living-wage benchmarks. The ruling party feared that labour protests would spiral out of control and evolve into a movement making wider political demands. The ideological importance of apparel-export workers to the ruling party and their strategic position within the manufacturing workforce, accounting for 9.1 per cent of the employed population in 2010, amplified their bargaining power.

Labour costs more than tripled in nominal terms between 2005 and 2012, but wage increases were more gradual than in Cambodia, which gave firms more time to make investments and develop new business strategies. In key industrial hubs, where labour shortages became systemic and apparel had to compete for workers with new growth sectors, apparel factories invested in labour-saving machines and moved to products with higher unit prices, typically by adding the high-end brands of existing buyers. This strategy was made possible by rising wages in China, which were pushing those more complex products out and creating a space for producers in Vietnam to enter. Another strategy of apparel manufacturers was to relocate factories to semi-urban or rural areas, where wages were lower per Vietnam's four-tiered minimum-wage structure. Factories also turned to new and less price-sensitive export markets in Japan, South Korea and China, and away from the US market.

Vietnam was also more engaged in textile production than Cambodia, because of related investment by foreign firms in the 2010s in response to anticipated new trade agreements. Textile production provided more backward linkages for apparel facto-

ries, as they could source fabric locally and thus reduce the costs and time of importing, allowing them to supply different buyers, products and markets than factories in Cambodia could. Lastly, Vietnam also had more domestic-owned apparel factories than Cambodia, and many of these firms began supplying the home market. Apparel factories which remained active in low-value areas and did not pursue these business strategies resorted to the work-intensification strategy seen in Cambodia instead. The government ratified two out of three outstanding ILO core conventions and a new labour code, but they have not yet been implemented. Real-wage increases in the apparel-export industry slowed down, and during the Covid-19 pandemic even declined, so it remains to be seen whether the material gains for workers will be sustained.

## 5. Conclusion

The responses of (largely) foreign-owned apparel-export firms in Cambodia and Vietnam to wage increases, as well as the subsequent choices of those countries' respective governments in light of the apparent profitability squeeze on the sector's factories, show that there are limits to the gains which workers can achieve here. The current configuration of apparel GVCs places limits on workers' power. In this context, labour shortages and rising wages in their national economies at large have left their apparel-export firms in a position of declining profitability, as production costs increased but revenues largely stayed the same because of the stagnant prices ensuing from buyers' current decision-making. Thus, wage increases would be followed by measures to increase labour efficiency, often through work intensification, and to reduce non-wage benefits, while also seeking to move factories to locations with lower labour costs within existing supplier countries. Furthermore, the nature of apparel production places limits on the scope for technological upgrading in that sector, and thus there are limits to the productivity gains which can precede wage increases. Technological change is greater in the textile sector, but this requires higher capital investments.

Ultimately, apparel assembly is a labour-intensive production process, and wages are determined at the scale of GVCs: the efficiency and cost of labour in one country sets the benchmark for all others. Thus, any form of collective action taken by apparel workers will only succeed if it happens across the entire GVC, forcing brands and retailers to pay higher prices to those working in their factories – something we have yet to see. After a certain level of structural transformation is achieved, therefore, countries home to apparel assembly must pursue policies helping develop other industries which have greater potential for technological change and thus can generate higher wages. The asymmetrical bargaining power between buyers and suppliers, combined with limited opportunities for technological innovation in the domain of apparel assembly, undermines these workers' capacity to change their situation. Under this current configuration of apparel GVCs, it is unlikely that due diligence laws passed by European countries or the EU will have much effect. No doubt, the brands and retailers headquartered in these countries will lobby to reduce the strength of such laws as well.

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# Artisanal and small-scale mining in South Africa: Formalisation as a path to enforcing standards and decent work

# Artisanal and small-scale mining in South Africa: Formalisation as a path to enforcing standards and decent work

## 1. Introduction

In South Africa's extractive sector, trade unions have played a crucial role in advocating for improved working conditions alongside better health and safety standards (Mangai et al., 2024). The well-established influence of South African trade unions in industrial large-scale mining (LSM) and the implementation of standards, however, do not extend to the country's informal artisanal and small-scale mining (ASM) sector, leaving the latter's workers without adequate representation. While ASM is the most significant non-agricultural rural livelihood in sub-Saharan Africa (Hilson, 2020), employing an estimated 10–25 million people in the region (International Labour Organization, 2019; United States Department of State, 2023), the sector operates largely informally beyond the reach of state regulation where compliance with formal labour protections and standards remains optional. Because entry barriers to the sector are low, many marginalised people – such as undocumented migrants or those who have lost their jobs in the formal mining industry – find their way into ASM (Laker, 2023; Landrigan and Fuller, 2015; Ledwaba and Mutemeri, 2018; Stemn et al., 2021).

ASM involves a range of minerals and metals, including diamonds, gold, tin, iron and increasingly also raw materials such as cobalt and lithium. Gold is especially suited to ASM because its high value makes even small-scale extraction profitable (Carry and Müller, 2024, p. 79). With a gross value of around $20.5 billion (Artisanal Gold Council, 2024), artisanal and small-scale gold mining (ASGM) accounts for 20 to 25 per cent of global production of the precious metal (Zandt, 2022). It is estimated that between 10 to 20 million individuals are currently employed in ASGM across more than 80 countries (Ondayo et al., 2024). On the upstream side of the global supply chain (GSC), global demand for gold – for the manufacturing of jewellery, in the financial sector and in lower quantities for the production of technological devices – remains high (Stähr and Schütte, 2016, 5).

Although South Africa is relatively stable from a governance perspective, the Mineral and Petroleum Resources Development Act (MPRDA) of 2002, the country's central mining law, stipulates that a permit or licence is required for legal mining activities. Any mining carried out without such a permit is considered illegal (Bester, 2019). As a result, ASGM often cannot plug into a regulated viable supply chain and (inter)national standards do not apply to the sector, exposing those involved to a range of human rights and environmental safety risks at the mining site and around.

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This chapter explores the challenges to realising decent work in South Africa's ASGM sector, highlighting the significant disconnect between public due-diligence standards and the lived realities of these workers. We begin with a broad overview of the sector, followed by an in-depth examination of the risks and challenges it generates in section 3. In sections 4 and 5, we then analyse both national and international efforts aimed at improving human rights and environmental standards in ASGM. We argue that meaningful progress can only be achieved through the implementation of effective measures within a formalised framework.

## 2. Artisanal gold mining in South Africa

South Africa is an important global hub for gold mining and one of the biggest suppliers of ASM gold on the African continent (Soguel and Turuban, 2024). Most artisanal gold mines are clustered in and around the goldfields lying within the Witwatersrand Mining Basin, south of Gauteng province (Manduna, 2024). Colloquially known as 'Zama Zama mining', ASGM supports the livelihoods of an estimated 10,000 to 30,000 individuals in the country, with around 250,000 people relying on its revenues more broadly (Bester, 2019). The Zulu term 'Zama Zama' means 'we are trying' (Ledwaba and Mutemeri, 2018), originally referring to how artisanal miners risk their lives just to earn a living. However, it has taken on negative connotations since, being now often associated with lawbreakers and violent actors. In reality, the individuals involved herein fall into two groups: subsistence miners and criminal miners. Subsistence mining relies on simple methods, providing income for those unable to find formal employment in the mining industry. Lacking permits, these miners turn to illegal mining to support themselves and their families, a trend partly fuelled by South Africa's shrinking industrial gold sector. Such circumstances have left many former miners who had been employed in LSGM jobless in a country where unemployment levels are already high. Criminal mining, on the other hand, is organised and financed by gangs or networks who manage the entire supply chain from extraction to export, often across national borders. These groups hire security to protect mining sites from rivals and law-enforcement personnel alike (Carry and Müller, 2024, p. 82f.).

While ASGM in other countries often takes place in riverbeds or at surface level, Zama Zama mining frequently occurs in deep, abandoned mines, which miners access illegally. Due to South Africa's long history of LSM, many easily accessible gold reserves have already been exhausted by now. The rehabilitation of closed mines remains one of the country's most pressing challenges. Inadequate mine closure not only leads to long-term environmental damage, such as acid mine drainage and soil erosion; abandoned sites also often become hubs for informal settlements and ASM (Bester and Uys, 2023). It is estimated that South Africa has about 6,100 abandoned, unsafe and ownerless mineshafts, whose rehabilitation costs exceed R49 billion (Manduna, 2024). On the other hand, there are now estimated to be over 1,030 registered ASM sites in the country. This reflects a more than tenfold rise in the number of Zama Zamas over the last 20 years (Manduna, 2024).

Although ASM was legalised in South Africa in 1994, the 2002 MPRDA 'fails to address the needs of artisanal miners' by creating significant technical and financial barriers to obtaining a small-scale mining permit (Carry and Müller, 2024, p. 82; see also, Bester, 2019). Consequently, many artisanal miners are not recognised as legitimate participants within this legislative framework and thus labelled 'illegal operators'. They can face charges ranging from 'trespassing, illegal trading in diamonds and precious metals, corruption, drug dealing, possession of explosives [to] assault, theft, and environmental damage' (Carry and Müller, 2024, p. 82). In November of 2024, several thousand miners remained in an illegal mine shaft for weeks during a stand-off with the police. Out of fear of arrest, the miners refused to resurface even as police cut their food and water supplies. The South African government stood firm on its decision not to help the miners and instead to 'smoke them out'. This approach led to criticism from human rights organisations, scholars and industry representatives alike (Princewill, 2024). At the time of writing, the situation has not yet been resolved.

The South African ASGM sector also highlights the transnational complexities tied to illicit mining activities. Due to the major role that ASGM plays in the gold GSC, efforts to increase corporate social responsibility have sought to urge the industry to manage risks, especially in gold trading and refining hubs like Switzerland and the United Arab Emirates in recent years. Despite these efforts, vulnerabilities for ASGM workers persist, leaving room for precarity and exploitation (Stähr and Schütte, 2016; United States Department of State, 2023). That is because without formalisation, the impact of GSC regulations – as primarily relying on traceability and accountability mechanisms – remains limited. Although core labour standards (such as those by the International Labour Organization (ILO) provide guidelines on decent work, they remain largely voluntary in informal settings, leaving Zama Zamas vulnerable to vigilantism. This complicates efforts to improve labour conditions and prevent the exploitation of workers within the ASGM supply chain.

## 3. Risks and challenges of ASGM in South Africa

To access ore deposits, ASM workers typically use rudimentary tools such as picks, shovels and similar (Ondayo et al., 2024). They often work without basic protective equipment, reinforced supports in mining shafts or proper ventilation systems (Bester, 2019). Collapses in underground mines, rock falls and suffocation are common occurrences, often resulting in severe injury or death. Working in poorly ventilated areas without protective masks also puts miners at high risk of developing respiratory conditions like silicosis, which is caused by the inhalation of fine dust and can lead to pulmonary fibrosis, lung cancer and tuberculosis (Carneiro et al., 2022; Howlett et al., 2023; Hoy et al., 2022).

One of the most serious occupational hazards in ASGM is the widespread use of mercury to separate gold from ore during the extraction process. Mercury amalgamation releases a toxic vapour into the air, which is inhaled by these miners and spreads

into the surrounding environment (Bose-O'Reilly et al., 2017; Keane et al., 2023; Lassen et al., 2016). Mercury exposure can lead to severe health issues, including respiratory problems, cognitive impairment and neurological disorders (Ondayo et al., 2024). On top of that, ASGM operations often result in the discharge of mercury into rivers and other water bodies, where it can build up in the cells of fish and other wildlife as well as pollute the food and water supply of communities living in close proximity (Naicker et al., 2003). The environmental degradation caused by mercury contamination further compounds the economic hardship faced by communities situated in the vicinity of ASGM sites, as it undermines agricultural productivity, reduces biodiversity and jeopardises the long-term sustainability of local ecosystems (Lusilao-Makiese et al., 2013). High upfront costs of alternative methods alongside requirement of technical expertise act as significant barriers to their adoption, leaving miners reliant on mercury as the cheapest and most readily available option (Keane et al., 2023). Miners who develop such diseases often become too ill to work and – due to a lack of access to public healthcare systems or social safety nets – are forced to rely on family resources or informal support networks. This lack of healthcare infrastructure is compounded by the fact that many Zama Zamas are undocumented, making it difficult for them to seek treatment even when facilities are available (Bose-O'Reilly et al., 2008). Without a stable income (Achina-Obeng and Aram, 2022), they are trapped in a cycle of poverty – and often criminality – which is difficult to escape.

'Arguably the most dangerous aspect of illegal and artisanal mining in South Africa is the violence and "gangsterism" associated with it' (Carry and Müller, 2024, p. 85). According to official figures, 312 Zama Zamas died between 2012 and 2015 (Al Jazeera, 2024) Yet the exact number is believed to be much higher, as many deaths – including those resulting from below-ground shootouts (Martin, 2019) – are not reported. 'Over two-thirds of these deaths were caused by turf wars between rivaling syndicates. In 2017, a crime syndicate involved in illegal mining murdered 14 artisanal miners on just one day' (Carry and Müller, 2024, p. 85; see also, Ledwaba and Mutemeri, 2018). It is likely that even more miners whose bodies are never recovered die in mining accidents simply going undocumented (Martin, 2019, p. 2).

Without formal regulation, gold mined illicitly must enter the legal market through alternative channels. Given gold's high value, smuggling even small quantities of it can be profitable, fostering a vast network of actors involved in the trade of artisanal gold in South Africa. This network includes not only illegal actors – the criminal gangs who organise and facilitate this trade, for instance – but legal ones, too – such as police, security forces and community leaders, who all benefit from it (Carry and Müller, 2024, p. 79). Illegal mining networks and crime syndicates profit from unregulated gold mining, exploiting vulnerable communities and controlling abandoned sites. These middlepersons, who often control access to markets, play a pivotal role in perpetuating the sector's illegal aspects in benefitting as they do from a lack of regulation and oversight.

Criminal groups employ security guards to ward off rival gangs, pay bribes to access active mines and collect fees from those working under their protection. They also link artisanal miners to larger criminal networks engaged in human trafficking, arms smuggling, tax evasion and money laundering (Al Jazeera, 2024). Once extracted, it often enters the legal market through licenced dealers or jewellers who mix this illicit gold with legal metals. This network thrives on corruption, involving local politicians, the police, state authorities and legitimate mining companies (Hunter 2017, p. 3f.).

The lack of formal labour protection leaves Zama Zamas vulnerable to exploitation by unscrupulous employers or intermediaries buying their gold at below-market rates. Miners who are desperate to earn an income may be forced to sell it at prices far below its true value, further diminishing their earnings and deepening their economic vulnerability. Traders may also sell it to refineries which fail to conduct thorough due diligence, thus allowing the gold to enter the international market through bullion banks, other traders or going directly to manufacturers in sectors like electronics and jewellery. Some traders may bypass local regulations by exporting the gold directly to neighbouring countries with less stringent regulations before it is funnelled into the global market (Sippl and Selin, 2012; Stähr and Schütte, 2016, p. 4). Once refined, the gold's origins cannot be traced, making it difficult to distinguish between that mined informally and that sourced from legal operations (Shaw et al., 2022, p. 153).

These occupational hazards and economic risks aside, many Zama Zamas also belong to marginalised social groups. Around 70 to 75 per cent of the South African ASM workforce consists of undocumented migrants from neighbouring countries – particularly Lesotho, Mozambique and Zimbabwe (Manduna, 2024; Martin, 2019, p. 4). Many of them work illegally and are thus especially vulnerable to exploitation, violence and abuse by criminal networks. They are often reluctant to report such incidents or unsafe conditions for fear of being deported or facing legal repercussions. Many foreign workers come to South Africa either voluntarily in seeking better job opportunities or are recruited by criminal organisations under the pretence of legal employment. Some are held in safe houses, have their passports confiscated and are then forced into illegal mining by these syndicates. Regional migration has long been integral to South Africa's mining sector, with both South Africans and non-nationals moving to find employment in mines. Neighbouring countries historically served as a 'labor reserve' for South Africa's mining industry, supplying much of its workforce. 'Yet, with the decline of the industrial mining sector and the changing socio-economic conditions' formal employment opportunities have dwindled (Carry and Müller, 2024, p. 86; see also, Martin, 2019, p. 4). Undocumented foreigners working in ASGM also face additional barriers to access basic services such as education, healthcare and housing. Without legal residence status, they are forced to fly under the radar of the state, making it almost impossible for them to access the social services they need to protect themselves

and their families. On top of that, 'migrant workers face yet another burden, consisting in their increasingly negative reputation and xenophobic sentiments from other South Africans' (Carry and Müller, 2024, p. 86).

Exploitation and precarity at ASGM sites also possess a gendered dimension. Contrary to gold diggers who often spend weeks or even months in mine shafts underground, women (except for sex workers) are not allowed down there (Martin, 2019, p. 5). Instead, they are predominantly responsible for ore processing and mercury amalgamation (Ondayo et al., 2024). The gender pay gap is a persistent issue, with women earning significantly less than their male counterparts (Rickard, 2024). In addition, women often bear responsibility for household duties alongside their mining work. The lack of social infrastructure, such as childcare facilities and access to education, forces many women to bring their children to mining sites, exposing them to dangerous working environments. The social vulnerabilities of women in ASGM are not limited to economic and health issues though; they also include exposure to gender-based violence and sexual exploitation. Women in ASGM are often subjected to physical and emotional abuse, both within and outside the workplace. Gendered power dynamics and rigid social hierarchies in informal mining settings contribute to a culture of impunity, where perpetrators are rarely held accountable. This violence can take various forms including sexual harassment, assault and coercion, with such occurrences significantly impacting women's mental health and overall well-being. As basic mechanisation is introduced, women are often pushed out of mining roles and turn to prostitution in underground mines to earn a living instead, which exposes them to increased sexual and physical abuse. Many women avoid seeking medical or legal support due to financial dependence, fear of arrest or deportation, and the ambiguous legal status surrounding illicit mining. The South African government's designation of Zama Zama mining as illegal has served to further discourage victims of gender-based violence and exploitation from turning to the country's criminal justice system for help (Carry and Müller, 2024, p. 87f.).

## 4. Addressing decent work in ASGM through formalisation

While countries like Ghana and Tanzania have launched various initiatives to formalise the ASGM sector and support miners, South Africa has offered comparatively little institutional support; instead, the political response has primarily been focused on repression and criminalisation (Achina-Obeng and Aram, 2022; Carry and Müller, 2024; Martin, 2019). South African mining laws are lacking provisions tailored to the 'specific needs and challenges of different types of ASM' (Carry and Müller, 2024, p. 82). Instead they take a generalised approach, broadly categorising micro-, small- and medium-scale mining (Carry and Müller, 2024, p. 82). It is important to note, however, that the high levels of criminality and precarious working conditions encountered in the ASGM sector are not the result of a general absence of due-diligence standards in South Africa, as the country's LSM sector is relatively well-regulated. Rather, it is the lack of institutional

capacity in place – as a consequence of the sector's ongoing informality – which has left Zama Zamas to the vigilantism of those controlling ASGM sites across the country (Müller, 2022, p. 342).

Nonetheless, South Africa has made progress towards integrating ASGM into the formal economy in recent years. In April 2022, the Ministry of Mineral Resources and Energy (South African Government, 2022) proposed a new policy which establishes for the first time a clear distinction between artisanal, small-scale and large-scale mining. It further introduces a licencing scheme establishing specific ASM permits as well as designated areas for related activity. It also envisions the creation of regional mining offices, the formation of artisanal miners' associations and a framework for co-existence between ASM and LSM. However, several scholars have pointed out that mere changes on the legal front will add little value to the development of a more sustainable ASM sector. Rather, such legal provisions must be supplemented by supporting initiatives and multistakeholder partnerships which include mining-company representatives, government officials, civil society, artisanal miners and international development agencies (Aubynn, 2009; Bester, 2019).

Additionally, these formal proposals stipulate that artisanal mining permits shall be constricted to above-ground mining and reserved for South African citizens alone. Considering the scope of non-nationals' involvement in the country's ASM sector, the prevalence of underground mines and the centrality of crime syndicates to illegal mining, the policy in its current form is ill-equipped to address many of the issues which have beset ASM employees (Field, 2022; Mitchell, 2022). The latest incident of 4,000 miners remaining in an underground gold shaft to avoid arrest has reignited discussion on the state's current approach to Zama Zama mining and might provide new impetus to the adjustment and subsequent implementation of the 2022 formalisation strategy going forwards.

A multifaceted approach which incorporates both regulatory reforms as well as community-based interventions is needed here. Since most artisanal mining takes place in the informal sector, with the 'inflexible regulatory apparatus and rigid policies [...] make securing a license and operating legally exceedingly challenging' (Hilson, 2020, p. 1625), policymakers should primarily aim to ensure that Zama Zamas can acquire mining permits with minimal financial and bureaucratic barriers thereto. Further legal provisions must also be crafted on information and knowledge-exchange platforms catering to miners' individual language needs and geographic origins, especially true in a country like South Africa where ASM often takes place in remote areas and a large percentage of Zama Zamas are foreign nationals. Miners should take part in capacity-building programmes focused on the promotion of best practices, health-and-safety training and knowledge transfer. Given that one of the primary drivers of participation in informal ASM is the lack of alternative employment opportunities, the formalisation process vis-à-vis the sector must be complemented by policies aimed at reducing poverty among those concerned. This includes providing

sustainable livelihood options and enhancing their employability within the formal sector (Bester and Uys, 2023).

On the state side, formalising ASGM would allow for better capture of the revenues it generates (Singo and Seguin, 2018). According to the Minerals Council South Africa, the formal economy loses around R21 billion (around €1 billion) per year due to Zama Zama mining (Manduna, 2024). This additional money could be used to develop support infrastructure and capacity-building programmes for these artisanal miners and thus contribute to addressing the structural socio-economic problems which often underlie ASM's continuance.

