Skills, employment and trade:

The role of skills and employment policies in making trade more inclusive and resilient

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▶ Introduction

The COVID-19 pandemic plunged the global economy into the worst recession since the end of the Second World War (Yeyati and Filippini 2021) and caused a sharp decline in global trade across a wide range of economic sectors (ILO 2020a; UNCTAD 2020a). In June 2020, enterprises in the manufacturing sector were suffering a disruption of up to 35 per cent of their imported input supply owing to workplace closures, posing a risk to 255 million workers in the sector and to an additional 96 million workers in services supplying inputs to manufacturing (ILO 2020b). In April 2021, an estimated 97 million jobs in GSCs were still experiencing high negative impact, while around 107 million jobs were adversely affected to a moderate degree (ILO 2021a). Over the course of 2021, the global economy experienced a quick recovery, posting a growth rate of 5.6 per cent, the highest in nearly 50 years (UNCTAD 2022). However, a closer look reveals that the recovery has been highly uneven across countries, sectors, firms and population groups, with developing countries faring worse and potentially even facing a "lost decade" in their efforts to achieve sustainable development (UNCTAD 2020b; IATF 2022).

In addition to the COVID-19 pandemic, climate-related crises and the recent war in Ukraine have triggered severe disruptions in global trade and supply chains, which have accelerated the efforts by governments and businesses to strengthen supply chain resilience through more localized and/or regional sourcing strategies. Moreover, global trade and supply chains are encountering formidable challenges as a result of changes in consumer demand and labour and skills shortages, among other factors.

Measures to develop workers' skills and, more generally, policies on education and training have a major influence on the outcomes and inclusiveness of ongoing fundamental changes in labour markets related to trade, the reconfiguration of supply chains and technological advances. Skills policies can help to make structural transformation beneficial for all. Given the role of skills in improving productivity, promoting a more equitable distribution of employment and income, and making economies resilient, skills development should form an integral part of comprehensive national policies to ensure that the gains from trade are distributed fairly.

This chapter reviews the main features of ongoing supply chain disruptions and discusses possible ways of transforming GSCs to be more inclusive and resilient. Among the many policy areas that are relevant to promoting inclusive trade for decent work, it focuses on skills development and lifelong

learning. More specifically, the chapter considers how improving a country's skills base can contribute to: (a) the enhancement of productivity; (b) greater equality in employment and income; and (c) the resilience of its economy. First, skills development plays a fundamental role in productivity enhancement by increasing the absorptive capacity of exporting and importing firms to benefit from technology and knowledge spillover. Second, equitable access to skills development opportunities can counteract the inequalities in employment and income caused by skill-biased technological change and the skill premium associated with international trade. Third, skills development fosters trade diversification and economic resilience by enabling workers to perform a wide range of tasks and facilitating their transitions across sectors and occupations, as well as by enabling companies to move up in tiers of GSCs. However, this chapter acknowledges that skills development and lifelong learning are only part of the solution. It is argued that the gains from trade can be shared equitably when effective and comprehensive economic, fiscal, social and labour market policies and programmes are put in place to promote inclusive growth at the national level, and that skills development is central in such initiatives. Finally, the chapter presents examples of skills development and lifelong learning policies and programmes, drawing on the ILO's country-level interventions under the Skills for Trade and Economic Diversification programme.

8.1 What lessons can we learn about trade and globalization from the COVID-19 pandemic and the multiple crises currently faced by the world?

The COVID-19 pandemic was a combined health and economic shock in an already turbulent context marked by trade tensions and conflicts, a rise in protectionist policies and increasing pressure to achieve more sustainable economies. By focusing on static efficiency over the past three decades (as reflected in, for example, just-in-time production and inventory optimization), GSCs have become highly efficient, specialized and interconnected but at the same time also highly exposed to global risks. This supply chain model has proved susceptible to the multiple mutually reinforcing crises – notably the global financial crisis of 2008–09, the COVID-19 pandemic, the war in

Ukraine and the resulting food and energy crises – and to the megatrends associated with the sustainability imperative, increasing geopolitical tensions, technological advances and digitalization.

The COVID-19 crisis highlighted yet again the risks arising from the interconnected nature of international trade and production, and in particular the risks associated with *hyperspecialization.* Disruptions of supply chains lent new urgency to the debate on the future of GSCs. In particular, the measures taken by China to slow the spread of the virus "resulted in shortages of parts and equipment [for] downstream industries, most notably the automotive, [electronics,] chemicals, garments and textiles, machinery, metal and metal products industries, and those relating to precision instruments" (ILO 2020a). Moreover, there was a major shortage of personal protection equipment due to both supply- and demand-side problems. Import markets were closed off because of the lockdowns. In 2018, China had been the source of up to 50 per cent of all supplies of personal protection equipment in both the United States and the EU (Bown 2020). Following the outbreak of the pandemic, the US Government sought to increase domestic production of those goods, but there were considerable challenges with regard to coordination and it was not easy to scale up production quickly.