Approximately one-quarter of South African gold is exported to Europe, with the majority of it destined for Switzerland. The imported gold is primarily utilised in the electronics and jewellery industries, as well as in the banking sector as a popular investment vehicle. Beyond being a national policy issue, the adverse effects of the ASGM sector thus also hold key relevance for the countries of Europe – where consumers and national governments increasingly demand that natural resources be sourced ethically and under regard for human rights and environmental standards (Landrigan and Fuller, 2015).

## 5. Addressing decent work in ASGM: The role of consumer countries

From a European perspective, there is growing support for formalising ASGM as a means of integrating its operations into regulated GSCs and reducing illicit flows. Given the global nature of gold markets, such formalisation aligns with upholding international standards and could mitigate the challenges posed by unregulated ASGM. In 2021, the European Union (2017) promulgated the Conflict Minerals Regulation (CMR), which requires companies importing above a certain amount of tin, tungsten, tantalum and gold to carry out due diligence in their supply chains to ensure that the sourcing of such minerals does not finance armed conflict or other human rights abuses. To support companies with the CMR's implementation, the Commission publishes a non-exhaustive list of 'Conflict-Affected and High-Risk Areas' (CAHRAs) identifying regions worldwide where the extraction of minerals is associated with armed conflict, human rights abuses and an acute danger of exploitation. South Africa is currently not cited as a high-risk country herein. Additionally, in March 2024 the Commission (2024a) passed the Corporate Sustainable Due Diligence Directive (CSDDD), a comprehensive, cross-sector framework which mandates EU companies, as well as non-EU ones operating in the EU, to identify, prevent and mitigate risks related to human rights abuses, environmental degradation and other sustainability issues. The Directive will come into full effect as of 2029.

While both the CMR and the CSDDD strive to increase transparency, responsibility and accountability in GSCs, including the one for gold, there are important differences with regards to both their respective approach as well as effectiveness when it comes to improving working conditions in the ASGM sector. First, due to the CMR's focus on those places where mining

revenues are used to fuel conflict or perpetuate systemic human rights abuses, South Africa is, as noted, not generally considered a high-risk country. As a result, European importers of gold from the latter are required to provide information about their suppliers but not about the specific mine, trader or processor involved in production. Since illegally mined gold is often laundered and introduced into the legal GSC by smugglers and traders, information on suppliers alone might not be sufficient to ensure the commodity's ethical sourcing. The potential for illicit gold to enter the supply chain at various stages remains unaddressed as things stand.

Second, the CMR adopts a largely exclusionary approach, requiring European importers to ensure they do not source from suppliers linked to conflict settings or forced labour. In contrast, the CSDDD embraces a more inclusive strategy by not only expecting companies to identify and mitigate risks but also to actively support suppliers – through measures like capacity-building – to meet the new standards. The Directive hence aims to discourage mere disengagement and instead promote meaningful corporate involvement in improving working and living conditions in producer countries. Taking South Africa as an example, the CSDDD thus provides a more effective framework for addressing the root causes of decent working conditions eluding ASGM employees thus far.

Requiring European companies to source responsibly and engage with all tiers of their supply chain would encourage operators and buyers to work closely with ASGM communities, further incentivising and facilitating formalisation. As part of the CSDDD's 'smart mix' approach, international certification schemes and standards such as Fairmined, a multistakeholder initiative seeking to support the sustainable development of the ASGM sector, can be leveraged to promote premium markets for responsibly sourced gold. In a field where many workers face socio-economic hardship, this could create a strong incentive for artisanal miners to engage in formal gold production rather than illicit forms of extraction. Additionally, higher transparency and greater due-diligence requirements would also benefit the most vulnerable groups involved in ASGM – notably women and children, who, as outlined earlier, are often exposed to particularly dangerous and exploitative working conditions.

For artisanal miners, however, the need to adhere to stricter environmental controls, labour standards and legal frameworks could also lead to increasing costs and higher entry barriers. This might make ASGM less competitive compared to gold sourced from regions with more lenient standards or where enforcement is weaker. To mitigate potential negative impacts on the competitiveness of responsibly sourced gold, the EU should collaborate with national governments and international organisations to streamline the creation of legal channels and trade routes accordingly. This would diminish the influence of the major trading hubs which facilitate illicit supply chains and, in turn, enable miners to participate in GSCs in a legal and transparent manner.

Without appropriate support mechanisms, many ASGM operators may find it difficult to navigate the complexities

of any new requirements. A lack of awareness and understanding of EU due-diligence regulations has been identified as one of the biggest challenges currently faced by producers (European Commission, 2024b). It is therefore imperative that stricter EU regulations on transparency and due diligence are complemented by local programmes if they are to be effective. Such measures should include training for artisanal miners, support for community-based mining cooperatives as well as improved access to financial, technological and legal services. These initiatives can draw on previous efforts to formalise other parts of the ASM sector, notably small-scale diamond mining. In South Africa's Northern Cape province, a cooperative model is being implemented which allows groups of miners to collectively obtain permits to work and operate vis-à-vis the extraction of deposits for which it is contrariwise not economically viable for large-scale operations to do so. Such collaboration allows formal operators to maintain control over their concessions while gaining public goodwill and community support, while small-scale miners can operate legally and more sustainably via improved access to resources and guidance (Krawitz, 2024).

While South Africa's LSM sector is already governed by relatively high labour and environmental standards, they do not extend to the informal ASGM sector. European efforts should therefore be directed at facilitating and contributing to the formalisation specifically of the latter in South Africa and elsewhere. Also targeted should be strengthening national authorities and local institutions to ensure that high Environmental, Social and Governance (ESG) standards are effectively implemented and enforced across the entire mining sector.

For EU companies, transparency remains the biggest challenge when implementing due-diligence standards such as the CSDDD. This applies above all to the informal sector, whose entire business model is based on a lack of openness to outside observers. ASGM miners often work with intermediaries, who aggregate minerals from various sources – making it particularly difficult to trace their origins (Müller, 2022). Furthermore, significant amounts of the gold mined by ASM workers in South Africa are then channelled into legal supply chains via trading hubs such as Dubai, from where they make their way to Europe (Müller, 2022). In 2022, 71 per cent of the gold imported into the EU was declared to have originated from Switzerland even though the latter does not produce the commodity itself (Deutsche Rohstoffagentur, 2023). For this reason, the inclusion into the CAHRAs list of the cross-border transit countries and major trading hubs involved in importing minerals and metals could contribute to better assessment and traceability regarding suppliers (European Commission, 2024b).

Due-diligence regulations such as the CMR and the CSDDD are also based on the assumption that European importers have enough market power and leverage to affect real change all the way down to the level of the artisanal miner. A 2024 evaluation of the CMR found, though, 'limited impacts among local stakeholders that could be attributed directly to the Regulation […]. More time and data are needed further upstream in the

supply chain to be able to distinguish the impact of the Regulation in third countries from broader global efforts to promote due diligence in minerals supply chains' (European Commission, 2024b).

Lastly, with demand for the raw materials needed for the green and digital transitions rising, we will likely see an increase in ASM activity around minerals and metals such as cobalt, copper and nickel in the years to come. To diversify and strengthen its supply of critical raw materials, the EU has formed strategic partnerships with countries where ASM plays a significant role. Many of these states have notably lower ESG standards and weaker governance than South Africa, making it even more crucial for the EU to focus on the social and environmental challenges inherent to the ASM sector. The Bloc must, in consequence, provide the necessary financial, technical and political support to ensure that raw-material supply chains uphold and promote human rights, transparency, fair labour conditions and environmental sustainability.

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# Measuring supply chain due diligence: Introducing labour outcome metrics

# Measuring supply chain due diligence: Introducing labour outcome metrics[1]

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## 1. Introduction

Mandatory due diligence laws, enacted in a number of individual European countries and more recently in the European Union, are momentous since they mark a turn from global corporations' voluntary and private regulation of their supply chain practices to binding public regulation.[2] This turn reflects widespread acceptance by policymakers that 25 years of private voluntary regulation and 'best practices' guidance has done little on aggregate to limit harm to both people and planet across global supply chains. This chapter offers quantitative metrics which will not only help regulators easily implement these laws but also support companies' engagement in necessary due diligence.

The French Duty of Care Law enacted in 2017 requires that large firms (those employing over 5,000 workers) have an affirmative obligation to prevent human rights violations and environmental abuse across their operations as well as vis-à-vis both upstream and downstream business partners (including sub-contractors and suppliers). The law allows aggrieved parties to sue these companies in French courts. Germany's Act on Corporate Due Diligence Obligations in Supply Chains (Lieferkettensorgfaltspflichtengesetz, or LkSG), implemented in 2023, likewise requires large firms operating within its borders to carry out human rights and environmental due diligence regarding their own operations as well as those of direct suppliers. However, it relies largely on its provisions being enforced by the Federal Office for Economic Affairs and Export Control (BAFA) and only permits German unions and non-governmental organisations to bring civil suits in Germany on behalf of others. Norway – not an EU member state – adopted a Transparency Act in

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1 This chapter is based on a longer article which the authors previously published. Titled 'GLI Policy Brief: Measuring Supply Chain Due Diligence: Labor Outcome Metrics', the earlier version is available here: https://www.ilr.cornell.edu/global-labor-institute/research-0/measuring-supply-chain-due-diligence.

2 Such laws have been enacted in France, Germany, the Netherlands and Norway, while there are related proposals currently pending in Austria, Belgium, Finland and Spain. The Netherlands is considering promulgating an expanded version of its related law, which initially focused on child labour only.

2022 administered by the Norwegian Consumer Authority. It requires the firms concerned to account for their human rights and labour practices for the entirety of their upstream and downstream value chains.

The EU's Corporate Sustainability Due Diligence Directive (CSDDD) was approved in early 2024 by the European Council and European Parliament. MEP Lara Wolters, the 'rapporteur' or lead in CSDDD negotiations, noted that 'this law is a historic breakthrough – large companies will now be responsible for potential abuses in their value chain, ten years after the Rana Plaza tragedy'.[3] Final approval will mean all member states must adopt the legislation, which covers only very large firms, as national law within two years of its publication in the 'Official Journal of the European Union'. The CSDDD is paired with the EU's new Corporate Sustainability Reporting Directive (CSRD) which should provide '[regulators as well as] investors and other stakeholders with relevant, reliable and comparable information on the sustainability performance, risk and impact of companies'.[4] What firms are required to disclose under the reporting rule will inform the choices due diligence regulators make and, therefore, how lead firms and their upstream and downstream business partners behave.

Under the CSDDD, as well as French and German law, the companies in question – or 'lead firms' – will have to identify, assess and mitigate or prevent any negative impact (also, as noted, by their upstream and downstream partners) on people and planet ensuing from their operations. To do so, these companies will be required to produce plans to reduce risk, provide access to remedy for those affected by their actions, communicate publicly regarding their due diligence policies and monitor their effectiveness. National administrative agencies will oversee whether the companies in question actually comply with their obligations and can impose fines on non-compliant ones.[5] Third parties can bring complaints against lead firms in member states' courts.

At the time of writing, however, there seem to be efforts underway to soften this legislation. Germany's Federal Minister of Justice, Marco Buschmann, has indicated a desire to renegotiate the CSRD, arguing that it represents a costly burden for companies. The case made here is that sustainability legislation will

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[3] See: https://www.europarl.europa.eu/news/en/press-room/20231205IPR15689/corporate-due-diligence-rules-agreed-to-safeguard-human-rights-and-environment.

[4] Iozelli, Laura and Velasco, Maria del Carmen Sandoval (2023). Mandatory or Voluntary? The hybrid nature of sustainability disclosure in the EU's CSRD. Policy Paper, Robert Schuman Centre for Advanced Studies, Florence School of Banking and Finance.

[5] BAFA has published detailed guidance for companies undertaking due diligence. Through its principle of appropriateness, enterprises have the necessary discretionary power and scope of action for implementation of their due diligence obligations, while the principle of effectiveness requires that risks and violations must be effectively addressed. See: https://www.bafa.de/EN/Supply_Chain_Act/Appropriateness_and_Effectiveness/appropriateness_and_effectiveness_node.html.

hamper the EU's competitiveness, given that other countries/groupings are not subject to these same laws. The goal appears to be to ease the regulatory burden for companies, especially for small and medium-sized ones. Per Buschmann, the compliance costs of CSRD alone would exceed EUR 1.6 billion for German companies (Packroff, 2024); for CSDDD, it is expected to be even higher. At this stage, though, it is unclear what the final outcomes of these efforts to soften this legislation will be.

In the remainder of this chapter, we focus on two crucial questions regarding implementation: How will European regulators and lead firms themselves know who is harming workers or significantly endangering the environment? And, how will the rest of us – business partners (including upstream suppliers), workers and their unions, investors and researchers – know which lead firms and what practices are failing and which ones are delivering positive outcomes?

We present here a set of quantitative metrics measure labour outcomes – actual impacts for workers. For regulators, the metrics point to the hard measures required of firms to evaluate own performance in light of their due diligence obligations. The metrics also allow regulators to track the effectiveness of company efforts to reduce risk or offset harm to people and planet along their value chains and to compare performance across companies. For firms, our metrics are particularly useful for a clear-eyed and quantitative assessment of risks and outcomes. Regulators and firms alike will be able to compare outcomes across suppliers, countries, tiers and over time. Public disclosure under the accompanying reporting regime can balance the 'need to know' against the legitimate confidentiality claims which businesses usually make. This will allow unions, campaigners, investors and researchers to see and compare outcomes.

## 2. Measuring supply chain due diligence

Recall that under voluntary private regulation, lead firms gathered data about supply chain labour conditions themselves or by outsourcing that task to social-auditing companies and multistakeholder programmes.[6] Lead firms used that intelligence as they pleased: to revise and improve sourcing strategies; to begin improving factory conditions; or, they did nothing at all.[7] They were also largely free to report only what they cared to. Even those which obtained extensive intelligence about working conditions among suppliers tended to report only select aspects of such information – and that in aggregate terms, too.

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[6] Social audits as practised under voluntary regulation have attracted widespread criticism. For a summary of the points of contention here, see Kuruvilla (2012).

[7] In a due diligence regime, getting reliable data on working conditions and labour rights is an obligation of the lead firm. Legislation in Germany and the EU which includes liability for due diligence failures should drive changes and new investment in such intelligence gathering.

Under this voluntary reporting regime, several guidance frameworks emerged to help lead firms define their approaches, track their progress and showcase their efforts. The OECD's Due Diligence Guidelines for Responsible Business Conduct, the Workforce Disclosure Initiative and the Global Reporting Initiative (GRI) are some examples hereof. These reporting frameworks focus largely on inputs: that is, they require companies to report on their plans, policies and processes regarding human rights across their supply chains. Although input-based reporting may be necessary to indicate what companies are doing, they are not sufficient under a mandatory due diligence regime as they tell us little to nothing about whether those policies actually improve outcomes. Hao, Dragomir and Radu note the general lack of rigour involved: 'The limitations [vis-à-vis non-financial reporting] include inconsistent formats, lack of standardization, weaknesses in the reliability and comparability of information used in decision-making process, and limited assurance' (2023).

To be sure, these descriptions of corporate policies and procedures indicate the efforts companies are making to uphold labour rights throughout their supply chains. But they are highly selective and emphasise the positive. They are used by lead firms as much for signalling as for disclosure, and often combine future goals with carefully curated data in reports with titles such as 'Circular & Climate Positive' and 'Fair & Equal'. What is missing here is hard evidence: namely, uniform data on outcomes regarding the labour policies and workplace practices which matter most.

We know only in broad terms how reporting requirements will contribute to the administration of European due diligence regimes. The European Sustainability Reporting Standards drafted by the European Financial Reporting Advisory Group has used the GRI template of input-based reporting for the CSRD's initial requirements. In fact, this advisory group emphasises the interoperability of the latter with GRI and other inputs-focused reporting frameworks, including those from the Sustainability Accounting Standards Board and Taskforce on Climate Related Financial Disclosures.

Given the extensive literature on the decoupling between lead firms' policies and outcomes, we would expect to see clear, strong demands from regulators and investors for outcomes-based reporting – specifically, evidence as to whether adopted policies actually improve labour outcomes. But we have not. This will have to change. Effective regulation needs uniform outcome metrics. The mandatory disclosure of such data to regulators and others can complement and catalyse the shift from private oversight to genuine accountability and public regulation.

## 3. Advantages of outcome metrics for supply chain due diligence measurement

What, then, does outcomes-based reporting look like exactly? What types of data and analysis does it require? In the case of working hours, for example, inputs-based reporting might necessitate firms describing the policies they have put in place to ensure that there are no violations of related standards among suppliers. Outcomes-based reporting would

require firms break down regular and overtime hours and report monthly averages by facility. Anti-gender discrimination efforts in input-based reporting could see firms invited to describe supply chain policies and number of managers or workers trained on handling such matters. Outcome-based reporting would require firms to show, for example, male-to-female earnings ratio (controlling for job types and years of service) by supplier.

We detail here a set of labour outcome metrics designed to capture impacts on employees, including climate-related ones on workers and workplaces alike. Outcomes-based metrics have several advantages. The first is in the name: they measure outcomes not inputs, and more clearly indicate impacts on workers accordingly. They also track progress for suppliers and lead firms.

Second, they are parsimonious. Inputs reporting – descriptions of company policies and programmes – do not make the lives of due diligence regulators (or lead firms' compliance teams) easy. They will struggle to peruse countless pages of each firm's input-focused reporting, compare it to others and make meaningful determinations about compliance with due diligence requirements. And, after completing their burdensome task, regulators will still not know whether these policies and programmes actually reduce environmental harm or improve working conditions and advance worker rights.

The third advantage of outcome-based metrics is their utility for multiple stakeholders. As noted above, outcomes data can be put to work by regulators, firms themselves, industry groups, employee organisations, investors and more. And outcome metrics give companies a clear sense of what information to collect and how to improve their analysis of risk. New due diligence requirements see lead firms rendered liable by law. More precise analysis of sources of harm and risk should be a looming priority, with outcome-based metrics helping enhance precision.

A fourth advantage of our proposed metrics is that they are readily available. Related data is routinely obtainable from within the walls of global firms. Labour and environmental compliance data are ritually collected from suppliers via the social-auditing process. Researchers have previously used this information – when shared by firms – to evaluate the impacts of private regulation.[8]

Fifth and finally, while our metrics have been designed for the apparel industry they are adaptable to other sectors as well. Our measures are, we believe, the closest possible proxies for the most common or gravest labour abuses found in apparel value chains. Taken together, they produce both an outcomes- and risk-rating system which works at the supplier, national and global level alike. We offer an important caveat here. Some aspects of global production are

[8] See for example: Locke (2013); Bird, Short and Toffel (2018, 2019); Short, Toffel and Hugill (2019); Kuruvilla et al. (2020); Amengual, Distelhorst and Tobin (2020); and Kuruvilla (2021).

hard to see and difficult to measure. Among our 25 different metrics, we do not have one on child or forced labour. The number of forced-labour cases reported, for example, is not an indicator of the overall risk or prevalence of forced labour. From a due diligence perspective, the risks here are relatively easy to identify at the macro level – dependence on migrant workers, political turmoil, extreme poverty – but less amenable to meaningful quantitative measurement.

A useful analogue is the U.S. Securities and Exchange Commission's (SEC) required 10-K reports, which provide a comprehensive overview of a given company's business and financial conditions, including audited financial (outcomes) statements and other information such as earnings per share, debt, gross profit and more. These quantitative metrics are uniform across firms and can differ from those covered in the company in question's annual report to shareholders. The 10-K is a useful tool for firms themselves, regulators investors, researchers and others. Outcome metrics for people and planet – which like core financial reporting, cannot be said to be confidential business knowledge – provide crucial information which markets require and allowing the democratic network serving to hold corporations accountable to do their work.

Our Global Labor Institute metrics put reporting on labour outcomes in the same class as reporting on financial outcomes. That is, they require firms to present uniform quantitative data on results which regulators can compare across firms and their supply chains, as well as over time. Labour outcome metrics also allow regulators and lead firms themselves to put CSRD 'double materiality' standards into practice, namely by accounting for the 'financial implications of those [material sustainability] risks, as well as growing awareness of the risks and opportunities from other environmental issues and from health and social issues, including child and forced labour'.[9]

Our metrics are directly and immediately relevant for the emerging due diligence and reporting regimes, such as the German Supply Chain Act. In fact, they are quite tightly coupled. Germany's BAFA is implementing the law and provides detailed guidance regarding due diligence and risk analysis, along with citing specific examples.[10] The metrics are also consistent with the requirements of current Norwegian law and for the upcoming CSDDD.[11] Even more importantly, the metrics are useful for global companies seeking to undertake risk analysis, a key aspect of mandatory due diligence. In order to assess whether there is a possibility of human rights violations occurring

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[9] See Recital 11 of the CSRD.

[10] See: https://www.bafa.de/SharedDocs/Downloads/EN/Supply_Chain_Act/guidance_risk_analysis.html?nn=1469810.

[11] BAFA handout 'Identifying, weighting and prioritizing risks', available online at: https://www.bafa.de/SharedDocs/Downloads/DE/Lieferketten/handreichung_risikoanalyse.pdf?__blob=publicationFile&v=6.

with regards to gender equality, for example, our metric on male/female wage differences will yield the required evidence.

## 4. The metrics

We categorise our 25 metrics into six groups. A full listing is available in Appendix Table 1 below.[12] Group 1 metrics includes measures relevant to sourcing-related risks. Do firms source responsibly and have the management systems in place to reduce the risk or harm which their chosen practices induce? This group of metrics are consistent with the appropriateness criteria under the German legislation, which provides the context on how companies may be held accountable and whether they have the management systems in place to prove that they are not the cause of poor labour conditions in their supply chains. We use the German legislation here because it is the one most developed as far as guidance on risk analysis and due diligence is concerned. We do not know what specific guidance will be available for CSDDD in due course.

Group 2 metrics relate to upstream workforce-related risks. These include, for example, reporting on the percentage of the workforce made up by migrants (an indicator of forced-labour risks), the ratio of temporary to permanent workers (an indicator of contingency risks) and on worker turnover (a high rate thereof is a reasonable proxy for poor working conditions). This group also includes two metrics regarding gender, given that freedom from discrimination on the basis of it is a core human right.

Group 3 metrics focus broadly on the core issues informing mandatory due diligence: labour rights and working conditions. Specifically, these metrics are designed to provide credible evidence that lead firms' programmes are working to improve employment conditions. In other words, do their endeavours result in the desired outcomes? For the last 25 years, lead firms have obtained information about working conditions in factories through social auditing. All lead firms conduct such audits of their suppliers. They are supposed to look at violations of various labour standards. The typical audit examines every aspect of a lead firm's code of conduct and provides a report back to it regarding whether the factory in question complies with said document. The typical audit report focuses on violations of the code (e.g. whether overtime hours are within the prescribed limit or wages are paid promptly). In fact, usually examined are between 200 to 400 aspects related to working conditions. Our metrics require companies to report on violations regarding wages, hours and similar; they also necessitate reporting on accidents and grievances (the latter a specific requirement of the German legislation).

Group 4 metrics focus on two core human rights: the right to freedom

[12] A detailed explanation of the rationale for each metric, how they comport to the German legislation and how they are related to prior research on labour in supply chains is available in Kuruvilla and Judd (2024).

of association (FoA) and the right to collective bargaining (CB) (International Labour Organization Conventions 87 and 98, respectively). These core human rights are perhaps the ones most violated in global supply chains. There is relatively little research done on violations of these rights in supplier factories, partly due to the weakness of the social-auditing regime and partly due to the fact that researchers rarely have access to supply chain factories to assess violations.

In a recent paper, Li, Kuruvilla and Bae (2024) draw on a longitudinal dataset comprising 6,500 Better Work audits across seven countries between 2015 and 2021. They seek to compare violations of different FoA and CB elements so as to provide a general picture of both progress and continuing problems faced on each count in supplier workplaces. The authors argue that suppliers are likely to selectively comply with FoA/CB principles in affording them some degree of legitimacy, but violate those aspects carrying significant costs. Specifically, they find fewer violations of union-formation rights, in contrast to greater violations of union-operation and CB rights.

The importance of this research lies in the fact that lead firms need to report more than whether a union simply exists in a supplier factory: in other words, whether it is a genuine one, too. Similarly, and as Li et al. (2024) point out, Chinese factories all have a CB agreement, but it is not the product of genuine bargaining. Our metrics require that lead firms figure out whether CB terms are better than the minimum stipulations stated in law. Li et al.'s (2024) paper also provides proof that when FoA and CBA rights are respected, they are associated with better compliance with other employment standards.

Group 5 metrics, arising out of recent research on climate change's impact on workers in the apparel industry (Judd et al., 2024), focus on work and pay standards due to heat and flooding. Group 6 metrics, meanwhile, focus on the quality of firms' intelligence-gathering processes. This last group are not outcome measures, to be sure, but contextual in that they provide information relevant to the interpretation of the metrics included in Groups 2 to 5, of importance as long as lead firms continue to use external auditors as a source of information for their risk analysis.

In addition to disclosure of corporate 'demographics' – locations, ownership, workforce size and so on – we suggest that all metrics be reported annually and show data for the preceding three-year period in order to provide a baseline and allow the tracking of changes over time. We have designed the measures so that regulators (as well as lead firms and others) can convert them into scorable metrics which allow them to compare relative labour performance of regulated firms globally, and by country and year. Within supply chains, lead firms can measure and compare the performance of different suppliers herewith. Importantly, these metrics are relevant to all tiers of suppliers, and also to all business partners covered under the CSDDD

## 5. Conclusion

The purpose of mandatory due diligence legislation and the public reporting which accompanies it is to make clear how human rights violations are not only of material importance to company's financial results but also cause harm to people and planet. Legislation like the CSRD aims to 'equalise' financial reporting (like that required in the SEC's 10-K reports) and non-financial reporting. In the case of financial reporting, if lead firms were to only input-based policies and processes rather than financial results, there would be no basis to judge whether they are a good investment. Our outcome metrics perform a similar function: they provide stakeholders with clear quantitative information helping with environment, social and governance-related investment decisions. Focusing on just 25 outcome metrics helps address the lament voiced by many that current legislation places an undue administrative burden on them to detail the various programmes and policies in place on an annual basis.

To reiterate and conclude, we argue that these 25 metrics constitute a valuable improvement to – and, in part, a substitute for – the input measures required by existing frameworks. Our quantitative metrics ease the reporting and analytical burdens on firms and their regulators, who will be able to see at a glance which firms are making progress and fulfilling their due diligence obligations. Most importantly, they are useful for firms: these metrics aid the assessment and prioritisation of risks. To recap, they are: outcome-based; parsimonious; of utility to multiple stakeholders (regulators, lead firms, investors, unions); readily available; and, adaptable to multiple industries.

Are there challenges here? Yes. Engaging in risk analysis requires heavier lifting by lead firms. They need to have better intelligence regarding their supply chain – the key concept underlying the recent CSDDD legislation, indeed. Companies must know enough about supply chain labour practices to show that they are not causing harm to people or planet. All we are asking here is for those concerned to show what they know. This may increase their auditing costs. But to focus on outcomes is necessary, and to do so constitutes less of a reporting burden than pages and pages of description of firm programmes – having been the norm for the last two decades now. Our point, ultimately, is that existing reporting guidelines published by the OECD or GRI are insufficient for the new regime of mandatory due diligence.

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## Appendix Table 1:
## Cornell Global Labor Institute Metrics for Supply Chain Due Diligence

| No | Group | Measure | Metric |
|---|---|---|---|
| 1. | Sourcing | Overall Sourcing Risk | Sourcing Share by Volume (by country) |
| 2. | Sourcing | Leverage/Relevance | Sourcing Share of Production (by factory) |
| 3. | Sourcing | Length/Quality of Relationship | Number of years and changes in volume/value (by factory) |
| 4. | Sourcing | Supplier Turnover | Annual change (percent) in suppliers (all suppliers, and by volume) |
| 5. | Sourcing | Sourcing and Labor Performance Alignment | Sourcing volumes and labor compliance scores (by factory) |
| 6. | Workforce | Legal Status | Migrant (foreign) workers as percentage of workforce (by factory) |
| 7. | Workforce | Contingency | Temporary/Casual Workers as percentage of workforce |
| 8. | Workforce | Worker Turnover | Average Turnover per Year, by Factory |
| 9. | Workforce | Gender Pay Equity | Female pay as a percentage of male pay for same/comparable jobs and tenures (by factory) |
| 10. | Workforce | Gender Equity, GB Harassment and Violence | Female supervisors as share of all supervisors vs female share of total workforce (by factory) |
| 11. | Working conditions | Factory Working Conditions | Total Violations by Labor Standards Category (by factory) |
| 12. | Working conditions | Hours | Average Actual Working Hours with disaggregation of overtime hours, monthly by factory) |
| 13. | Working conditions | Wages | Average Production Worker Pay (with disaggregation of overtime, bonuses, and deductions), monthly by factory) |
| 14. | Working conditions | Accidents | Number of Recorded Injuries, Accidents and Work-related Illnesses (by factory) |
| 15. | Working conditions | Grievances | Existence of Greivance system/hotlines/other voice mechanism that workers are willing to use, and if yes, the number of grievances/ hotline calls/other (by factory) |
| 16. | Rights (Representation) | Freedom of Association Union Presence | Share of Workers in Activist Unions (unions that challenge management on fundamental issues (by factory) |

| No | Group | Measure | Metric |
|---|---|---|---|
| 17. | Rights (Representation) | Collective Bargaining Agreement Presence | Share of Workers Covered by Real Collective Bargaining Agreement(s) (where negotiated provisions are better than state specified minimums) |
| 18. | Rights (Representation) | Workplace Governance Representation | Worker chosen candidates to serve on representative committees |
| 19. | Rights (Representation) | Workplace Governance Representation by Gender | Gender ratio of committees compared to gender ratio of workforce. |
| 20. | Work-Climate impacts | Extreme Heat | Indoor WGBT Exceeds 30 C WBGT and/or National Standard (days per year, by factory) (threshold) |
| 21. | Work-Climate impacts | Intense Flooding | Site Flood 10 year (RP 10) Projections > 0.25 m Inundation (by factory) |
| 22. | Work-Climate impacts | Worker Health (workplace) | Actual Paid Breaks as Share of Work Day High heat stress days (disaggregated regular and overtime, by factory) |
| 23. | Work-Climate impacts | Worker Health (illness) | Paid Sick Days Used as Share of Available days (workforce, by factory) |
| 24. | Work-Climate impacts | Worker Health (force majeure) | Paid Force Majeure Days (by factory) |
| 25.1 | Intelligence/ Audit | Auditors | Name of Audit Firm and Auditor(s) |
| 25.2 | Intelligence/ Audit | Duration of Audit | Number of Person-days (by factory) |
| 25.3 | Intelligence/ Audit | Costs | Paid by Supplier or Lead Firm (by factory) |

**Notes:** All metrics to be collected for the last three years, to show progress over time.


# Raising the bar: Evaluating the potential and limitations of living-income strategies for the cocoa sector

# Raising the bar: Evaluating the potential and limitations of living-income strategies for the cocoa sector

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## 1. Introduction

The producers of agricultural commodities, including cocoa, coffee and many others, in developing countries are often poor. This is why a 'living income' is increasingly seen as a critical metric for assessing human rights compliance within agricultural global supply chains (GSCs) and beyond. This concept aims to establish a measurable benchmark for assessing the ability of the individuals and households involved in GSCs to generate sufficient income from their production activities: that is, to achieve a decent standard of living. The European Union's Corporate Sustainability Due Diligence Directive (CSDDD) states that 'companies should also be responsible for using their influence to contribute to an adequate standard of living in chains of activities. This is understood to include a living wage for employees and a living income for self-employed workers and smallholders, which they earn in return for their work and production' (European Parliament and Council, 2024). What constitutes an 'adequate standard of living' and who determines that is a matter of debate. One possible answer to these questions in practice – at least in the cocoa sector – has been the 'living income' approach, understood as the 'income required for a household in a particular place to afford a decent standard of living for all [its] members [including] food, water, housing, education, healthcare, transport, clothing, and other essential needs including provision for unexpected events' (van Vliet et al., 2021).

The cocoa sector is a focal point in discussions about achieving living incomes (van Vliet et al., 2021), as poverty remains a significant issue for smallholder farmers – particularly in West Africa, which produces about 57 per cent of the world's cocoa as of 2022 (Tabe-Ojong et al., 2024). Despite the global demand for the latter and the profitability of the chocolate industry, many cocoa farmers continue to live below the (living income) poverty line (Boysen et al., 2023; Hütz-Adams et al., 2017). Yet, cocoa farmers may still fare better than peers engaged in the cultivation of other cash crops (Ruml et al., 2022). Various initiatives, including certification schemes, subsidies and efforts to increase GSC transparency, have been launched to enhance farmer productivity and income in recent

decades. However, these endeavours have yet to result in widespread, sustainable improvements for cocoa growers (Boysen et al., 2023; Fountain and Hütz-Adams, 2022; Waarts et al., 2021). One possible explanation for a lack of progress may be the broader structural constraints inherent to rural areas and agricultural systems in producing countries, rather than ones specific to the cocoa sector.

The primary objective here is to bridge the gap between cocoa farmers' current earnings and their defined living income. This involves tackling systemic issues, such as ensuring fairer cocoa prices and improving productivity sustainably (Hütz-Adams et al., 2017). The approach can thus be seen as 'raising the bar' or increasing relevant targets, without necessarily being obliged to introduce fundamentally new tools to address inequality or poverty. One important exception is the multistakeholder initiatives (governments, research institutes, non-governmental organisations, retailers and manufacturers) which have endorsed the living-income approach.[1] A diverse array of market actors is involved herein, having committed to fostering fairer economic conditions for cocoa farmers. In addition to Fairtrade and the Rainforest Alliance, major chocolate manufacturers have increasingly come to recognise the ethical implications of their sourcing practices and are adopting living-income commitments as integral components of their corporate social responsibility strategies (Boysen et al., 2023; VOICE, 2023).

One key element in these living-income strategies involves addressing the procurement practices of companies, particularly by raising farm-gate prices. Doing so aims to ensure that farmers receive fair compensation for their produce, enabling them to enjoy a decent standard of living (Kuijpers et al., 2024). Yet, it is also understood that income diversification and alternative opportunities to earn will help to avoid overproduction and cushion against risks from specialisation. Further, when cocoa becomes more attractive compared to other rural-based income opportunities, there are potential risks associated with higher income levels – including unintended consequences such as deforestation, the increased use of child labour and environmentally harmful practices. All these are practices that sustainability certification and due-diligence regulations are meant to help counter. Moreover, raising prices above market equilibrium disproportionately benefits larger, more productive farms, exacerbating existing inequalities and leaving the poorest households further behind. This strategy, focused on a single commodity, may also prove costly and inefficient in addressing poverty within a sector marked by deep-rooted structural challenges (Kuijpers et al., 2024).

This chapter contributes to the debate by critically evaluating the potential

[1] Examples are the German Initiative on Sustainable Cocoa, the Sustainable Cocoa Initiative and the Cocoa & Forests Initiative.

and limitations, as well as unintended consequences, of seeking to achieve a living income for cocoa farmers, with a focus on raising producer prices. To begin, the concept of 'living income' is briefly introduced (section 2). Based on survey data on cocoa-farming households from Ghana (collected in the context of an impact evaluation of related certification programmes in 2016 and 2018), poverty rates are also compared using different income thresholds in investigating systematic differences between households depending on how far they are from reaching the living-income benchmark. Section 3 then provides some background information on cocoa prices and introduces the so-called living income reference price (LIRP). We then illustrate the potential and limitations of regulated cocoa-price increases through descriptive examples of hypothetical adjustments to both that and productivity (section 4). Next, possible unintended consequences are explored (section 5). In closing, finally, the living-income concept is discussed more broadly (section 6).

## 2. A brief critical assessment of the living-income approach

The living-income concept defines a benchmark extending beyond the internationally recognised 'poverty line', aiming herewith to determine the income level necessary for (farm) households to secure a dignified and sustainable livelihood. According to the Living Income Community of Practice (LICoP), a living income is defined as: 'The net annual income required for a household in a particular place to afford a decent standard of living for all members of that household' (LICoP, undated). The living-income approach thus considers the resources needed to ensure a 'decent quality of life' (Waarts et al., 2021). Some argue that this is in contrast to poverty-line metrics, which focus solely on the minimum expenditure 'required for basic subsistence and survival' (LICoP, undated). This is not exactly true, since 'absolute poverty' is typically understood as the inability to attain socially acceptable minimum consumptions levels. The poverty line therefore varies according to average living standards in a given society. In cocoa-growing countries like Côte d'Ivoire and Ghana, such a minimum living standard extends well beyond what is needed for bare survival. While the World Bank's poverty line allows for global comparability, the living-income concept seeks to develop region- and sector-specific strategies based on local conditions and calculations (German Initiative on Sustainable Cocoa, 2024; Rainforest Alliance, 2023).

The living-income threshold is conceptually very similar to a poverty line, with 'poverty' being defined here as not being able to achieve a 'decent' standard of living. In poorer contexts particularly, the living-income threshold tends to be much higher than national or international absolute-poverty lines. This is because it assumes greater universality in the elements making up a decent standard of living across countries (for example, in terms of what is considered decent housing; see Faitrade, 2022). This is in contrast to concepts like the World Bank's 'absolute poverty line', which is an average of national poverty lines among the world's poorest countries (the Int$2.15) or lower-middle-

income (Int$3.65) and upper-middle-income ones (Int$6.85), respectively.[2] These poverty lines ultimately rest on national poverty lines, i.e. how different societies understand and define poverty.[3]

The calculation of the living-income benchmark is premised on the ad hoc methodology proposed by Anker and Anker (2017) for determining what constitute living wages. Basically, it considers average local outgoings regarding such essential needs as nutrition, housing, education and clothing, while accounting for 'unexpected costs' met via a certain proportion of this expenditure. This approach is interpreted by some as a 'normative standard' for a decent living which goes beyond mere survival (Smith and Sarpong, 2018). Anker and Anker (2017) offer detailed descriptions on how to compute the different components of a living income and the data to be used to capture local conditions and prices. Some of the methodology's both explicit and implicit assumptions may be challenged; while the approach is used in practice, it has not been endorsed by the scientific community concerned with welfare and poverty measurement. This is probably because of its normative premises, which blur the distinction between absolute and relative understandings of poverty. This is not to deny some of the approach's merits and acknowledge that it yields empirically relevant estimates of a basic but decent standard of living. There has been no systematic research on the differences between living-income thresholds and conventional poverty lines.

To assess and judge poverty and living standards, the choice of threshold obviously matters. Below, we apply different poverty lines to a sample of Ghanaian cocoa-farming households. The country's cocoa sector is an important contributor to the national economy. As of 2018, it accounted for approximately 25 per cent of the country's foreign-exchange earnings and supported the livelihoods of approximately 800,000 smallholder farmers (Ameyaw et al., 2018). Table 1 shows three thresholds: the living-income line as well as the international extreme and low-middle-income poverty lines, respectively. Note that the Ghanaian statistical agency also uses these frameworks in their own assessments of national poverty. They thus seem to adequately reflect the different understandings of poverty relevant in the Ghanaian context. What is noteworthy here is that the living-income threshold exceeds the upper national poverty line by more than 70 per cent.

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[2] All adjusted to 2017 purchasing power parity (PPP) values for global comparability.

[3] See Joliffe and Prydz (2021) for an informative summary on (international) poverty lines. It goes beyond the scope of this chapter to thoroughly outline the differences between the respective approaches. In practice, the living-income threshold will probably yield similar results to the societal poverty line for middle-income countries. The societal poverty line comprises a fixed threshold value for all countries, and it is in part a relative line which varies with the income or consumption level of each country (see Baah et al., 2024).

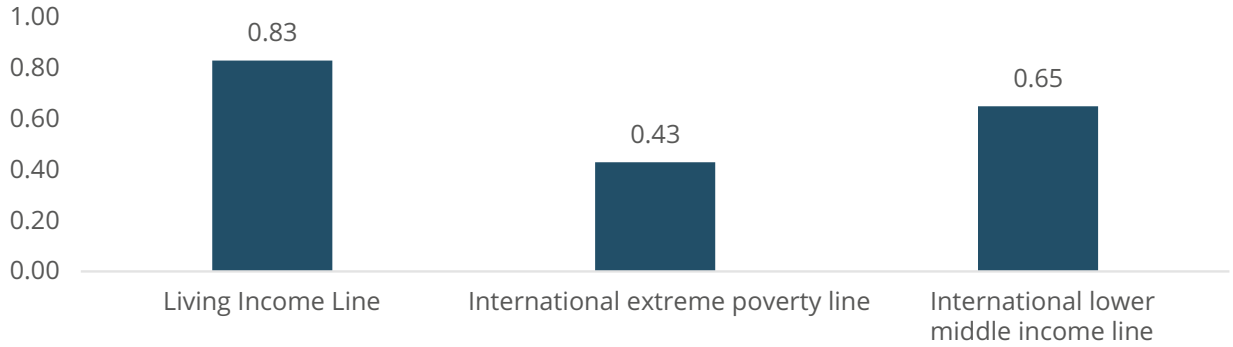
### Table 1: 2017 Poverty lines person/day (in Int$)

| Living-Income Line | International and National Poverty Line | |
|---|---|---|
| | **Extreme poverty / lower national** | **Lower middle income / upper national** |
| 6.22 | 2.15 | 3.65 |

**Source:** Authors' own compilation.
**Notes:** The living-income line used in this comparison is publicly available via the Align Tool and is based on benchmark studies by the Global Living Wage Coalition and the LICoP, employing the Anker method. Smith and Sarpong (2018) provide a detailed report on the calculation of the living-income benchmark for Ghana's cocoa-growing regions. For updated calculations, see Medinaceli et al. (2024). Reference points are the cocoa-producing regions of Ghana. The national poverty line refers to that country. This line was set in 2013 and adjusted using inflation rates from Statista. All values are in 2017 PPP.

These respective thresholds translate into different poverty rates for a sample of Ghanaian cocoa farmers, as depicted in Figure 1 below.[4] While 83 per cent of the sampled households fall below the living-income line, 43 per cent are classified as living below the international (national) extreme-poverty line. Meanwhile, 65 per cent are considered poor according to the upper poverty line. These results are close to previous estimates on cocoa farmers. For example, Tyszler et al. (2018), in their LICoP study, found that 83 per cent of 2,807 surveyed households in the 2016/2017 season did not achieve a living income. By 2021, Boysen et al. (2023) reported that this figure had risen to 90 per cent. Similarly, van Vliet et al. (2021) observed that across different datasets and time periods, 70–90 per cent of households remained below the living-income threshold.

### Figure 1: Cocoa-household shares living in poverty according to respective thresholds




[4] Data were collected during the 2015/2016 and 2017/2018 seasons as part of an impact evaluation of an outgrower scheme. The study covered a region of approximately 8,600 square kilometres, primarily within the Ashanti Region, with smaller portions in Brong Ahafo, Central and Western Regions. The analysis pools panel data from 2,807 households to evaluate living-income and poverty lines corresponding to the survey seasons.