While the pandemic exposed the fragility of GSCs (especially those for essential goods), it also showed that supply chains could be at the heart of economic recovery. Recent reports by the World Bank and the WTO have found that countries highly integrated into GSCs recovered faster than others, and that well-rationalized and diversified supply chains are far more likely to be a source of resilience than of vulnerability (Brenton, Ferrantino and Maliszewska 2022; WTO 2021). These reports suggest that "the resilience-enhancing role of trade tends to outweigh the increased exposure" (WTO 2021, 9) to shocks that trade openness brings. It has been suggested that enterprises linked to GSCs are motivated to keep their existing business partners in order to avoid the "sunk costs" that having to find new partners would entail. This was especially so during the pandemic, when it was difficult to travel to verify new business partners. The ability to continue operating enhances the resilience of businesses so that "trade within GSCs recovers more quickly than other types of trade" (Brenton, Ferrantino and Maliszewska 2022, 28). For instance, the economic modelling in the above-mentioned World Bank report suggests that "a shift towards global reshoring to high-income countries and China could drive an additional 52 million people into extreme poverty, most of them in sub-Saharan Africa (Brenton, Ferrantino and Maliszewska 2022, xii). On the other hand, measures to reduce trade barriers and enhance integration into GSCs could potentially "lift almost 22 million additional people out of poverty by 2030 … and improve the incomes

of the bottom 40 per cent of the income distribution" (Brenton, Ferrantino and Maliszewska 2022, 3).

Another important challenge is the fact that the pandemic has accelerated the digitalization of GSCs. To cope with changes in consumer behaviour and the disruptions experienced by supply chains, businesses have started to use digital technologies to make their operations more agile and resilient. The ever-increasing volume of e-commerce transactions has heightened customer demand in terms of both delivery times and types of service. By adopting digital tools and technologies such as machine learning, predictive analytics, automated inventory management, real-time tracking and blockchain, businesses are able to identify and address supply chain problems earlier. However, there are several challenges related to the digitalization of supply chains. First, businesses need to assimilate new skills, roles and responsibilities and new organizational structures if they are to realize the full potential of digitalization. Second, because micro, small- and medium-sized enterprises play an important role in many economies, there is an urgent need to help such enterprises on their digitalization journey. Although technologies and automation can augment the productivity of some supply chain workers, they may also end up replacing such workers. Unless carefully designed adjustment policies are adopted, the increased digitalization of supply chains could well lead to negative labour market outcomes, especially due to the limited ability of many workers across sectors and occupations.

8.1.1 Reconfiguration of global supply chains in the post-COVID-19 period

Ongoing debates on the reconfiguration of GSCs are exploring how to achieve a balance between *efficiency* and *resilience* as supply chains are expected to face more serious and recurrent disruptions in the future. Some possible options discussed in the recent literature include multisourcing or alternative supply sourcing, the building up of safety stocks, inventory management, risk management, nearshoring, proximity sourcing, regionalization and greater domestic production.

According to UNCTAD, GSCs will go through a drastic transformation in the coming decade because of the increasing need for better resilience of GSCs owing to the COVID-19 crisis, which has exacerbated the existing major challenges to the international trading system arising from technological advances, growing economic nationalism and protectionism, and the sustainability imperative (UNCTAD 2020c). In view of these megatrends, the

following four possible trajectories of GSC transformation across industries in the post-pandemic period have been discussed in the literature, including the above-mentioned report (UNCTAD 2020c):

- *Reshoring* refers to the process of bringing productive activities back to developed countries from low-wage countries – either the entire production process or a part of it. The goal is to have "shorter, less fragmented value chains and a greater geographical concentration of value added" (UNCTAD 2020c, xii). Reshoring is motivated both by security concerns regarding the supply of essential products and by the need to increase strategic autonomy. Industrial and technological capabilities and capacities are essential to ensure competitiveness and for addressing societal challenges such as the transition to a "green" economy and the need for technological sovereignty in high-tech industries. Reshoring dynamics depend very much on political will as well as on the ability of policymakers to promote reshoring through targeted policies. There are several arguments in favour of reshoring. In particular, reshoring can create jobs in developed countries, help to curb greenhouse gas emissions and reduce supply chain uncertainties. As the technologies used in production processes nowadays require much less labour than those used in the past, there is some evidence that reshoring improves the labour market opportunities of high-skilled workers in developed countries but not those of low-skilled workers (Krenz, Prettner and Strulik 2021). As production processes become more capital- and technology-intensive because of robots and digital technologies, developing countries are losing their competitive advantage arising from cheap labour. Reshoring would therefore imply a decline in employment in developing and emerging countries. From the point of view of firms, the advantages of reshoring include the availability of more skilled labour, shorter delivery times and lower carbon footprints. However, reshoring can be a long process and requires substantial investment of money and time by firms, as well as effective coordination. While reshoring responds to an immediate need for security and brings new opportunities for local businesses and suppliers in many cases, governments and employers need to carefully assess the long-term sustainability of such an approach.