We now categorise households based on their proximity to the living-income benchmark. This classification aims to illustrate the systematic differences across groups. It also emphasises the diversity within the 'living-income poor' category. By examining these variations, we can gain a deeper understanding of the challenges faced by different groups, recognising that factors such as farm size and productivity play significant roles in their financial circumstances. Table 2 below details household and farm characteristics across four groups categorised according to how far away they are from reaching the living-income benchmark.[5]

The latter threshold sees the vast majority of Ghanaian cocoa farmers as situated below the income levels needed to afford a decent standard of living. Yet, these individuals are a very heterogeneous group, which can be seen when we compare the characteristics of households across different income strata as a share of living income (Table 2). The poorest households (<50 per cent of living-income) tend to be made up by larger families, suggesting a negative correlation between household size and the ability to achieve a living income for every member. In contrast, households closer to or above the living-income benchmark have significantly larger farms and more land dedicated to cocoa cultivation. Households earning more than a living income also have more diversified sources of earning and rely less on cocoa growing. Specifically, 18 per cent of the households earning more than 110 per cent of a living income meet the benchmark even without their cocoa-related revenues, while 70 per cent meet the benchmark only via the latter. The increases required to meet a living income among groups 1 and 2 vary greatly: households earning 50–90 per cent of a living income would need to increase their earnings by 107 per cent on average, while those bringing in less than 50 per cent of a living income would require a nearly sixteenfold increase. Importantly, this group makes up 65 per cent of the households in this sample.

[5] Equivalent scales adjust income or expenditure to account for household size and composition, allowing for more accurate comparisons of living standards. These scales reflect varying needs within a household by assigning different weights. Here, in line with the Align Tool: 1 for the first adult; 0.5 for the second adult; and, 0.3 for each child. This method helps standardise poverty assessments and income comparisons, ensuring that different household types are evaluated in a more consistent manner.

### Table 2: Proximity to the living-income benchmark per household and cocoa-plot characteristics

| | 1<br><50% LI | 2<br>50–90% LI | 3<br>90–110% LI | 4<br>>110% LI |
|---|---|---|---|---|
| **Household characteristics** | | | | |
| Sample share | 0.65 | 0.21 | 0.05 | 0.09 |
| Household size | 5.44<br>(2.32) | 4.80<br>(2.40) | 4.29<br>(2.17) | 3.92<br>(2.39) |
| Cocoa income share | 0.79<br>(0.26) | 0.80<br>(0.25) | 0.80<br>(0.25) | 0.75<br>(0.31) |
| Total farm size (in acre) | 10.34<br>(7.94) | 13.95<br>(9.64) | 16.13<br>(11.48) | 22.00<br>(16.89) |
| Total cocoa area (in acre) | 9.20<br>(7.03) | 12.90<br>(8.80) | 14.50<br>(9.87) | 20.25<br>(16.05) |
| Share of earning LI without cocoa (=1) | n.a. | n.a. | 0.000 | 0.18<br>(0.38) |
| Share of earning LI only with cocoa (=1) | n.a. | n.a. | 0.17<br>(0.38) | 0.70<br>(0.46) |
| Required cocoa income increase to achieve LI | 15.91<br>(131.55) | 1.07<br>(2.16) | 0.06<br>(0.30) | n.a. |
| **Cocoa-plot characteristics (averages across plots)** | | | | |
| Average productivity (kg/acre) | 108.84<br>(90.77) | 176.07<br>(127.52) | 208.49<br>(124.78) | 221.34<br>(151.23) |
| Average price per 64kg bag (2016) | 425.69<br>(1.73) | 425.92<br>(1.94) | 425.73<br>(1.78) | 425.77<br>(1.81) |
| Average price per 64kg bag (2018) | 477.05<br>(6.06) | 478.70<br>(7.78) | 481.18<br>(9.31) | 479.27<br>(8.23) |
| Fertiliser expenditure per acre (GHS) | 27.48<br>(77.44) | 47.03<br>(89.71) | 50.24<br>(78.65) | 41.40<br>(65.16) |
| Hired-labour expenditure per acre (GHS) | 39.48<br>(78.77) | 38.51<br>(72.97) | 39.05<br>(61.80) | 44.90<br>(84.11) |
| Sales value per acre | 770.08<br>(636.99) | 1246.51<br>(914.43) | 1486.33<br>(887.26) | 1560.99<br>(1057.43) |
| Profit per acre | 603.44<br>(495.47) | 1129.01<br>(866.94) | 1370.71<br>(900.61) | 1479.23<br>(983.09) |
| **Observations** | **1837** | **586** | **130** | **254** |

**Notes:** LI = living income; GHS = Ghanian cedi. Households in column 1 earn less than 50 per cent of the LI; in column 2, between 50–90 per cent of the LI; in column 3, close to or slightly above the LI (i.e. between 90–110 per cent); in column 4, more than 110 per cent of the LI.

Another important finding is the strong relationship between land productivity and achieving a living income. Households at or above the latter exhibit nearly double the productivity rates of the poorest households. While price regulation keeps farm-gate prices similar across groups, and differences in fertiliser use and hired-labour expenses are not pronounced, these variations in land productivity led to notable differences in sales values and profits.

## 3. Raising the bar by raising the price

Raising cocoa prices and establishing a LIRP is a central part of many approaches aimed at achieving a living income for the crop's growers. Higher regulated prices are seen as a direct mechanism to help farmers and workers achieve a living income, ensuring they receive a fairer share of the value generated in the GSC. In addition, regulating prices aims to provide greater stability in an industry marked by significant fluctuations therein (Rainforest Alliance, 2023; Veldhuyzen, 2019; VOICE, 2023).

The Fairtrade Living Income Strategy is one initiative emphasising the role higher cocoa prices can play in helping achieve a living income. Higher prices are seen as liable to prompt companies to adopt sustainable purchasing practices, cultivate long-term relationships and offer fair compensation (Fairtrade, 2022). Central to this strategy is the Fairtrade LIRP, which is the price which would need to prevail to lift a farm household above the living-income threshold – albeit under certain assumptions about yield and land cultivated for cocoa. For 2023 and 2024, for example, this price was $2.12 per kilogram for Ghana, based on a benchmark yield of 800kg per hectare (in line with the productivity target of the Ghana Cocoa Board, COCOBOD) and a 'viable' farm size of 3.3 ha (Fairtrade, 2024; Veldhuyzen, 2019).[6] Note that actual average yields are more or less half of 800kg per ha, but that farms – at least in our sample – are much larger than 3.3. ha. The 2023 Living Income Progress Report highlights the success of the Living Income Learning Project, which collaborates with companies such as Tony's Chocolonely and Ben & Jerry's. Through this initiative, the

[6] To date, Fairtrade country-level reference prices have been established for cocoa in two countries, coffee in seven countries, vanilla in two countries and coconuts in one country. Additionally, supply chain-specific reference prices have been developed for various products and places of origin, including cashews, oranges for juice, robusta coffee and fine-flavour cocoa, tailored to companies and their supplying cooperatives (Fairtrade, 2023).

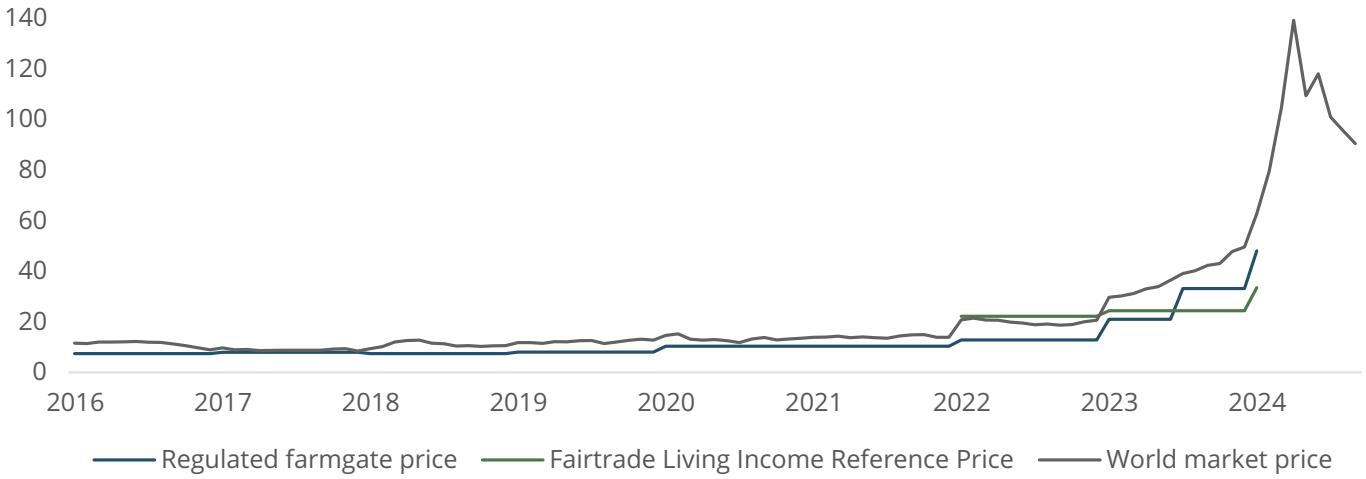
report claims, farmers received an average of 15 per cent higher farm-gate prices, with 21 per cent of participating households achieving a living income within the first year (Fairtrade, 2023; Myers, 2024).[7]

A similar approach is the Living Income Differential Policy (LID), implemented in 2019 by the governments of Côte d'Ivoire and Ghana. Under this policy, buyers are required to pay an additional premium of $400 per ton of cocoa on top of the world-market price. This premium is redistributed to farmers through a higher minimum farm-gate price set by both governments (Fountain and Hütz-Adams, 2022; Gilbert, 2024). Furthermore, part of the LID budget is allocated to a stabilisation fund to support farmers when market prices fall below a certain threshold. During periods of strong prices, these funds are directed towards development projects which benefit cocoa farmers, such as infrastructure improvements and educational initiatives. The policy has garnered support from several large chocolate manufacturers committed to enhancing the lives of smallholders within their GSCs (Boysen et al., 2023; VOICE, 2023).

Figure 2 below illustrates the farm-gate prices established by COCOBOD, alongside the Fairtrade LIRP and the world-market price for context. Notably, cocoa prices have surged significantly since late 2023, with the regulated farm-gate price exceeding the Fairtrade LIRP. A particularly sharp increase occurred in April 2024, when the Ghanaian government raised the farm-gate price by 58.26 per cent. This recent spike in cocoa prices can be primarily attributed to a significant decline in cocoa-bean production from major supplier countries, particularly in West and Central Africa. Such a surge has been driven by significantly reduced yields due to the spread of pests and diseases caused by erratic rainfall and higher temperatures in cocoa-growing regions, themselves a consequence of climate change and the El Niño phenomenon. In addition, the West African cocoa sector is increasingly facing structural issues, including aging trees and insufficient replanting. Moreover, in Ghana land use in some cocoa-growing regions is shifting towards artisanal gold mining, with farmers renting out their fields for small-scale mining operations, further constraining the crop's production (Tabe-Ojong et al., 2024).

[7] This report presents findings from the first two years of the Living Income Learning Project, conducted in collaboration with Tony's Open Chain, Ben & Jerry's and six cocoa cooperatives in Côte d'Ivoire. The initiative focused on enhancing farm profitability through improved cocoa yields, crop diversification and cost efficiency, alongside the companies' commitment to paying the LIRP. Based on detailed farm records from a representative sample of 1,200 households, data on expenditure, labour, production and sales were collected, analysed and compared with the assumptions underlying the LIRP's calculation. However, due to limited information on the implementation of project activities and the lack of a control group (or the application of another rigorous method to establish a credible counterfactual), it remains unclear whether the observed outcomes can be attributed solely to the initiative at hand.

**Figure 2: Cocoa price in Ghanaian cedi/kg**




**Source:** Author's own illustration, based on data from Fairtrade International (2024), COCOBOD Ghana and the International Cocoa Organization (ICCO).
**Notes:** Regulated farm-gate process and Fairtrade prices are specific to Ghana. World-market prices are converted to GHS using average annual exchange rates from Statista and Exchangerates.org.

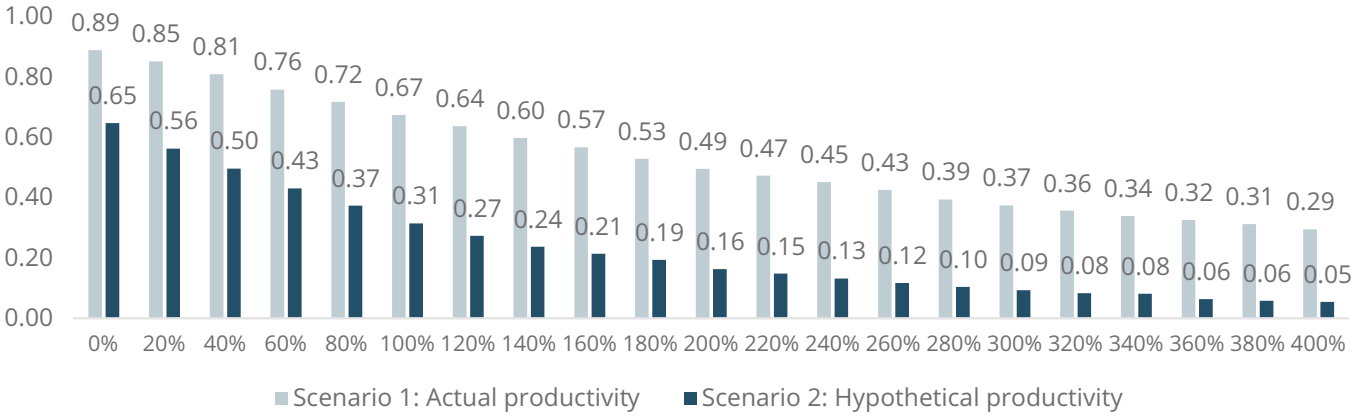
Although cocoa farm-gate prices for Ghanaian farmers have been on the rise in recent years, the graph clearly shows a growing disparity between the world-market and the regulated farm-gate price, with the latter significantly outpacing the former. Additionally, since 2023 the Fairtrade LIRP has consistently been below the regulated farm-gate price. There are no studies which have looked into what the welfare implications of these recent price hikes are. While higher prices translate into increased cocoa-related earnings, reduced yields, as mentioned before, will have mitigated this effect and many farmers are likely to have seen limited if any gains at all (Tabe-Ojong et al., 2024).

## 4. Understanding potential and limitations through micro-level data illustrations

To illustrate the potential of fixing higher farm-gate prices on cocoa incomes, Figure 3 below presents the shares of households existing below the living-income threshold across a spectrum of hypothetical price increases, ranging from 20 to 400 per cent. These shares are calculated based on two scenarios: (1) the current productivity levels of households and (2) a hypothetical one where all households achieve the same average land productivity as the high-income group 4 at around 221kg/acre. Scenario 2 implies a productivity target of roughly 550kg/ha, which is still substantially below the COCOBOD and Fairtrade figure of 800kg/ha here. This approach enables us to illustrate the effects of price increases on household-income levels.

Figure 3 shows that although higher farm-gate prices can help growers move closer to achieving a living income, the impact is more muted than anticipated. A price increase of around 200 per cent would reduce the share of households situated below the living-income threshold from 89 to 49 per cent. Even with a 400 per cent price increase, however, about 29 per cent of our sample would still remain below said threshold. At higher productivity, price increases have a larger effect: a 200 per cent increase in the cocoa price would now see 16 per cent of households earn less than a living income, with that figure standing at 5 per cent on the back of a 400 per cent price increase.[8] Even without any price adjustments, higher productivity reduces the share of households so positioned to 65 per cent. These findings are in line with those of van Vliet et al. (2021), who show that yields of 1500kg/ha, which are agro-ecologically feasible, would leave only 13–20 per cent of their sample households below the living-income line without any price increases. This highlights that achieving a living income through cocoa production, even with higher producer prices, remains unattainable for many households – a conclusion supported by Waarts et al. (2021). In addition to low productivity, a significant factor here is that many households below the living-income threshold do not own or cultivate enough land.

### Figure 3: Poverty shares relative to hypothetical price increases

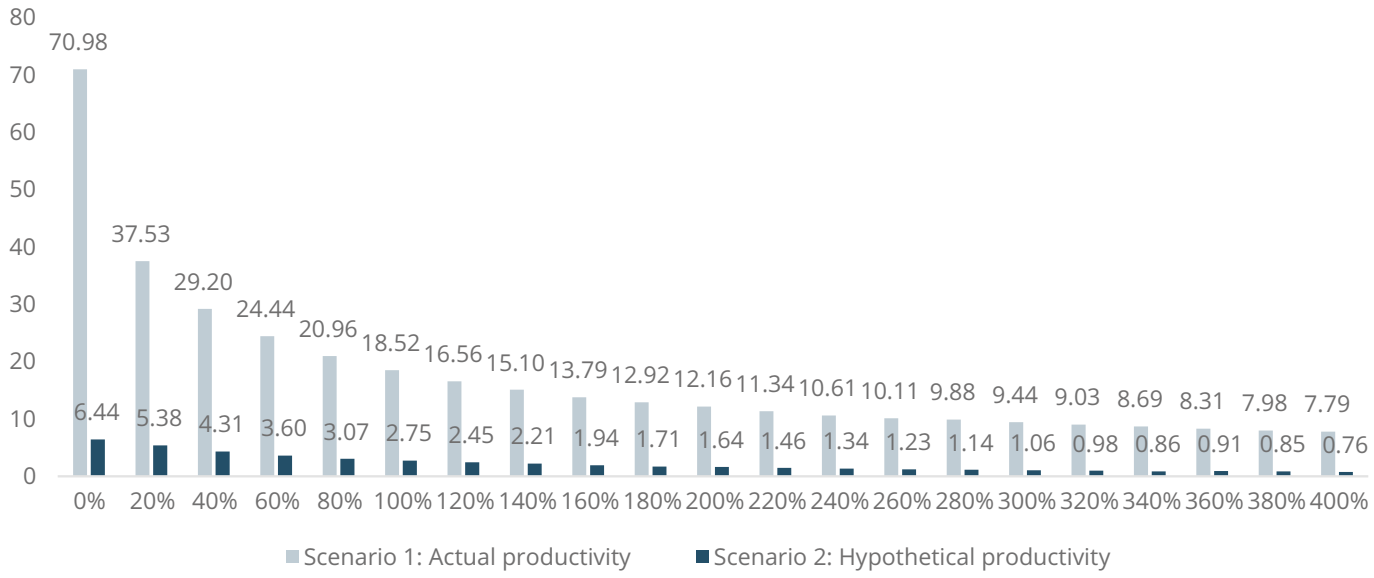



**Source:** Author's own illustration, based on data from Fairtrade International (2024), COCOBOD Ghana and the International Cocoa Organization (ICCO).
**Notes:** Regulated farm-gate process and Fairtrade prices are specific to Ghana. World-market prices are converted to GHS using average annual exchange rates from Statista and Exchangerates.org.

[8] Although the actual regulated farm-gate price nominally increased fivefold between 2017/2018 and 2024, this does not imply that living-income poverty declined accordingly, as other market prices (e.g. for agricultural inputs) likely fluctuated during this period. The high prices are linked to the supply challenges and shortages previously described. Additionally, the nominal price increase implies a real increase of 90.5 per cent after adjusting for inflation.

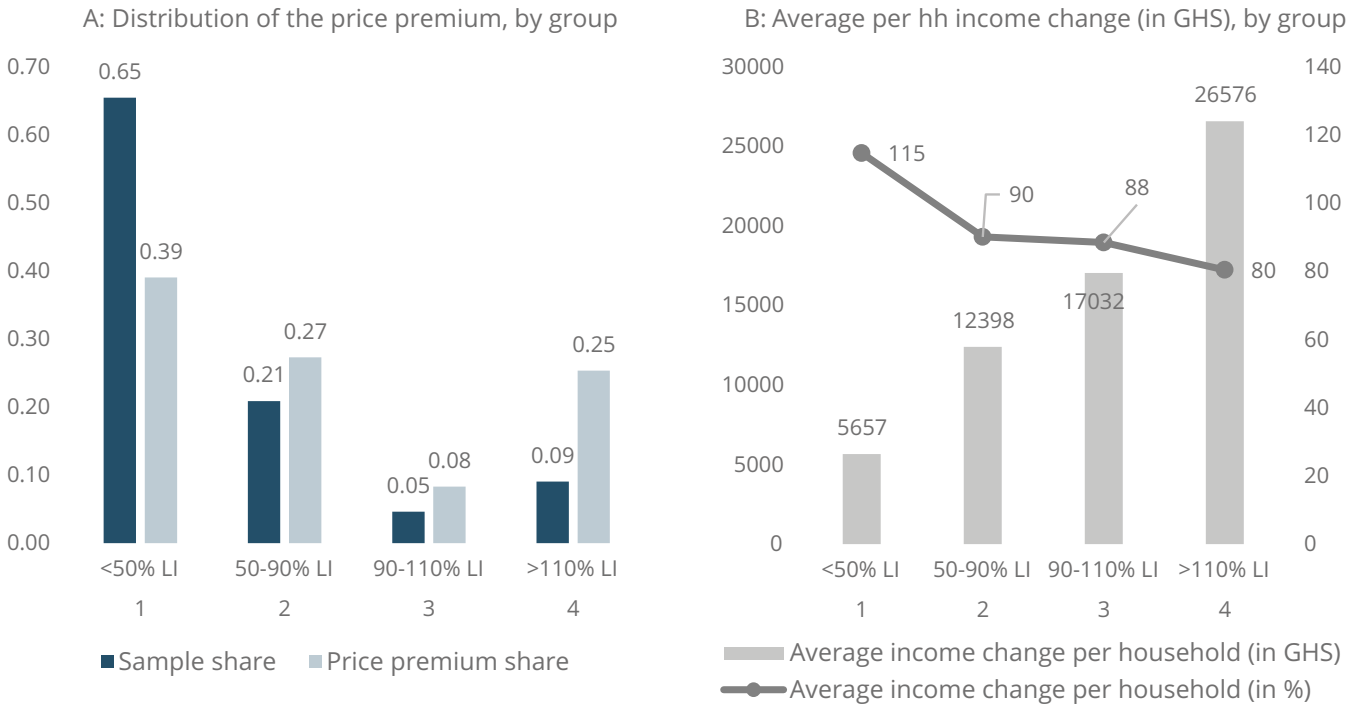
Figure 4 below illustrates this 'land gap' for the households remaining below the living-income line despite price increases. With a 20 per cent one, for instance, these households would need an additional 37.53 acres of cocoa land on average to reach a living income given their current productivity level. Should the latter increase, the land gap remains substantial at 5.38 acres. This scenario assumes all farmers receive the same (increased) price and have uniform productivity, underscoring that inadequate land size remains a key barrier even under higher cocoa prices.