- *Diversification* of GSCs is the main alternative to reshoring. As a trajectory that involves multiple sourcing, it leverages GSCs to build resilience. The benefits of diversifying include risk mitigation and the availability of backup sourcing plans in case of a shock to supply chains. Diversification is most prevalent in services and GSC-intensive manufacturing industries. This trajectory increases the opportunities for new entrants (economies and firms) to participate in GSCs, but its reliance on digitalization means

that those supply chains will "be more loosely governed, platform-based and asset-light" (UNCTAD 2020c, xii). Teleworking opportunities are being enhanced not only by advanced digital communication tools, but also by cloud technology and internet of things-enabled devices. In addition, improvements in translation software are facilitating communication between firms in different parts of the world. For developing countries to be able to embrace these opportunities, certain key enablers need to be in place, including a digital development strategy to ensure the availability of robust digital infrastructure and a skilled workforce with the necessary digital and technical skills.

- *Regionalization* "reduces the physical length but not the fragmentation of supply chains" (UNCTAD 2020c, xii). It is one way to mitigate exposure to shocks. The main feature of this trajectory is to move production closer to where products are sold and it is most prevalent among "regional processing industries, some GSC-intensive industries and even the primary sector" (UNCTAD 2020c, xii). For instance, the recently established African Continental Free Trade Area, whose first phase took effect in January 2021, provides new momentum for the development of regional supply chains. The regional production of processed and semi-processed goods in this free trade area has great potential given that such goods accounted for 79 per cent of intra-African exports in 2019 (AUC and OECD 2022). Digitalization enhances and facilitates the regional value chain coordination. Accordingly, digital development, including a skilled workforce with the necessary digital skills, is a key enabler of regionalization, especially in developing countries. While there is a momentum for regionalization as many countries see regional trade as a valid alternative to globalism for building their resilience in the post-pandemic period, regional value chains are not easy to maintain: they require stronger regional coordination and favourable systemic conditions. In addition, regionalization needs to be considered as part of a business resilience strategy that is environmentally sensitive.

- *Replication* refers to distributed manufacturing, an alternative form of organizing production, close to the point of consumption. Distributed manufacturing is supported by new technologies such as additive manufacturing and three-dimensional printing. Distributing the needs of manufacturing across several factories in different locations significantly reduces supply chain risks and makes it easier to maintain stable production in a rapidly changing world. It leads to shorter supply chains and a rebundling of production stages. Activities are more geographically distributed, but with a higher concentration of value added. Replication is

especially relevant to hub-and-spoke industries and regional processing industries (UNCTAD 2020c).

8.1.2 Implications of the COVID-19 crisis for labour markets and skills

While the response to the COVID-19 crisis provides an opportunity for all countries to embark on some of the structural reforms advocated in the 2030 Agenda for Sustainable Development, this section focuses on the changes in the skills needs of both businesses and individuals (workers and jobseekers) in developing countries as a result of the crisis.

Skills have a key role to play in the immediate response to the economic crisis, in getting employees back in the workplace, as well as in building resilience and implementing longer-term strategies. In 2020–21, the ILO accordingly supported a series of "rapid assessments" of upskilling and reskilling needs due to the COVID-19 crisis across 12 developing countries[1] (ILO 2022; ILO, forthcoming). These assessments sought to understand the changes in skills demand that have arisen from addressing the pandemic-related challenges and the expectations for the future.

In line with the trends presented in *World Employment and Social Outlook: Trends 2021* (ILO 2021b), the rapid assessments have revealed not only that the crisis resulted in a large decrease in both employment and hours worked in the surveyed countries, but also that the effects of the reduced labour demand have been unequal across workers. While some workers were able to continue working remotely, remote working was not an option for many workers, in particular for lower-skilled workers (ILO 2022).

The firms surveyed had to swiftly build up "digital resilience" to overcome the problems caused by social distancing, lockdowns and travel restrictions. While the crisis led to increased employment opportunities in areas related mainly to ICT, the skill sets required to harness those opportunities were often in short supply – typically skills in ICT system management and for the deployment of new ICT applications (ILO 2022).