**Figure 4: Land gaps for the living-income poor with hypothetical price and productivity changes (in Acres)**




Because these price premiums are tied to the volume of cocoa produced, larger and more productive households intuitively benefit disproportionately (Kuijpers et al., 2024, Waarts et al., 2021). Panel A of Figure 5 illustrates the distribution of the price premium generated by a 100 per cent price increase across four household groups, categorized by their proximity to the living income line. Group 1, comprising households earning less than 50 per cent of the living income, receives 39 per cent of the total price premium despite accounting for 65 per cent of the sample population. Consequently, the share of the price premium allocated to this group is significantly lower than their representation within the sample. In contrast, the other three household groups receive a disproportionately larger share of the price premium. This is most pronounced in Group 4, which includes households earning more than 10 per cent above the living income. Although this group represents only 9 per cent of the sample, it receives 25 per cent of the total premium. Panel B shows that the price increase is even slightly progressive in relative terms, as the percentage income gains are highest (115%) for the poorest and largest

**Figure 5: Price premium distribution and income change of a 100 per cent increase by proximity to the living income line**




group of cocoa households. However, as this group's incomes are so low their average income increases by 5,657 GHS per household in absolute terms. With 26,576 GHS per household, this absolute gain is about 4.7 times higher for the 9 percent richest households.

## 5. Potential unintended consequences

While raising producer prices can enhance cocoa farmers' livelihoods to some extent, as illustrated above, the approach is not without significant risk of unintended consequences. Fixing farm-gate prices above market equilibrium risks exacerbating inequalities within and beyond the cocoa sector. Wealthier farmers, with larger plots and higher yields, benefit more from price increases than smallholder peers, thereby intensifying income disparities (Bymolt et al., 2018). We were able to show above that better endowed households capture a disproportionate share of the total premium paid.

Disparities between agricultural sectors will likely grow as well, between cocoa farmers and producers of other cash crops like cassava, maize and oil palm, whose prices are not similarly regulated. Cocoa is – at least under the prices of the past few years – already among the more profitable crops (Ruml et al., 2022), something readily known by farmers (van Vliet at al., 2021). Higher prices would hence incentivise growers of other cash crops to divert their resources away from essential staples towards cocoa production (Kuijpers et al., 2024). While ensuring living incomes for cocoa-producing households in Ghana is a legitimate objective, these

farmers are generally in a better economic position compared to those cultivating other food and cash crops. Research by Ruml et al. (2022), based on three rounds of the Ghana Living Standard Survey (2006, 2013, 2017), reveals that cocoa farmers are less prone to impoverishment compared to households cultivating crops like cassava, maize or oil palm. This difference is due to prices and poverty-level changes among cocoa farmers being more pronounced than for peers. Yet, it is also explained by the fact that the sector attracts more policy support (e.g. stabilised prices, subsidies and coordinated GSCs). With a poverty rate (moderate poverty line) of 18 per cent in 2006, cocoa growers were as poor as other farmers (19 per cent). Rural poverty worsened in 2013, but less so for cocoa producers (20 per cent) than for other farmers (25 per cent). By 2017 – that is, approximately around the time when we collected the data used above – moderate poverty among cocoa-farming households stood at a figure of 15 per cent compared to one of 21 per cent for other agricultural households.

Higher cocoa prices are likely to stimulate an increase in supply, which could, in turn, lead to deforestation and other environmental issues. As farmers seek to expand their cocoa farms to capitalise on higher prices, deforestation may intensify (Kuijpers et al., 2024). Especially so in regions like West Africa, where clearing forests is more cost-effective than rehabilitating old plantations (Boysen et al., 2023). Similarly, harmful agricultural practices – such as increased agrochemical use – may also increase. A greater demand for workers resulting from expanded cocoa farms might unintentionally worsen the issue of child labour, as farmers could depend more on family members, to meet the higher labour requirements (Waarts et al., 2021). Habraken et al. (2023) indicate that while higher incomes are often associated with reduced child labour, this relationship only holds once a household exceeds the living-income threshold. Below this benchmark, increased income correlates with higher child labour, likely due to rising demands on the impacted households. This suggests that strategies like intensifying cocoa production may inadvertently increase (hazardous) child labour.

All these unintended consequences could, in principle, be mitigated if increased supply came just from farms complying with (human rights and environmental) standards and regulations and that export to markets where such compliance matters. However, this cannot be taken for granted. It may well be the case that the supply response happens on the 'unregulated margins' where all of the above-mentioned undesirable practices remain commonplace.

A supply response to higher prices could eventually drive the latter down if demand does not grow at the same pace. Research on the LID, including studies by Boysen et al. (2023), van Vliet et al. (2021) and Waarts et al. (2021), suggests that while its premiums may provide limited short-term income increases their overall impact on poverty reduction may remain low. Boysen et al. (2023) highlight that supply-side adjustments and manufacturer behaviour significantly influence the LID's long-term repercussions, stressing the need for robust supply management. Without it, setting

higher prices could prompt buyers to shift to cheaper sources, reducing the benefits for farmers. Ghana's large and economically important cocoa sector would be vulnerable to such an outcome. Additionally, the broader market response, including reactions from other cocoa-exporting countries, plays a critical role in determining the effectiveness of such price interventions (Adams and Carodenuto, 2023; Kuijpers et al., 2024). Thus, the long-term supply response remains uncertain, complicating the sustainable benefits of higher regulated cocoa prices.

Additionally, raising cocoa prices without promoting income diversification may reinforce dependence on cocoa, a crop that comes with risks only likely to intensify with climate change. Cocoa is highly sensitive to environmental factors like temperature and rainfall, both of which are becoming more erratic due to climatic shifts. Rising temperatures and unpredictable weather patterns, including prolonged droughts and excessive rain, can significantly reduce yields. Thus, raising cocoa prices may counteract climate change adaptation initiatives in the cocoa sector. Additionally, deforestation to expand cocoa farms' size further exacerbates said environmental challenges. Over-reliance on cocoa could therefore lead to economic vulnerability, particularly for smallholders, as climatic impacts worsen crop viability and reduce incomes (Ameyaw et al., 2018; Amfo et al., 2020).

## 6. Discussion

This chapter has explored the potential and limitations of targeting living incomes for agricultural households by adjusting commodity prices, with a particular focus on cocoa production in Ghana. We discussed the living-income methodology, which can be criticised for its ad hoc approach and because it blurs the distinction between absolute and relative concepts of poverty. We acknowledge the concept's practical merits in terms of approximating a 'decent standard of living'. However, we also show that applying the approach leads to a very high income threshold for Ghana's cocoa-growing regions, one classifying most such farmers' living standards as well below 'decent'. It is not clear whether the concerned farmers would agree: moderate national poverty thresholds, which include many items beyond mere survival, are well below the living-income threshold. This also implies that achieving a living income for all cocoa-farming households represents a very ambitious goal and they would need to fare much better than their rural peers engaged in other forms of economic activity. In our view, the living-income threshold should be more responsive to context-specific operationalisation of what constitutes a decent standard of living based on a scientifically validated and transparent methodology.

The living-income approach combines a range of established strategies – such as increasing productivity, improving market access and expanding social-protection programmes – but emphasises price adjustments through the LIRP or similar. While increasing cocoa prices may seem like a straightforward solution to boosting

farmer incomes, this approach comes with significant limitations as well as risks. As demonstrated, higher prices may lift some households above the poverty line, but many others will remain below the living-income threshold regardless – that due to factors such as limited land availability, as continuing to have an impact even despite improved prices and productivity. Additionally, this strategy is costly and tends to benefit wealthier, more productive households disproportionately. Moreover, unintended consequences such as rising inequality, deforestation, increased child labour and an over-reliance on cocoa production may also arise.

It is crucial that the potential negative repercussions of well-intended regulations and interventions, in particular higher prices, are carefully monitored. This requires rigorous analytical approaches. In particular, it is of the utmost importance that the evaluation of efforts made to improve the situation of cocoa-farming households looks beyond only those compliant with certification schemes. Many of the potential risks outlined – most notably, child labour, the use of harmful chemicals and deforestation – are likely to occur at the hands of non-compliant farmers whose exports may increasingly head to non-regulated markets. Such reallocation effects would massively undermine the effectiveness of European regulatory actions like the CSDDD.

These issues underscore that a more comprehensive strategy is required to achieve sustainable, long-term benefits for cocoa farmers. This should include regulatory action that targets the (European) cocoa supply chain. Yet, such endeavours need to be accompanied by comprehensive support aimed at better GSC management, environmental sustainability and income diversification. The many stakeholder initiatives underway are the right fora to take this support forwards, probably with less focus on prices.

Improving productivity is key, particularly for farmers who have the potential to become high-yield growers. Van Vliet et al. (2021) indicate that smallholder cocoa farms in West Africa, which typically yield around 400kg/ha annually, have the potential to produce significantly more if constraints such as nutrient deficiencies and pest infestations are addressed. Importantly, increased productivity has been shown to deliver the most substantial gains in household-income levels, as detailed above and elsewhere.

The concept of a 'dual transition' (Bymolt et al., 2018) is relevant here, where high-potential cocoa-growing households are encouraged to professionalise their farming practices. In contrast, other households – especially those constrained by low productivity or limited (land) resources – may be better off transitioning away from cocoa production entirely. Climate change is expected to accelerate this shift, as it reduces the suitability of growing the commodity in West Africa. For these farmers, transitioning to alternative crops or agroforestry could enhance their resilience by improving food security and income stability (Abdulai et al., 2020; van Vliet et al., 2021). Off-farm income generation can also play a vital role, helping farmers spread risk and make necessary investments in their

operations. Despite cocoa being one of the most profitable crops grown in Côte d'Ivoire and Ghana, diversification strategies are essential for many households to reduce vulnerability. Cocoa dependency alone is weakly correlated with poverty reduction, suggesting that simply improving productivity or prices here may not lead to significant gains vis-à-vis farmer incomes (van Vliet et al., 2021). This underscores the need for tailored interventions, particularly for farmers with limited potential to achieve a living income solely from growing cocoa beans. For these individuals, social-protection programmes, access to healthcare, education opportunities and off-farm income sources become critical (Waarts et al., 2019).

Targeting poverty alleviation within a single agricultural sector, such as cocoa, is inherently limited due to the structural and environmental factors affecting farmers' livelihoods. Poverty is a multidimensional issue, and focusing narrowly on one crop may be to overlook broader issues. A more comprehensive strategy which includes policies supporting off-farm diversification and social safety nets would be more effective in addressing the root causes of poverty. Therefore, while price increases may offer temporary gains, a more diversified and sustainable approach – one addressing both sector-specific issues and broader socio-economic challenges – is crucial for long-term poverty alleviation and resilience in the cocoa sector.

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# Beyond compliance audits: A review of Better Work's journey in promoting decent work in the global apparel industry

# Beyond compliance audits: A review of Better Work's journey in promoting decent work in the global apparel industry

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## 1. Introduction

On 23 April 2013, large structural cracks were found in the Rana Plaza building on the outskirts of Dhaka, Bangladesh. This eight-storey building housed several shops and five ready-made apparel factories supplying around 30 European and American clothing brands. While the shops promptly shut down, the factory owners – facing intense pressure to meet client orders – disregarded warnings and compelled workers to return the next day, threatening to withhold wages (Clean Clothes Campaign, 2024). The building collapsed the following day, killing 1,130 people and injuring over 2,000. Despite having passed several social audits meant to ensure compliance with international buyers' codes of conduct, subsequent investigations revealed that the building had violated numerous safety regulations and was built without the necessary permits (International Federation for Human Rights, 2014).

Disasters like the Rana Plaza collapse have cast doubt on whether the current structure of global supply chains (GSCs) can genuinely promote economic development while safeguarding workers' safety and ensuring social justice, particularly in producing countries of the Global South. The emergence of GSCs has provided many developing countries with access to global trade, enabling them to diversify their economies and generate formal employment opportunities for previously marginalised workers, including millions of young women – especially in labour-intensive sectors such as the apparel industry (Rossi, 2021). However, a large body of evidence has shown that globalised production is often characterised by various forms of labour exploitation and vulnerability (ILO, 2021).

The ILO (e.g. 2013) has traditionally seen public governance as the primary mechanism for promoting workplace compliance. Governments have the authority to establish and enforce labour laws in line with international standards. However, national authori-

[1] The views expressed in this chapter are those of the author and do not necessarily represent those of the International Labour Organization, the International Finance Corporation or the Better Work programme.

ties often lack the resources or expertise to monitor compliance in all or even most workplaces (ILO, 2016). The rise of GSCs and the fragmentation of production across national borders have further complicated these regulatory responsibilities (ILO, 2021). As a result, not all governments have been able to adapt to the rapid changes brought about by the exposure to the global economy, resulting in governance gaps or a 'global governance deficit' (Mayer and Pickles, 2014).

Given these limitations to public governance, and in response to public pressure potentially harming their reputation as good corporate citizens, large multinational corporations have adopted corporate social responsibility (CSR) standards and private compliance initiatives (PCIs). These include codes of conduct, audits and other self-reporting mechanisms aimed at privately monitoring compliance with labour and environmental standards (ILO, 2016). The effectiveness of voluntary models of private governance has been widely questioned (Kuruvilla et al., 2021; Bartley, 2018; Locke, 2013; Anner, 2012). The complexity of globally dispersed multi-tier supply chains limits the ability of multinational enterprises to effectively monitor and influence all upstream suppliers, particularly subcontracted workplaces – where the most severe human rights violations often take place (Fontana and Egels-Zandén, 2019; Soundararajan and Brammer, 2018; Aßländer et al., 2016; Wilhelm et al., 2016).

Moreover, most PCIs are developed by lead firms at the global level without consultation or coordination with national authorities in the countries where their suppliers operate, making them rarely enforceable by local courts and undermining public-governance mechanisms (Amengual and Chirot, 2016). Unlike national legislation, compliance with PCIs is voluntary in the sense that they are agreed upon by the contracting parties. While suppliers may be obliged to comply with such schemes to maintain business contracts, enforcement is driven by lead firms not the state, and these schemes can be discontinued if no longer seen as profitable. In sum, PCIs are not necessarily designed to foster long-term behavioural change vis-à-vis supplier firms. Short-term contracts and business uncertainty often discourage suppliers from investing in compliance when the relationship lacks stability and is not bolstered by national enforcement mechanisms (ILO, 2016).

The limitations of voluntary models of private governance have led to the rise of new, hybrid forms of GSC labour governance, including multi-stakeholder initiatives (MSIs). Such MSIs are often a broad-based coalition of different global and national actors, including lead firms, manufacturers, trade unions, state institutions and civil society, who collaborate on standard-setting, implementation, monitoring, sanctioning and capacity-building on a particular labour issue (Gereffi and Fernandez-Stark, 2016). This chapter focuses specifically on the ILO/IFC Better Work programme, a distinctive model of labour governance. Unlike private compliance or traditional multi-stakeholder initiatives, Better Work involves key national institutions, particularly host countries' Ministry of Labour (Rossi, 2021). By integrating the ILO's tripartite approach (engaging governments, employers and workers), alongside partnering with

GSC actors such as brands, retailers and manufacturers, Better Work stands out as a unique governance mechanism in the apparel sector.

The chapter is structured as follows. The second section explores the origins of the Better Work programme and its factory-engagement model. The third section provides an overview of the empirical evidence on the programme's impact at the factory level, highlighting its effects on workers' lives and business performance. The fourth section examines Better Work's influencing and advocacy work at the policy level with national tripartite constituents, as well as its global engagement with brands and retailers. The fifth and final section examines the programme's recent evolution, with a particular focus on its sustainability and scalability efforts. It also presents the key research questions which the programme aims to address in the coming years. This reflection will be offered within the context of emerging policy frameworks, including the recent human rights due diligence (HRDD) legislation at the European Union level, introduced nearly a decade after the Rana Plaza tragedy.

## 2. The origins of the Better Work programme and its factory-engagement model

The apparel industry has historically played a pivotal role in the industrialisation and socio-economic progress of developing countries due to its low entry barriers, high labour intensity and minimal skill requirements (Lopez-Acevedo and Robertson, 2012). Since the early 1970s, the industry has expanded rapidly, integrating many developing countries into global apparel exports and absorbing large numbers of unskilled workers, predominantly women. As one of the most trade-regulated manufacturing activities in the global economy, the apparel industry operated under the Multi Fibre Arrangement (MFA) until 1994 (its successor, the Agreement on Textiles and Clothing (ATC), expired on 1 January 2005). This system of import quotas was designed to protect major import markets – the United States, Canada and Europe – by allowing them time to restructure their sectors before opening up to global competition. As quotas tightened in some developing countries, foreign investors shifted their focus to states elsewhere with fewer or no restrictions at all. This dynamic led to the spread of production to new geographical regions, allowing many developing countries to establish an apparel industry (Frederick and Staritz, 2012).

Cambodia, for example, was not part of the MFA system in the 1990s, allowing it to export to the US and the EU without facing quota restrictions. With relatively low labour costs driven by a large surplus of workers, Cambodia became an attractive production location for foreign investors from Hong Kong, Malaysia, Singapore and Taiwan (Lopez-Acevedo and Robertson, 2012). However, as Cambodian exports to the US grew rapidly, concerns about working conditions also increased, leading to Cambodia's eventual exposure to MFA quota restrictions in the US market. In 1999, the U.S.-Cambodian Bilateral Textile Trade Agreement was signed, granting Cambodia increased export quotas in exchange for improved compliance with labour standards (Kolben, 2004). Such improvements

were to be monitored by a new ILO project, Better Factories Cambodia (BFC), designed to provide neutral and reliable information on compliance with labour standards. For the first time in its history, the ILO became directly involved in monitoring labour-standards compliance at the factory level (Rossi, 2021).[2]

When the ATC was phased out at the end of 2004, the U.S.-Cambodian Bilateral Trade Agreement ended as well. Expectations regarding the impact of this phase-out on Cambodia's apparel exports were pessimistic, yet it succeeded in increasing its export value and market share from 2005 onwards, along with making consistent improvements in labour compliance (Rossi, 2021). The U.S.-Cambodian Bilateral Trade Agreement and the ILO monitoring programme were instrumental in the early growth of Cambodia's apparel sector, providing generous quotas that secured access to the US market and valuable exposure to consumers, buyers and manufacturers regarding Cambodia's capabilities as an apparel-exporting country (Lopez-Acevedo and Robertson, 2012).

The Cambodian success story set the foundations for the broader Better Work programme, launched in 2007 as an innovative partnership between the ILO and the IFC aimed at improving working conditions and promoting competitiveness in the global apparel industry. To date, the programme has expanded its activities to eleven apparel-producing countries, including Bangladesh, Cambodia, Egypt, Ethiopia, Haiti, Indonesia, Jordan, Nicaragua, Pakistan, Uzbekistan and Vietnam, in addition to pilot interventions in Madagascar and Sri Lanka.[3] It currently covers more than 2,000 apparel supplier factories and 3.4 million workers, of whom 69 per cent are women (Better Work, 2024).[4]

As described in more detail by Rossi (2021), the original service provided by BFC was to monitor factory compliance with national labour laws and international labour standards. By the time Better Work was launched in 2007, however, growing evidence had emerged questioning the effectiveness of social audits – commonly used in private compliance initiatives – in delivering sustainable improvements (Merk, 2009; Barrientos and Smith,

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[2] Today, BFC covers all apparel- and footwear-export factories in Cambodia. Participation is tied to export licences issued by the government, making the programme industry-wide (Rossi, 2021). Since BFC's launch in 2001, labour provisions in trade agreements have continued to grow. Similar trade preferences embedded in bilateral agreements were used when setting up programmes in Haiti and Jordan, too.

[3] Between 2021 and 2024, Better Work launched innovative interventions in these two countries. Unlike traditional factory-focused programmes, these pilots emphasised collaboration with industry stakeholders and national partners, complemented by targeted training on specific topics for the factory workers and managers involved.

[4] The programme's overall reach is relatively limited compared to the recently estimated 72 million people involved in the manufacture of garments, footwear, leather goods and textiles (Curley and Lally, 2024). Due to its incentive structures, the programme largely focuses on first-tier suppliers and not on subcontractors (Rossi, 2021).

2007). It became apparent that lasting progress needed more than audits; it required raising awareness among both managers and workers about their rights and responsibilities in the workplace as well as building their capacity to engage in constructive dialogue and foster cooperation. As a result, the Better Work programme significantly expanded BFC's approach by offering a comprehensive range of advisory and training services, with a strong emphasis on workplace cooperation and social dialogue as the foundation for change (Rossi, 2021).

The main features of Better Work's traditional factory-engagement model are as follows: After enrolling in the programme, a factory begins its first cycle with initial support from a dedicated Enterprise Advisor (EA). During this phase, the EA coaches the factory on establishing ties or collaborating with an existing bipartite or worker–management committee consisting of equal numbers of factory-management and worker representatives, who meet regularly to discuss and address workplace issues. The EA assists the committee to self-diagnose where they need support to comply with relevant laws and standards. Approximately 100 days after the initial advisory phase, a two-person EA team conducts a two-day, unannounced assessment using the Compliance Assessment Tool, a country-specific checklist made up of approximately 250 questions. Through direct observation, document review and the triangulation of information gathered from structured interviews with managers, workers and union representatives, the EA team monitors compliance with core international standards – on child and forced labour, discrimination, occupational safety and health (OSH), freedom of association and collective bargaining – as well as with national labour laws as regards compensation, contracts and working time.

Once their assessment is complete, a report is shared with the factory management and with global brands and retailers who subscribed to the programme. Self-diagnosed issues identified during the initial advisory phase and those further picked up on during the assessment are then listed in the factory's improvement plan. At this point, Better Work's advisory services focus on empowering the factory's bipartite committee to implement the improvement plan and address relevant instances of non-compliance. This includes providing ad hoc training for workers, line supervisors and managers, as well as offering specialised seminars wherein factory representatives can engage with peers from other facilities. Factories that re-enrol for the next cycle continue their improvement process through a tailored learning programme based on the results of annual assessments and additional insights gathered by the EAs during their factory visits.

## 3. Factory-level impacts: Improving worker well-being and business performance

The Better Work programme's first independent impact assessment was conducted by an interdisciplinary team of researchers from Tufts University, being based on nearly 15,000 survey responses from apparel workers and 2,000 responses from factory managers in Haiti, Indonesia, Jordan,

Nicaragua and Vietnam (Brown et al., 2016). Using a quasi-experimental approach which leveraged certain idiosyncrasies in programme delivery and the strategic timing of survey-data collection, the research team found that Better Work significantly impacted various factory outcomes. These included improved compliance with labour standards, enhanced worker well-being and livelihoods, and strengthened firm GSC performance and competitiveness.[5] Since then, these findings have been validated, expanded and further enriched by a diverse body of mixed-methods evidence gathered over the last nine years in collaboration with a growing network of academic partners. The rest of this section highlights the key impacts of the Better Work programme to date.[6]

### Working conditions: Pay and hours, gender equality, OSH, and having a voice

Ensuring workers are remunerated in accordance with national regulations and as contractually required has helped them retain higher take-home pay amounts. Quasi-experimental evidence from Cambodia, Indonesia and Vietnam shows that workers in Better Work factories tend to do fewer hours for higher take-home pay, and the conditions on both counts tend to continue to improve the longer a firm engages with Better Work (Antolin et al., 2020;

[5] The original identification strategy involved a randomised controlled trial, exploiting oversubscription to Better Work. It was expected that 300 Vietnamese factories would enrol in the first year. The programme anticipated a first-year capacity of 100 factories, expanding each year by an additional 100. Random assignment to a given programme-entry cohort would allow for the identification of a treatment effect. The first cohort of 100 factories would be randomly assigned to enter the programme in year 1, the second randomly selected cohort of 100 factories would be assigned to enter in year 2 and a third in year 3. However, oversubscription never occurred. Rather, identification was achieved by leveraging certain features of programme delivery and strategically managing the timing of data collection. One source of random exposure was generated by the timing of enterprise assessments. These are intended to occur annually, typically within a 11- to 14-month window, with the exact timing of each unannounced assessment being quasi-random. The impact of an assessment was detected by performing data collection after one factory had undergone an assessment but before a comparable factory had its own assessment. A second source of random exposure was introduced through the timing of the survey-data collection. The impact of differing durations of programme exposure was assessed by randomly varying the number of months between two data-collection points. More details can be found in Brown et al. (2016).

[6] The findings described in this section should be interpreted with caution. The term 'impact' is used in a broad sense to refer to the programme's contributing effects rather than definitive causal impacts, unless explicitly stated. The empirical patterns presented here provide robust evidence on the performance of firms and workers enrolled in the Better Work programme, including comparisons with non-enrolled counterparts where applicable. However, these analyses do not generally support causal interpretations unless otherwise specified.

Brown et al., 2016). Workers in firms enrolled in Better Work Bangladesh's programme appear to earn an hourly wage up to 4 per cent higher relative to peers in other factories, holding constant demographic, work and firm characteristics. When the same workers in the sample switched jobs from a factory not enrolled in the Better Work programme to one which was, their hourly wages became 2 to 3 per cent higher (Cajal-Grossi et al., 2022).[7] In Ethiopia, workers in factories engaged with the ILO SIRAYE programme, of which Better Work is an integral part, were found to have significantly higher wages than firms in a control group, with faster wage growth accumulating over time as well (Oya and Schaefer, 2024).[8]

In an industry dominated by women workers, a gender pay gap remains; Better Work has helped to narrow it, however. Systematic differences in reported take-home pay for men and women are common across the countries where Better Work operates. Such gaps can result from occupational segregation, with men gaining easier access to higher-paying jobs, and from inconsistent benefit payments, such as incorrect payment of maternity benefits or withholding of pay during breastfeeding breaks. Evidence from Indonesia, Jordan, Haiti, Nicaragua and Vietnam shows that focusing on ensuring all workers are correctly paid according to legal requirements has helped lessen the gap in pay between men and women in Better Work factories (Djaya et al., 2019). Maternity-protection provisions also have a clear effect on retaining talent. In Bangladesh, workers' general overall satisfaction is higher in factories with daycare facilities and maternity-leave provisions – those in question are also less likely to search for another job (Cajal-Grossi, 2022).

Efforts to ensure wage compliance and align pay incentives between workers and supervisors have also helped reduce concerns about sexual harassment in BFC initiatives (Babbit et al., 2020). Enforcing minimum-wage laws decreases the portion of worker pay tied to productivity, which in turn reduces vulnerability to quid pro quo sexual harassment from the line supervisors who control remuneration. Moreover, specialised training for workers and middle managers on identifying as unacceptable practices like sexualised and vulgar language being used in disciplinary settings has been shown to increase awareness and reduce concerns about verbal abuse and sexual harassment in the

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[7] This comparative study used multiple data sources to characterise the performance of factories and worker well-being in both Better Work and non-Better Work plants, incorporating unique worker-level, customs transactions and geolocation data. For further details on the methodology, see Cajal-Grossi et al. (2022).

[8] This comparative study draws mainly on firm- and worker-level surveys conducted in 2023 as endline surveys, as well as corresponding firm- and worker-level baseline surveys conducted in 2019. These surveys were designed to capture a snapshot of the 2019 and 2023 realities for a set of firms enrolled in the Better Work programme (treatment group), and a group of firms which were eligible but did not enrol (control group). For more details on methodology, see Oya and Schaefer (2024).

workplace in Indonesia, Jordan and Nicaragua (Pike and Koithara Mathew, 2023; English et al., 2023; Babbitt et al., 2020).

Harassment in the workplace is also increasingly viewed through a OSH lens. In 2022, the ILO amended its Declaration on the Fundamental Principles and Rights at Work to include a safe and healthy working environment being a fundamental right. In the apparel industry, OSH conditions have frequently failed to meet standards set by national law, and examining the related environment comprises a significant portion of Better Work's standard compliance assessment within factories. Despite improvements over the years, Better Work's assessment data indicate that compliance with national OSH standards remains a significant challenge across the apparel industry – although there is significant variation across firms. Workplaces enrolled in the programme generally maintain better ambient conditions (RTA Analytics, 2020). Efforts to identify core factors correlated with poor OSH outcomes, such as job injuries and risks of accident, have highlighted the role of management systems here, particularly wage structures. Piece-rate pay systems – where remuneration is based on output – negatively correlate with OSH outcomes, as workers facing high production incentives report heightened concerns about accidents on the job and hazardous equipment (Davis, 2021, 2018). OSH deficits are frequently cited by Better Work as a useful entry point for joint worker–management committees to address – given their visibility and effects on staff and their performance – and serve as a means of building confidence and trust in joint problem-solving. Moreover, robust social dialogue and industrial relations can benefit OSH in times of acute industry stress. A study of apparel factories in Cambodia, Jordan and Vietnam during the Covid-19 pandemic, for instance, revealed that workplaces with effective collective agreements oversaw better OSH compliance (ILO, 2022).

Better Work's approach to workers having a voice and promoting social dialogue begins with establishing quality bipartite committees, but also includes broader efforts to ensure more advanced forms of industrial relations can flourish. Early research examining the Better Work programme's impact in the realm of social dialogue focused on the role of bipartite committees in addressing key workplace issues. Past evidence shows that workers in factories with bipartite committees were more likely to report improvements in their employment conditions. More specifically, fewer workers reported verbal abuse, and better ambient working conditions were relayed in factories with established committees. Workers were also more likely to seek their trade union representatives in the presence of worker–management committees (Brown et al., 2016).

However, the same research suggested that not all bipartite committees achieve similar success: in order for them to lead to positive outcomes, key characteristics – such as freely elected representatives and the inclusion of women in their ranks – must be met (Anner, 2017; Brown et al., 2016). Further investigation into the effects of bipartite committees stressed that these should incorporate factory as well as larger institutional dynamics and industrial relations.

The interlinking approach taken by Better Work and other ILO technical units in the apparel sector in Ethiopia through the SIRAYE programme since 2019 showcases efforts to improve conditions by realising fundamental rights related to social dialogue. Over the last five years, there has been a sharp increase in the number of workers reporting there is a union present in their workplace (Oya and Schaefer, 2024). Analysis of aggregate assessments from Better Work's respective initiatives in Cambodia, Haiti, Indonesia, Jordan, Nicaragua and Vietnam revealed that factories with both a collective bargaining agreement (CBA) and union presence had, on average, compliance rates that were nearly 10 percentage points higher than those with neither, particularly in terms of regular and overtime wages, paid-leave requirements and contracts (Kuruvilla, 2021; Lupo and Verma, 2019). Moreover, recent research has shown that effective collective bargaining in Better Work factories – including no violations found in the assessment of whether collective bargaining rights are upheld – is positively correlated with improved working conditions and at a stronger level than complying only with having a functioning union or simply allowing union formation alone. This suggests that effective, rather than symbolic, recognition of enabling rights has a real effect on working conditions (Li et al., 2024).

**Business performance: Firm and sector competitiveness**

Factories in the Better Work programme experience increases in average revenue; depending on their GSC positioning and conditions, some even witness higher profitability. A quasi-experimental study by Brown at al. (2018) evaluated the impact of the Better Work programme on firm performance in Indonesia, Jordan and Vietnam, focusing on costs, profits, productivity and business terms. Key findings included positive productivity effects for firms participating in the Better Work programme as well as workers also benefitting therewith as a result of higher wages. Unit costs increased due to greater compliance with wage-related requirements. Despite these higher wages, firms still experienced increased profits – as driven by improved business terms like larger orders and potentially higher prices from key buyers. This suggests that while the Better Work programme may initially increase costs for participating firms, it can lead to long-term benefits in terms of productivity, worker compensation and overall profitability, particularly at the industry level (Brown et al., 2018).

Firms joining the Better Work programme in Bangladesh are significantly larger and undergo a higher growth rate than control firms do at least three years prior to enrolment. Following this pre-trend, Better Work firms, on average, experience 55 per cent higher export revenues, 50 per cent higher export volumes and 5 per cent higher prices after joining the programme. While export values and volumes follow a pre-trend indicating that differential growth cannot be attributed to the programme, the witnessed variation between treatment and control groups as regards prices appears only after firms have joined the programme (Cajal-Grossi, 2022). Apparel factories' competitiveness is also determined by factors beyond the prices received for products and the volumes produced.

Across multiple country contexts, it is apparent that factories enrolled in the Better Work programme are more diversified in terms of products, destinations and buyers. They benefit from greater exposure to new brands as well as innovative modes of human resource management and production techniques through their participation herein (Cajal-Grossi, 2022).

The presence of Better Work and its focus on improving compliance with legal requirements in a given apparel-producing country does not hamper said industry's competitiveness. On the contrary, apparel exports from producing countries increase with the presence of a Better Work programme. Comparing the changes for countries after entering the Better Work programme versus circumstances for those not so doing over the period 1990–2019 highlights how 80 per cent more apparel exports are seen for the former versus the latter (Robertson, 2023).

In sum, it is important to emphasise that the combined interventions of Better Work – assessments, advisory services and training – are key drivers of the impacts described above (Brown et al., 2016). This underscores the importance of a holistic approach to workplace improvement, moving beyond the mere monitoring of labour standards (Rossi, 2021). By combining rigorous and impartial auditing (the 'stick') with continuous engagement and support (the 'carrot') from highly trained, integrity-driven EAs, the programme has come to position itself as a credible and trustworthy mentor and partner. Notably, the ongoing interaction between firms' committee members and the programme's EAs not only enhances factories' motivation and capacity to strengthen their compliance efforts but also provides the EAs with valuable insight into the barriers to and enablers of desirable behaviour here. Over time, it has become clear that sustainable, long-lasting improvement at the factory level cannot be achieved without addressing the root causes of non-compliance – as often tied to external factors beyond an individual factory's control, including challenging institutional environments, ambiguous regulatory frameworks and complex GSC dynamics. Come to realise this has prompted the Better Work programme to expand its engagement with a diverse range of public and private actors, both nationally and globally, with the aim of addressing these underlying challenges going forwards.

## 4. Beyond the factory floor: Engaging national and global stakeholders for lasting improvement

As a flagship ILO programme, Better Work leverages its tripartite structure of engagement with national governments, employers and workers. In this spirit, each Better Work country programme is overseen by a Project Advisory Committee (PAC) composed of members from the listed tripartite partners. Each Better Work country team meets with the respective PAC on a regular basis to review key non-compliance issues identified in factory assessments, discuss how the programme is addressing these issues and identify where further support is needed at the national level.

Better Work's presence and convening power have been instrumental in

fostering more inclusive and effective social dialogue at the national level. This is especially important in countries where consultation and negotiation among social partners in the industry has been historically weak, meaning not representative, or did not exist prior to the programme's inauguration (Rossi, 2021). In Jordan, for example, Kolben (2015, 2019) shows that Better Work has been a critical broker of social dialogue at the sectoral and national levels and that its presence helped stabilise the apparel industry and ensure its continued success. This included coordinating efforts to negotiate industry-wide CBAs between employers' associations and the local union. Similarly, government officials in Ethiopia have recognised the important role the ILO played in supporting the establishment of a competitive and resilient apparel-export industry, including by actively participating in key technical discussions and providing feedback on related reform processes (Oya and Schaefer, 2024).

The insights generated by Better Work's EAs at the factory level, when aggregated, are constitutive of the wider programme's overall knowledge about the apparel sector and inform PAC discussions. This core knowledge stimulates greater political will and commitment among relevant partners at the national level. Better Work's role as a knowledge broker is evident, for instance, in the implementation of Zero Tolerance Protocols across all its country programmes. These protocols ensure that when non-compliance with select core labour standards is identified, the Ministry of Labour is immediately invited to take action. The positive impact of the ongoing interaction and knowledge exchange between Better Work staff and labour inspectorates has also been well-documented. Dupper et al. (2016) found that Indonesia's public-labour inspectorate was strengthened through its dealings with Better Work. Although this engagement was largely informal and ad hoc, it led to the more strategic management of the labour-inspection process, showing also a complementarity between national and transnational regulatory frameworks (Rossi, 2021). Similarly, Amengual and Chirot (2016) noted how Better Work helped clarify ambiguities in respective labour laws – particularly around minimum-wage stipulations at the district level as well as fixed-term-contract regulations – by collaborating with public regulators across various administrative levels, as ultimately leading to improved compliance with such legislation among supplier firms.

Beyond strengthening local labour inspection and enforcement functions, Better Work's national-level engagement has also contributed to relevant legal reforms. For example, when the programme launched in Jordan in 2008, migrant workers – who make up the majority of the labour force in the local apparel sector – were prohibited from joining or forming trade unions. In 2010, amendments to Jordanian labour law were passed, removing the language which specifically forbade migrant workers from joining unions (Rossi, 2021). Within the more recent generation of Better Work country programmes, several have been linked explicitly to labour-law reforms pursued in conjunction with national governments and their representatives, as well as linked to brands' revised sourcing policies. In Egypt, for instance, Better Work operates in concert with other

ILO technical units to promote the effective application of an amended trade union law.

Besides being a broker for social dialogue and knowledge, Better Work has also acted as an incubator for policy changes reaching beyond the apparel industry alone (Rossi, 2021). Although factories may not offer a perfectly controlled environment to test envisaged approaches on the basis of precise cause-and-effect results, they have still provided a valuable real-world setting to trial new interventions. By observing how the latter influence firm behaviour in practice, the programme has been able to gather important insights helping inform broader policy solutions. In 2012, for example, Better Work developed pilot projects together with the Vietnam General Confederation of Labour in seeking to establish more effective worker representation, as based on the experience gained through the factory-level election of worker representatives to the aforementioned bipartite committees. In the implementation decrees for the country's revised Labour Code and Trade Union Law, a new institution, the 'Dialogue Group', was introduced to undertake regular bipartite dialogue at the workplace level, requiring frequent meetings and elected workers' delegates in all enterprises (Rossi, 2021).

Engaging stakeholders at the national level is essential for achieving locally embedded and sustainable solutions. However, they are not the sole agents for change within the Better Work model. Most country programmes are established in line with market-based incentives, driven by partnerships with global brands and retailers and their ability to encourage suppliers to participate herein. A key mechanism for driving improvement has been the sharing of compliance reports with both factory management and participating global brands. Since 2013, this has been complemented by public reporting through the Better Work Transparency Portal in Cambodia, Haiti, Indonesia, Jordan and Vietnam. The Portal publishes factory names and non-compliance findings on 27 'critical issues' related to core labour standards and working conditions, providing GSC actors with factory-level data to guide their follow-up interventions (Rossi, 2021). Research shows that public and transparent reporting have helped increase compliance on key issues significantly, with minimal backsliding thereafter (Robertson, 2020; Ang et al., 2012). However, these incentives alone are insufficient to spur uniform revisions of approach across all areas of endeavour and supplier segments, as firms closely linked to reputation-sensitive buyers are more likely to change their behaviour in response to the public disclosure of non-compliance specifically (Robertson, 2020).

Better Work's engagement with global brands goes beyond sharing supplier-performance insights. The programme has facilitated dialogue, bringing together brands, vendors and suppliers to discuss the challenges faced in GSCs through regular global and regional buyers' fora. Moreover, since 2012 it has established a legally binding partnership model with global brands, promoting collaboration and addressing some of the limitations of typical private labour regulation. To reduce 'audit fatigue', or factories having to undergo multiple audits

for different brands, Better Work's partnerships encourage the latter to avoid duplication here. To promote long-term compliance, brands also commit to maintaining business relationships even when labour violations occur as long as the factories in question engage in advisory and training services (Rossi, 2021).

In addition, certain of the programme's brand partners have also engaged more deeply, committing their own staff as participants in in-depth seminars on Better Work's assessment, advisory and training methods. The Better Work Academy focuses on shifting from audit-driven approaches to coaching and communication-led roles aimed at improving workplace cooperation and problem-solving. One example is Better Work's collaboration with Gap Inc., whose staff were trained on improving communication and cooperation in their supplier factories. This led to better worker–management relations, increased worker confidence, openness among managers and a sense of ownership over compliance-improvement plans. Said training also empowered factories to address workplace issues proactively by consolidating improved feedback channels and risk assessments. Interviews with factory stakeholders indicated positive outcomes here, including increased motivation, productivity and product quality alongside reduced turnover rates and absenteeism (Pike, 2020).

## 5. The questions which remain unanswered in an evolving governance landscape

What, then, are the key ingredients here? If one was to distil them down, they would likely include Better Work's ability to bring together a diverse range of stakeholders – and often those with competing interests and priorities – as well as to facilitate dialogue rooted in evidence from the field. While Better Work's engagement models at the factory, sectoral, national and global levels have shown positive effects on compliance, business performance and worker well-being, questions remain about how to effectively sustain and scale these outcomes.

Better Work seeks to create meaningful, sustainable change which will persist independently of the programme's ongoing support. Over time, the concept of 'sustainability' has evolved significantly within the Better Work programme. Originally, the latter aimed to achieve financial sustainability within five years of its establishment in any given country, relying on revenue from factory fees and buyers' subscriptions (Rossi, 2021). Recently, however, a more comprehensive approach has been adopted which emphasises also local capacity-building and securing relevant stakeholders' long-term commitment. The experience in Lesotho, where Better Work operated from 2010 to 2016, was particularly instructive in highlighting the need for this shift. Following the termination of the Better Work programme in the southern African country, there was an overall decline in workers' perceptions of compliance – in large

part attributable to the deterioration of bipartite committees (Pike, 2020). While Better Work's presence had driven OSH-related improvements and encouraged the maintenance of feedback channels, much of this progress faded in subsequent years without the programme's continued monitoring and advisory support.

While this lesson was essential to Better Work redoubling its efforts at ensuring its approach is sustainable, another pressing issue here is scalability. The programme's success has led to calls for its expansion, with stakeholders encouraging Better Work to extend its reach into new tiers, industries and geographical settings. This was recently reiterated during the ILO Governing Body meeting in March 2024, where constituents expressed support for Better Work applying its knowledge and experience in other areas of the supranational organisation's work, including additional GSC sectors. However, it is essential to recognise the programme's current scope and limitations in terms of feasible scale. At present, Better Work's reach within apparel GSCs is relatively limited, focusing largely on first-tier suppliers rather than subcontractors (with some exceptions in Cambodia and Jordan) (Rossi, 2021). As a result, Better Work tends to target larger factories in the formal sector, where working conditions are generally above average already, thus overlooking the more vulnerable employed in informal settings or those working casually from home. Moreover, the programme's overall coverage remains modest compared to the global apparel workforce of over 72 million, constrained by its geographic reach, the labour-intensive nature of factory-level interventions as well as associated costs (Curley and Lally, 2024; Rossi, 2021).

Given these challenges, Better Work currently focuses on enhancing the long-term sustainability of its impact by strengthening the capacities of both private and public stakeholders throughout the supply chain. The goal is to empower these actors to uphold their duties and responsibilities vis-à-vis promoting decent work, while gradually reducing their dependence on the programme. Moreover, to scale its successful approaches beyond Better Work factories, the programme is increasingly collaborating with national constituents, global brands, retailers and manufacturers in exploring further ways to adapt and apply its tools and methodologies across other tiers, sectors and countries.

The programme's recent evolution comes at a time of major legislative developments in Europe, where HRDD regulations and stringent reporting requirements are being introduced to hold companies accountable for their negative impacts on people and planet. For over a decade now, the business and human rights regulatory landscape has been guided by the voluntary United Nations Guiding Principles on Business and Human Rights (2011), which provide guidelines for states and companies to prevent, address and remedy any such abuses committed across their business operations. Additional frameworks here are provided by the ILO's Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy (MNE Declaration; amended in 2022) and the OECD's Due Diligence Guidance for Responsible Business Conduct (2018). These instruments

have contributed to a growing understanding of CSR and provide helpful tools for the formal monitoring of related responsibilities. However, their voluntary nature has seen them proven insufficient to radically change company behaviour (Richard-Carvajal, 2024). In response, several European states have introduced their own HRDD legislation. The first of these laws would be introduced in France in 2017, the second enacted in Germany four years later. In May 2024, the EU approved the so-named Corporate Sustainability Due Diligence Directive, extending therewith mandatory HRDD requirements across all 27 member states; they are obliged to enact national HRDD laws by 2026 accordingly.

Such legislation will significantly impact the entire GSC ecosystem for each covered European multinational corporation, influencing expectations and, consequently, the behaviour of all involved actors. Global apparel brands and their upstream and downstream partners will be required to take more satisfactory steps henceforth as regards identifying, preventing, mitigating and addressing their adverse impacts on human beings and the environment alike. While some multinational enterprises may be willing to bear the costs of establishing and operating proper due-diligence processes, and potentially adapting their own operations and supply chains as need be to comply with these obligations, others may not. These latter enterprises might instead seek to source from locations which are more likely to provide institutional environments with lower risks of legal violation (Kuruvilla, 2024). Anticipating this, global suppliers and their national governments may respond accordingly: suppliers could be incentivised to improve employment practices to attract business from European buyers, while governments could be more motivated to strengthen the enforcement of their existing labour regulations (Kuruvilla, 2024).

This gradual shift from soft- to hard-law approaches presents a unique opportunity to enhance Better Work's ongoing efforts regarding greater sustainability and scalability. As companies are now required to adequately address human rights violations and environmental impacts throughout their supply chains, there may be heightened motivation among global brands, suppliers and national stakeholders to engage with the programme's capacity-building endeavours. Within this context, Better Work seeks not only to evaluate the success of its current attempts at deepening the capacities and intrinsic commitment of private and public actors but also to understand whether and how these interventions will be affected by the recent legislative changes. For example, to what extent will the new HRDD stipulations impact suppliers' long-term commitment to ethical practices once minimum compliance requirements have been met? Are there measurable differences here between suppliers producing for the EU market, with its new HRDD regulations, and those doing so for markets in non-regulated countries? How do varying levels of regulatory enforcement impact behaviours and outcomes across these regions? Moreover, how is the demand for Better Work's capacity-building services, tools and methodologies shifting across different GSC tiers, industries or even geographical contexts in response to these regulatory changes? How

effective are these interventions when applied in sectors beyond apparel, and what adaptations are necessary for their success there?

While HRDD legislation has the potential to drive compliance over time, it may also serve to induce short- to medium-term instability. Before markets and institutions find equilibrium, these new regulations – coupled with external shocks like political turmoil and economic crisis, which affect many of the countries in which Better Work currently operates – are likely to trigger significant disruption. Factories may lose contracts as brands reassess their partnerships and choose to disengage, leading to potential job losses for workers before the system eventually levels out. In such an uncertain environment, the role of social dialogue rooted in evidence-based insights becomes even more critical to ensuring a responsible and smooth transition as possible. Better Work is interested, accordingly, in understanding how these new requirements will shape GSC consolidation and the geographies of global apparel production in the years to come. Key questions here include: How will changes in lead firms' sourcing practices and locations affect compliance, working conditions and job security at the workplace level? What role can social dialogue play in mitigating any negative effects ensuing herewith, especially in regions with weaker regulatory frameworks?

Law is a crucial mechanism for maintaining complex societies, helping protect citizens, the economy and the environment alike. However, its effectiveness depends on its ability to shape human and organisational behaviour; many legal codes fall short in this regard (Van Rooij and Fine, 2021). To ensure that HRDD legislation fulfils its intended function – protecting workers and encouraging ethical corporate behaviour –, it is essential to understand the behavioural mechanisms influencing compliance. Deeper knowledge of the barriers to and enablers hereof – such as both monetary and non-monetary incentives, organisational pressures and social norms – could help explain why certain practices meet with success or failure across different contexts. A solid evidence base, gathered from factories as well as other national and global actors involved across the supply chain, will be instrumental to sound policymaking at the national and international levels. By leveraging its strategic position in the global apparel ecosystem, Better Work remains committed to advancing meaningful research and data-collection initiatives in its operations, shaping broader policy discussions and contributing to the ILO's (2023) ongoing efforts to guarantee that the latter's body of international labour standards is fit for purpose, widely ratified and effectively implemented in national law and practice.

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# Measuring exposure to human rights risks in global value chains

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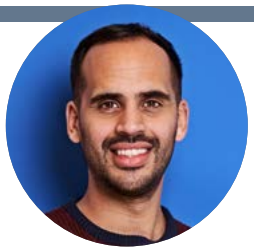

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## 1. Introduction

In recent years, a number of European countries have introduced human rights and environmental due diligence (HREDD) legislation, such as the German Supply Chain Act (LkSG) or the French corporate duty of vigilance law (Loi sur le devoir de vigilance). At the European Union level, the Corporate Sustainable Due Diligence Directive (CS3D) entered into force on 25 July 2024, requiring Member States to transpose the directive into national law by 26 July 2026. These regulatory frameworks aim to promote sustainable and responsible corporate behaviour across global value chains (GVCs), obliging EU companies to integrate due-diligence processes

into their corporate strategies. Under the CS3D, covered entities, often referred to as 'lead firms', are required to identify, assess and mitigate or prevent adverse impacts on people and planet within their own operations as well as those of their upstream and downstream partners (European Parliament, 2024).

Much of the discourse surrounding the implementation of HREDD legislation has centred on its impact on European companies. Key concerns include the potential competitive disadvantages that they may face compared to firms from non-EU countries, the administrative burden and costs associated with compliance (Hanley et al., 2023), and the tricky nature of establishing standardised reporting mechanisms (Lafarre and Rombouts, 2022). Research has also examined the extent to which European companies are linked to entities potentially involved in human rights abuses within their supply chains (Hurt et al., 2023; McGaughey et al., 2022). Other cited challenges include tracing suppliers and the potential unintended effects of HREDD regulation. Tracing suppliers and evaluating their compliance with HREDD standards remains inherently difficult. Establishing effective methods and reliable data sources to identify companies that undermine workers' well-being or pose significant environmental risks remains a critical need (Kuruvilla and Judd, 2024). Moreover, it is not yet clear whether there is any significant danger in terminating business relationships with suppliers perceived to be risky or whose compliance is difficult to monitor (Kolev and Neligan, 2022; Schilling-Vacaflor and Gustafsson, 2024).

In the context of the recent implementation of HREDD regulations in the Global North, it is imperative to consider whether so doing may have unintended consequences for partner countries situated in the Global South. For example, compliance obligations may shift the bureaucratic burden to upstream suppliers, many of whom lack the resources or capacity to meet stringent reporting requirements. In more extreme cases, lead firms may choose to terminate business relationships with suppliers located in high-risk regions, further marginalising vulnerable economies.

In this chapter, we propose a methodology for assessing human rights risks in GVCs and highlight the conceptual challenges involved in doing this. In section 2, we first provide an overview of the current landscape vis-à-vis empirically measuring sustainability risks. This involves highlighting key gaps in existing datasets, including limitations in coverage, granularity and reliability. We also present a country-product level dataset on child- and forced-labour risks from the U.S. Department of Labor's Bureau of International Labor Affairs (ILAB), which to our knowledge is the most comprehensive dataset on human rights issues available. In section 3, we propose a novel framework that combines ILAB data on child- and forced-labour risks with an input–output (IO) methodology to measure human rights risks in GVCs. Specifically, the IO methodology enables the modelling of interdependencies between industries and countries, allowing us to trace the flow of goods and services across GVCs. By combining this IO approach with ILAB data, we can identify not only the direct but also the indirect human

rights risks associated with a given firm's activities. In section 4, we apply our novel framework to eight countries that are particularly dependent on EU demand from Southeast Asia (SEA), the Middle East and North Africa (MENA), sub-Saharan Africa (SSA) and Latin America (LA), depicting how it can help to understand whether and to what extent they may be exposed to human rights concerns. For each country, we calculate the risk of child- and forced-labour practices in its major export industries and decompose this risk into its sources, distinguishing between domestic risks originating, respectively, from within the industry, from within the country and from abroad through supply-chain linkages. In section 5, we conclude with a discussion of how this kind of analysis can help Global South countries to prioritise when it comes to reducing human rights risks.

## 2. Availability of data on sustainability risks

Measuring sustainability risks in GVCs requires two key elements: (1) granular data across countries and industries, and (2) the ability to map these data onto supply-chain linkages. In the following, we discuss the availability of said data. In section 3, we propose a methodology to link these data along supply chains and calculate the exposure to sustainability risks through GVCs.

### Country-sector sustainability-risk data

Ideally, sustainability risk data should be supplier-specific, enabling precise performance-tracking across different entities. They should also facilitate comparability across firms and countries, establishing a standardised framework for evaluating practices globally (Kuruvilla and Judd, 2024). Broad coverage across HREDD dimensions and countries is essential, particular in the Global South, where sustainability risks are often more pronounced. Currently, no existing tool simultaneously offers broad geographic and industrial coverage, open accessibility and supplier-level mapping linked to due-diligence criteria.

Environmental, Social and Governance (ESG) ratings are often mentioned in this context. These ratings serve as key tools for investors to evaluate firms' performance across the three dimensions. However, these metrics have notable limitations when it comes to assessing risks in supplier countries. Such ratings focus primarily on large companies and fail to link ESG information to individual suppliers or countries. In addition, inconsistent standards on disclosure result in significant variability across rating providers (Berg et al., 2022). The term is commonly used in a broader sense, too. For example, the World Bank offers an ESG database providing a comprehensive set of country-level sustainability indicators.[1]

[1] See https://esgdata.worldbank.org/.

If supplier-specific data is unavailable, the next best alternative is that on country-sector instead. While less granular, country-sector data provide valuable insights into human rights and environmental issues. For instance, Germany's Federal Office of Economics and Export Control (BAFA, 2024) published a list of data sources used for its internal risk analysis, which underpins the monitoring of the LkSG. Similarly, those like the International Labour Organization (ILO) provide key indicators on labour- and human rights as well as social conditions, including the prevalence of child labour, fatal occupational injuries and trade union density.[2] However, ILO data is limited to three broad sector groups – services, industry and agriculture. The ongoing need for more granular datasets is evident. Regulatory initiatives are also expanding data availability. The EU Regulation on Deforestation-free Products foresees a database of country- and region-specific indicators on the risk of deforestation. A number of private providers also offer proprietary tools for risk assessment regarding GVCs, though their scope and methodologies often remain opaque.

### Mapping country-product data on child- and forced-labour risks

While country-sector sustainability risk data provide valuable insights, they often lack the granularity needed to identify specific sustainability risks.[3] More detailed product-level data is published by ILAB, as required by the Trafficking Victims Protection Reauthorization Act (TVPRA).[4] ILAB adds a good to the TVPRA list if there is 'reason to believe' that child- and/or forced labour[5] has been used in the production thereof. Goods are listed using a variety of publicly available primary and secondary sources and on the basis of five criteria, including the nature, date and source of the information, the degree of corroboration and the incidence of child- and/or forced labour. Goods are only removed from the TVPRA list if a significant reduction in child- or forced labour in their production has been documented and cross-validated, and

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2 See https://ilostat.ilo.org/.

3 This section has benefited greatly from the research assistance of Francisco Ahumada, who provided essential support in the cleaning, analysis and visualisation of the TVPRA data.

4 The TVPRA is a US federal law that strengthens efforts to combat human trafficking as well as child- and forced labour both domestically and internationally. It builds upon the original Trafficking Victims Protection Act of 2000 and has been reauthorised multiple times to expand protections and enforcement mechanisms.

5 The definitions of 'child labour' and 'forced labour' used to compile the TVPRA list follow the ILO conventions: the first term denotes 'all work performed by a person below the age of 15' (as well as below 18 in selected illicit practices); the second 'all work all work or service which is exacted from any person under the menace of any penalty for its nonperformance and for which the worker does not offer themselves voluntarily, and includes indentured labor'. The amendment to include child- and forced labour in the ILAB product list is from the reauthorization of the 2018 iteration of the TVPRA. See: Laws and Regulations | U.S. Department of Labor.

if safeguards have been put in place to prevent future instances of either.[6]

Goods on the TVPRA list are recorded at a very detailed level – typically at or below the two-digit codes of the Harmonized System (HS) nomenclature – and by country of origin and year of designation. It should be noted, however, that said list is not exhaustive in terms of countries or goods included, as it only covers those for which there is sufficient information and recent research on child- and forced labour. If a country or good is not on the TVPRA list, it does not mean that there are no issues on either count; it may be only due to a lack of available data.[7] In addition, the inclusion therein of a particular good does not imply that production of that good in the country to hand always involves child- or forced labour, as there may also be companies in compliance with the law and international standards hereon. Despite these limitations, the level of granularity and comprehensive coverage of the TVPRA list makes it, to our knowledge, the most suitable and best available source for assessing GVCs on these particular aspects.

To ascertain the importance of goods on the TVPRA list (hereafter, 'flagged products') in each country's export volumes, we calculate their share of total exports based on their HS codes, similar to Klymak (2023). Figure 1 below shows the percentage of exports associated with child- and forced labour (hereafter, 'risky exports') in different shades of red on a world map. The map also shows in brackets the number of flagged products for a selection of eight countries that are relatively dependent on EU demand, alongside listing the two most important flagged products in terms of exports together with their respective degree of involvement in total exports.

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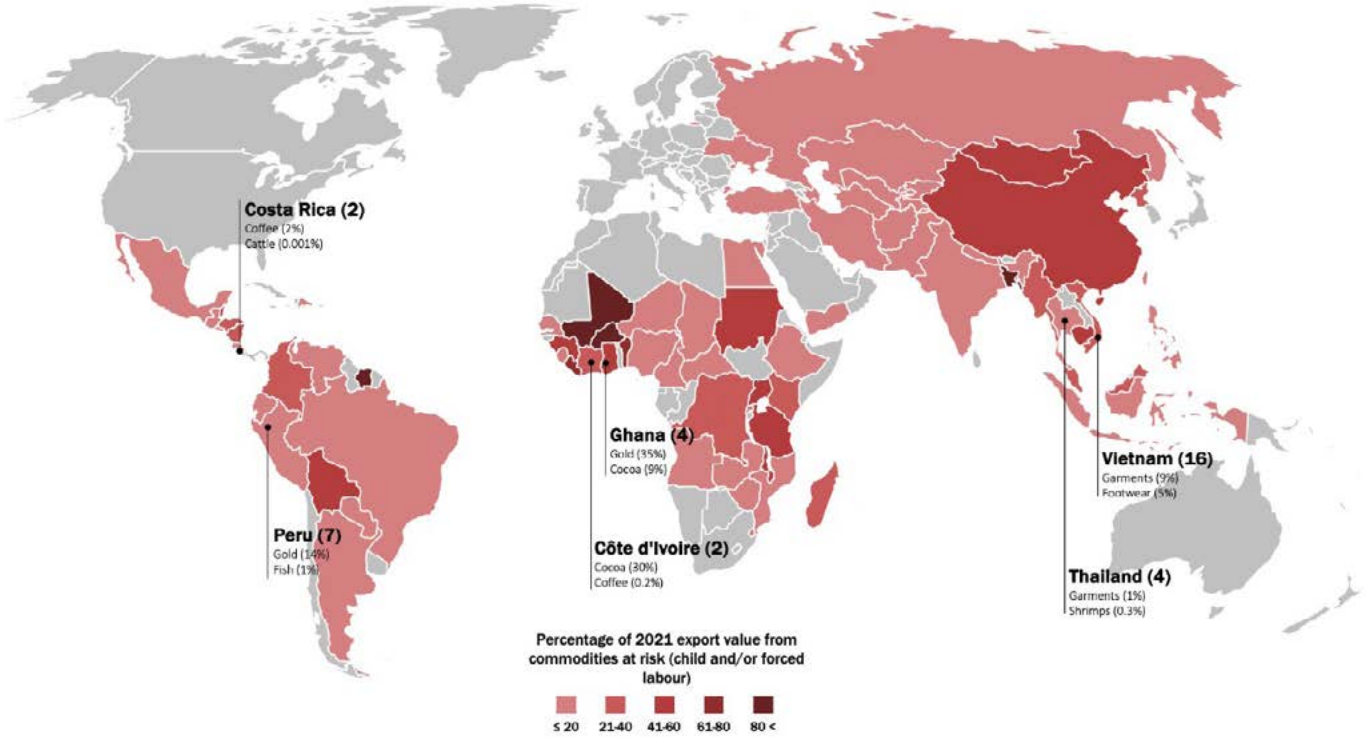
[6] The specific sources used to identify child- and forced labour in the production of goods in each country can be found on the continuously updated website of the U.S. Department of Labor: TVPRA-List-Bibliography-2025.pdf. How ILAB decides to remove goods from the TVPRA list can be found here: Consideration-of-Goods.pdf.

[7] In its documentation of the 2024 TVPRA list, which we use in our empirical analysis, ILAB explicitly states that its list may potentially omit or underreport child- and forced labour in countries that restrict data collection and sharing, and overreport child- and forced labour in those that collect more data and are more transparent about the amassed information.

**Figure 1: Share of risky exports in total exports**




**Source:** Authors' own elaboration, using data from the International Trade Centre and the TVPRA list.
**Notes:** The map highlights two countries from each world region with particularly high dependency on EU demand. The colours indicate the percentage of risky exports – those associated with child- and/or forced labour – relative to total volumes. In brackets, we report the number of products associated with child- or forced labour. Below, we list the two most important products here. Mauritania and South Sudan are included in the TVPRA list, however, the commodities flagged for these countries do not appear in their 2021 export data. For the remaining countries in grey, there is no information on child- or forced labour to be found in the TVPRA list.

The map shows that for many Global South countries, risky exports account for a large share of total exports, but there is considerable variation across regions. In several countries in the Sahel, but also in Bangladesh, more than 80 per cent of exports are risky. On the other hand, countries in Central and South Asia and most of LA have very low levels of child- and forced labour and thus low shares of risky exports. For some countries, particularly many in the MENA region, such as Morocco and Tunisia, no child- or forced-labour risks are reported in the TVPRA list; as explained above, this may be due either to a lack of such data or to the absence of these phenomena alike.[8]

[8] There is also no ILO data on child labour in Morocco and Tunisia, which we take as an indication that these countries do not have (severe) problems herewith – and probably not with forced labour, either.

These patterns of risk are also reflected in the eight selected countries that we focus on in the following. In SEA, Thailand and Vietnam have low to moderate levels of risky exports as a proportion of total exports, although the latter country stands out for a relatively high number of flagged products involving child- or forced labour in production. Among these, garments and footwear are particularly important, accounting for a significant share of exports on their own. This contrasts sharply with SSA, where the composition of exports is much less diverse. In Côte d'Ivoire and Ghana, few products are flagged, but the fact that those that are make up a sizeable percentage of total exports – cocoa in Côte d'Ivoire, gold in Ghana – means these countries' exports still carry potentially significant human rights risks. In Peru, similarly, most of the potential issues here come from the export of gold.

## 3. Measuring human rights risks in GVCs

The above analysis only looks at exports but does not consider the entire value chain. Before the final product is assembled and ready for use, intermediate inputs at different stages of production cross national borders several times. If there are human rights risks at any of the backward stages of production, they can easily be transmitted downstream along the entire value chain. Even if a country itself is risk-free but participates in GVCs that are defined as risky, then it finds itself indirectly exposed to risk.

To scrutinise GVCs on these two counts for a broad range of countries and industries, we propose a novel framework based on the aforementioned IO methodology. We develop twin measures here: (i) an indicator that captures the level of risk within specific GVCs as regards human rights abuses, and (ii) an index that shows the extent to which specific countries and industries are exposed to such risks due to their participation in different GVCs.

To illustrate our first measure, we focus on one specific GVC and the multiple country-industry cases that make it up.[9] Let us consider the GVC of textiles and apparel (hereafter T&A) finalised in Italy. This specific GVC uses intermediate products that may originate from the Italian garment and wearing apparel industry, from other Italian industries or from foreign sources, starting from agriculture industry (cotton farming), the chemical industry (fertilisers) or the transformation of fibre into yarn, among other possibilities. Each of these industries, whether domestic or foreign, adds value to this specific GVC. Using the data described in the previous section, we identify the contributors to this GVC on the basis

[9] In our system of global input–output relations, we define GVCs by the finalised products – that is, by final industry grouping and country of completion, following Los et al. (2015), Pahl et al. (2022) and Timmer et al. (2013).

of a 'human rights risk' value other than 0.[10] This risk may be domestic or foreign. By combining information on the value added by the contributors to the Italian T&A GVC with information on the human rights risk of these contributors, we can assess the overall risk within this particular GVC.[11]

To explain the second measure, we focus on one specific country-industry pair and the multiple GVCs to which it contributes. For example, Moroccan agricultural production is largely linked to food products finalised in France, Germany, the Netherlands and Spain (because a large share of Moroccan value added in agriculture is generated in those specific value chains). Therefore, the characteristics of the GVCs for food products finalised in the four European countries are important for Moroccan agriculture. In other words, if the Spanish or French food GVC happen to be very risky in terms of human rights issues, then Moroccan agriculture will be exposed to said risks through its participation in these GVCs.

Our analysis also highlights the different components that make up our introduced indicator: risks originating from the industry itself (focal industry), from other industries in the same country (focal country) and from any industry in any other country in the world that is part of the same GVC (foreign). Thus, even if the TVPRA list shows no child- or forced-labour risks for certain countries (e.g. Morocco and Tunisia; see Figure 1 above) or industries, the indicator may still be positive if they are involved in high-risk GVCs due to human rights issues stemming from other countries. For example, food products finalised in Spain may be risky because one of its upstream trading partners (other than Morocco or Tunisia) sees human rights abuses, which would affect the entire GVC and also expose the two North African countries hereto.

## 4. Results

We illustrate our findings for eight countries in SEA (Vietnam and Thailand), MENA (Morocco and Tunisia), SSA (Côte d'Ivoire and Ghana) and LA (Costa Rica and Peru). We selected them according to their dependence on the EU consumer market and excluded those countries with a nominal gross domestic

[10] To map our flagged products from the TVPRA list to the 26 EORA industries, we use the Central Product Classification as an intermediary means that can be linked directly to each HS code of the flagged products and then mapped to the most appropriate EORA industry.

[11] While we use child- and forced-labour risks per the TVPRA list as our measures, our methodology can easily be extended to other sustainability dimensions provided they have sufficient detail and coverage. For example, there are several multistakeholder-led initiatives, such as Supply Trace, Open Supply Hub and Mapped in Bangladesh, that attempt to collect human rights information beyond a specific sector or location by capturing supply-chain linkages and providing tools for supplier mapping and risk assessment. As of now, however, their scope is typically limited to specific industries or regions.

product of less than USD 30 billion (as documented in the EORA 2021 data). To achieve regional diversity, we choose the two most dependent countries from each region.

Table 1 below shows the dependence of these eight countries on the different economic regions of the world, based on each country's share of the value added (rows) that is generated by final demand (columns). All countries have a relatively high dependence on the EU market, ranging from 3.1 per cent (Peru) to 17.7 per cent (Tunisia) of respective total value added. The table also shows that, in general, countries tend to be dependent on markets nearby and economically large markets (as is well-known from the trade literature). It stands out that the two SEA countries are highly dependent on foreign markets, with more than 60 per cent of total value added in the case of Vietnam being generated by foreign final demand (see Pahl et al. (2022) for an analysis of this dependence in light of the Covid-19-induced demand shocks).

**Table 1: Dependence of selected countries on demand from the EU and other markets, per their value added (%)**

| Country | EU | NA | CHN | MENA | SSA | EAP | LAC | ROW | HM |
|---|---|---|---|---|---|---|---|---|---|
| Morocco | 14.6 | 3.4 | 1.8 | 1.7 | 0.5 | 3.9 | 4.2 | 3.7 | 66.3 |
| Tunisia | 17.7 | 1.7 | 0.7 | 5.1 | 0.6 | 2.5 | 3.8 | 2.9 | 65.0 |
| Côte d'Ivoire | 11.8 | 3.7 | 1.3 | 1.5 | 2.5 | 3.0 | 4.8 | 5.0 | 66.4 |
| Ghana | 10.1 | 4.4 | 2.3 | 1.7 | 1.4 | 4.9 | 5.1 | 5.9 | 64.1 |
| Thailand | 4.5 | 7.0 | 6.3 | 2.9 | 0.8 | 12.6 | 4.6 | 4.3 | 57.0 |
| Vietnam | 7.6 | 3.9 | 9.4 | 3.6 | 0.7 | 23.9 | 8.8 | 4.6 | 37.4 |
| Costa Rica | 3.6 | 11.4 | 0.7 | 0.8 | 0.2 | 2.4 | 8.4 | 1.9 | 70.7 |
| Peru | 3.1 | 5.0 | 3.8 | 0.9 | 0.2 | 3.0 | 6.1 | 1.6 | 76.4 |

**Source:** Authors' own elaboration, based on EORA (2021).
**Notes:** EU – European Union; NA - North America (US, Canada); CHN – China; MENA – Middle East and North Africa without Malta; SSA – Sub-Saharan Africa; EAP – East Asia and Pacific without China; LAC – Latin America and Caribbean; ROW – rest of the world; HM – home market. Shares depict value added of row country in column market's final demand, as a share of row country's total value added.

Table 2 below shows the dependence of our group of eight countries on the EU market by broad EORA industry, including agriculture, fishing, mining and all manufacturing ones. As expected, there is a large variation in the dependence on the EU market by industry. Starting with the two MENA countries, Morocco and Tunisia, we see an overall a strong dependence on the EU market across all industries, suggesting that any reduction in EU demand due to the legislation introduced would have a severe impact on these two economies. In the two SSA countries, Côte d'Ivoire and Ghana, the picture is more nuanced, with agriculture, fishing, food and beverages (F&B), and wood and paper being the industries most dependent on EU demand. Thailand and Vietnam, the two SEA countries, are less exposed to the EU overall, but in both there is a relatively high dependence on the latter's demand for T&A and metal products. Further

**Table 2: Country-industry dependence on EU final demand (%)**

| Industry | Morocco | Tunisia | Côte d'Ivoire | Ghana | Thailand | Vietnam | Costa Rica | Peru |
|---|---|---|---|---|---|---|---|---|
| Agriculture | 42.6 | 34.1 | 39.3 | 34.7 | 4.5 | 6.9 | 24.1 | 8.0 |
| Fishing | 67.7 | 44.0 | 11.7 | 9.6 | 3.1 | 2.4 | 2.2 | 3.5 |
| Mining | 27.7 | 44.6 | 6.0 | 7.4 | 3.6 | 4.4 | 4.1 | 7.3 |
| Food & Beverages | 38.9 | 16.2 | 21.0 | 17.1 | 4.7 | 5.9 | 13.6 | 5.4 |
| Textiles and Apparel | 62.6 | 74.0 | 4.5 | 2.3 | 9.2 | 24.8 | 1.2 | 3.9 |
| Wood and Paper | 21.7 | 28.9 | 33.3 | 27.7 | 7.7 | 18.9 | 4.6 | 1.8 |
| Chemicals | 24.4 | 33.5 | 7.1 | 5.1 | 7.4 | 10.6 | 4.6 | 3.5 |
| Metal Products | 17.6 | 22.0 | 5.3 | 6.2 | 9.9 | 12.3 | 4.3 | 8.2 |
| Electrical and Machinery | 12.8 | 29.2 | 1.4 | 1.9 | 8.0 | 8.6 | 5.0 | 3.0 |
| Transport Equipment | 9.2 | 27.6 | 0.9 | 0.8 | 6.4 | 6.9 | 1.3 | 1.4 |
| Other Manufacturing | 17.7 | 33.4 | 3.0 | 3.2 | 6.1 | 30.1 | 1.8 | 2.0 |

**Source:** Authors' own elaboration, based on EORA26 (2021).
**Notes:** Shares depict value added of row industry in EU's final demand as a share of row industry's total value added (for the eight column countries).

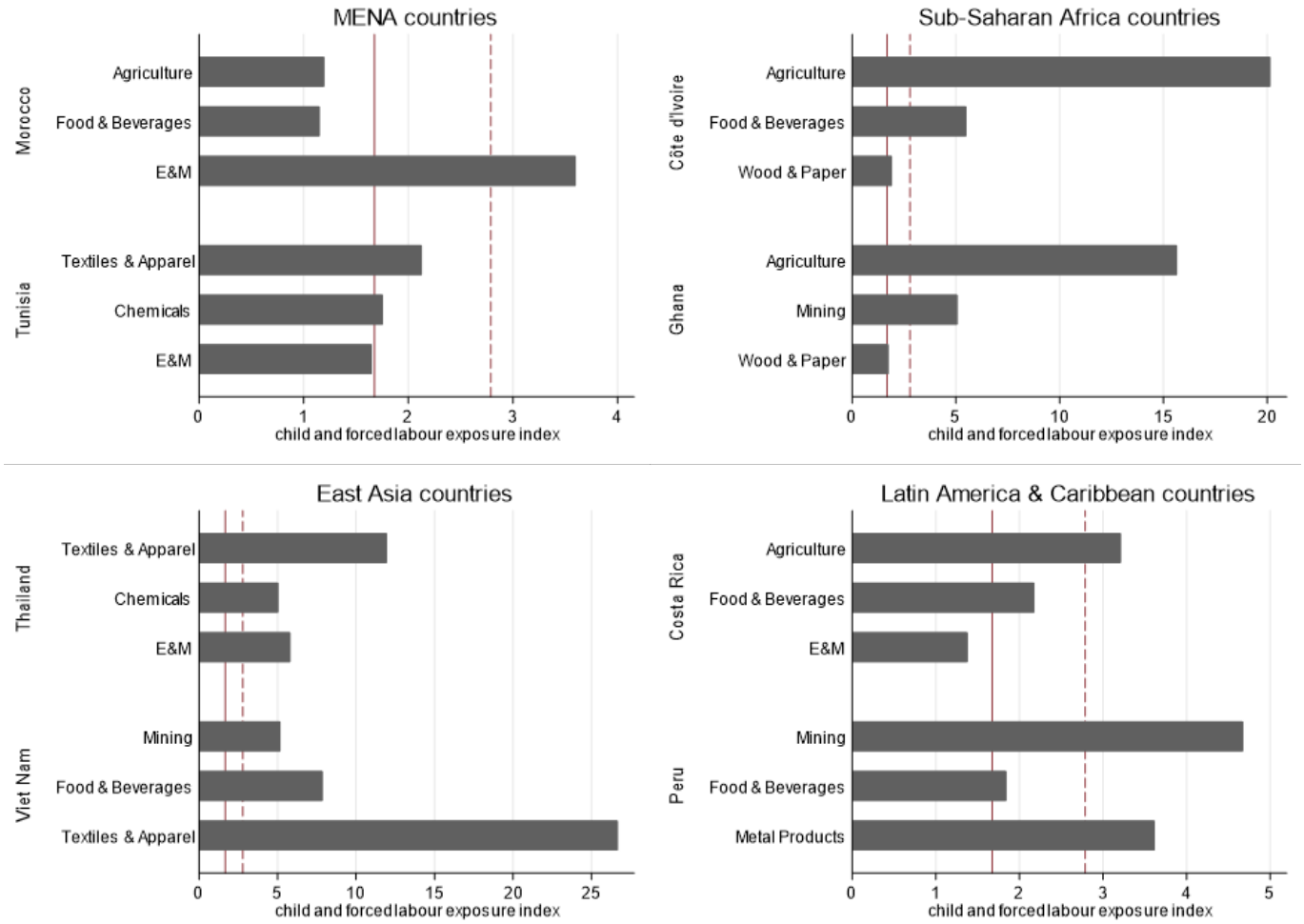
to that, such demand specifically exists for electronics and machinery (E&M) from the former, and for wood and paper from the latter. In the two LA countries, Costa Rica and Peru, we find a very high dependence on agriculture and F&B from the former and on agriculture, mining and metal products from the latter.

To understand whether these dependencies are relevant in the light of emerging supply chain due diligence regulations, we examine the country-industries' exposure to human rights risks stemming from child- and forced labour as a result of their participation in the various GVCs. Figure 2 below shows these risks for the three largest industries in terms of export shares. Given the composite nature of our novel indicator, it is best interpreted in relative terms.[12] Figure 2 therefore shows the 75th percentile and the median as vertical red lines. Those with levels of risk exposure above the 75-percentile threshold are therefore in the 25 per cent of most exposed industries ('highly exposed').

Overall, Morocco and Tunisia have a relatively low exposure to human rights risks. Yet, Morocco's E&M industry is above the 75-percentile threshold and is also relatively dependent on EU demand (13 per cent of value added). In Tunisia, all three industries are close to the median and thus only moderately exposed to human rights risks. However, T&A in particular is extremely dependent on EU demand, with 74 per cent of its value added coming herewith. Côte d'Ivoire and Ghana are both extremely exposed to human rights risks, with their agricultural industries well above the 90th percentile. Agriculture is also highly dependent on EU demand, generating 39 and 35 per cent respectively of its value added in Côte d'Ivoire and Ghana. F&B in Côte d'Ivoire and mining in Ghana are also highly exposed, wood and paper only moderately so. Thailand and Vietnam are highly exposed to human rights risks, with all of their export-intensive industries above the 90-percentile threshold. In Vietnam's highly exposed T&A industry, 25 per cent of its value added is also generated by EU demand. Finally, Costa Rica and Peru are much less exposed to human rights risks. In both cases, however, the industries most vulnerable here are those with the greatest dependence on EU demand, such as agriculture and F&B in Costa Rica and mining and metal products in Peru.

[12] To get an idea of the distribution of the indicator, the mean is 2.45, the standard deviation is 3.46, the minimum is 0.03, the 25th percentile is 1.03, the median is 1.68, the 75th percentile is 2.79, the 90th percentile is 4.00 and the largest value is 85.01.

## Figure 2: Country-industry human rights risk exposure index

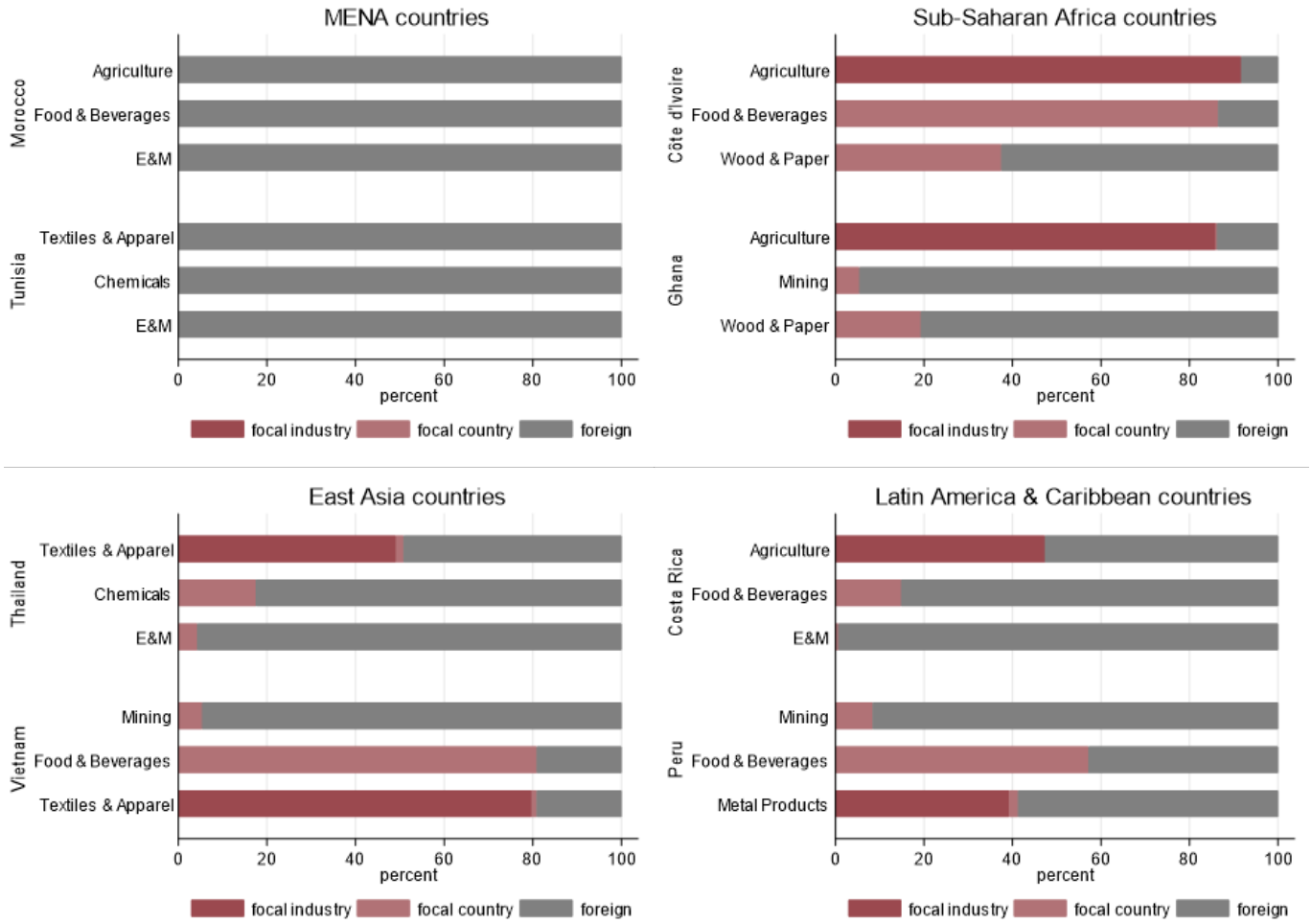



**Source:** Authors' own elaboration, based on EORA26 (2021) and the TVPRA list.
**Notes:** Vertical lines reflect median (solid line) and 75th percentile (dash line), child- and forced-labour exposure measure multiplied by 100.

Having assessed exposure to human rights risks at the country-industry level, we now analyse where exactly they originate. This is important to understand whether country-industries are exposed because they face human rights risks in their own production or through their trading partners as part of GVCs. Figure 3 below shows the relative importance of each of the three earlier-identified components – focal industry, focal country, foreign – in the overall human rights risk exposure index for the same industries (the three largest in terms of export shares) for each of the eight countries.

The two MENA countries stand out as having no domestic human rights risks, as neither country is on the TVPRA list. However, the high risk of exposure for some industries, such as E&M in Morocco, shows that production in both countries can still be problematic due to human rights risks emanating from abroad through the GVCs in which they participate.

**Figure 3: Country-industry human rights risk exposure index by risk origin (%)**




**Source:** Authors' own elaboration, based on EORA26 (2021) and the TVPRA list.

In contrast, in SSA the human rights risks in agriculture, the industry most dependent on EU demand in both of our studied countries, originate mainly from within that industry itself. F&B, on the other hand, see human rights risks originate mainly from other domestic industries. For SEA's most dependent industry, T&A, the source of human rights risks is less clear-cut. Human rights risks in T&A in Vietnam originate mainly from the industry itself, while in Thailand's T&A they stem almost equally from within the industry and from foreign partners alike. In LA, finally, our two examined countries are overall relatively exposed to human rights risks by foreign GVC partners, even Costa Rican agriculture (which accounts for around 50 per cent of total risk here).

Finally, we zoom in on the foreign-risk component for two country-industry cases to get a better idea of where exactly in GVCs it may originate. Table 3 below shows the

three main contributors to such risk for Costa Rican agriculture and Thai E&M. In both instances, the major source hereof is China. Our methodology does not currently distinguish between upstream and downstream risks. However, Chinese E&M is likely to be upstream of Costa Rican agriculture, providing inputs to the industry, while it may be both upstream and downstream for Thai E&M. Chinese T&A, on the other hand, is likely to be downstream of both Costa Rican agriculture and Thai E&M, receiving output from both industries. An extended future version of our methodology will specify exactly what percentage of foreign risk comes from downstream versus upstream industries.

**Table 3: Human rights risk exposure by foreign origin (select countries and industries)**

| Costa Rica – Agriculture | |
|---|---|
| Origin of foreign risk | % of total risk exposure |
| China – Electrical and Machinery | 16.7 |
| China – Textiles and Wearing Apparel | 12.2 |
| Nicaragua – Agriculture | 7.3 |
| **Thailand – Electrical &Machinery** | |
| Origin of foreign risk | % of total risk exposure |
| China – Electrical and Machinery | 73.6 |
| China – Textiles and Wearing Apparel | 7.8 |
| Malaysia – Electrical and Machinery | 6.5 |

**Source:** Authors' own elaboration, based on EORA26 (2021) and the TVPRA list.

## 5. Conclusion

In light of the recent implementation of HREDD regulations in Global North countries, it is essential to examine the extent to which they might affect their Global South counterparts. We have made two key contributions in this chapter. First, we provided an overview of how human rights risks can be measured and how they can be empirically assessed within supply chains. Data for measuring human rights risks are scarce, often lacking granularity and/or comprehensive coverage across countries and industries. To our knowledge, the most comprehensive dataset currently available for assessing said risks consists of data on the country-product level regarding child- and forced labour, as provided by ILAB. Second, we proposed using an IO methodology that integrates these data with IO tables to map child- and forced-labour risks across supply chains. For eight selected countries across four regions of the Global South, economies highly dependent on EU final demand, we analysed their exposure to human rights risks based on the supply chains in which they are embedded. This approach goes beyond direct exports by capturing risks across entire supply chains.

The findings highlighted significant differences herein exposure to human rights risks across countries and industries, revealing a wide range of vulnerabilities. In particular, there is great heterogeneity in the origin of risks. In some countries, home-grown human rights risks dominate; in others, foreign sources of risk prevail given the supply chains in which those economies are integrated. These insights can help countries in the Global South to identify whether and to what extent they may be exposed to human rights risks, and to better set their priorities in seeking to address them. For example, those with low domestic risks could focus on supporting high-risk trading partners tackle such issues, while countries with high domestic risks could prioritise mitigating their own vulnerabilities. Furthermore, improved understanding of the sources of vulnerability here can help mitigate any unintended consequences of HREDD legislation, such as the termination of business relationships with 'high-risk' countries.

Future research could extend our analysis and methodology in a number of ways. First, while we focus on child- and forced-labour risks due to limited data availability, expanding the scope to include a broader range of issues as more comprehensive data become available would allow for a more holistic understanding of other human rights issues in GVCs. Second, given the level of aggregation in the IO data, our analysis only considers broad industries, but a focus at the product level – at least for selected countries and industries for which these data are available – would allow a deeper dive into where exactly within sectors these particular concerns lie and manifest. Finally, our analysis of human rights risks broken down into their different sources of origin, such as ones domestic and foreign, should only be seen as a first step towards a more detailed examination hereof that also distinguishes between upstream and downstream.

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