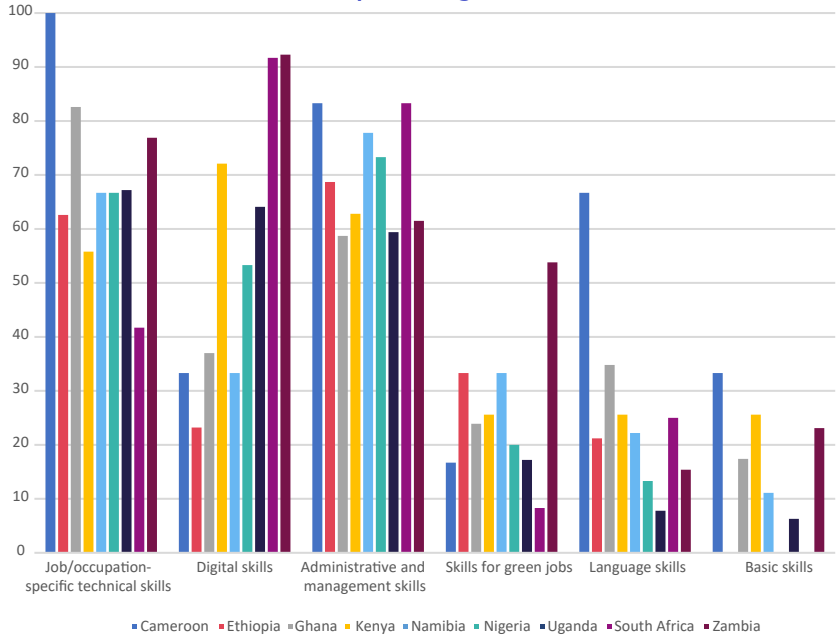
More importantly, the interruption of international supply chains required firms to be able to respond quickly to rapid changes in the external environment. Firms in some sectors were able to increase their domestic market share while the supply of imports was greatly reduced (as in the

1 Specifically in Cambodia, Cameroon, Ethiopia, Ghana, Kenya, Kuwait, Morocco, Namibia, Nigeria, South Africa, Uganda and Zambia.

textiles sector in South Africa). The pursuit of new domestic markets was also adopted by some firms as a strategy in situations where traditional export markets had contracted sharply or had been almost wiped out, as in the case of the hospitality and tourism sector. For instance, in Namibia, the tourist industry responded by focusing on catering to domestic and regional tourists rather than those travelling to the country from much farther afield.

Looking to the future beyond the immediate COVID-19 response, both firms and individuals emphasized a distinct set of skills priorities that are crucial to ensure business and employment resilience. These include specific technical skills required for a given job or occupation; administrative and managerial skills; digital skills; and skills for "green" jobs (see figure 8.1). For one third of the enterprises and individuals surveyed, the skills needs for green jobs were a priority in relation to building resilience. There is also direct evidence, specifically from Cambodia, that at the same time as employers sought to recover the skills they had lost during the pandemic, they also had to adapt the skills of their workforces to the challenges of the dual green and digital transitions.

▶ Figure 8.1 Share of establishments reporting specific types of training needed to seize opportunities arising from the COVID-19 crisis (percentage)



Source: ILO (2022, figure 7.4).

Analysis of the needs and priorities identified during these rapid assessments suggests that skills development and lifelong learning warrant renewed attention on the part of policymakers and practitioners in order to leverage the potential of international trade to promote inclusive growth. Indeed, skills are one of the key factors that account for the distributional effects of international trade. In developing countries, most firms operate in the informal economy and workers are employed in low-productivity and low-paying informal work. Their engagement in international trade is often superficial and limited mainly to a small number of sectors. International trade can help to improve the productivity of firms and workers, create opportunities for employment and higher incomes, and diversify a country's economic activities to achieve greater resilience. These are all important elements of inclusive growth, in which skills development and lifelong learning[2] play an essential role.

8.1.3 The role of skills in enhancing productivity

Firms participating in international trade have been observed to be generally more productive than non-trading firms. There are at least two explanations for this correlation between trade and productivity. One is that productive firms self-select (Melitz 2003) to participate in international trade – that is, they are more productive to start with. Another is that firms improve productivity by exporting and importing. When participating in international trade, the skills of its workforce largely determine a firm's absorptive capacity to benefit from technological and knowledge spillovers through the channels of learning by exporting and importing (Van Biesebroeck 2005; Amiti and Konings 2007; De Loeker 2007). "Learning by exporting" refers to a mechanism whereby firms improve their productivity after beginning to export (De Loeker 2007), by learning from foreign markets that are more technologically advanced and more sophisticated in terms of consumer demand. The productivity enhancement is especially marked when firms in lower-income countries export to higher-income ones (Van Biesebroeck 2005). In addition, productivity can also increase in importing firms as a result

2 Lifelong learning "has generally evolved to be understood today as covering all education and training during a lifetime, including both initial education and training and adult learning. It is considered 'lifelong' but also 'lifewide', covering learning in institutions, families, communities and workplaces. It is also considered 'life-deep', because it recognises the ongoing and active acquisition, development and deployment of knowledge over a lifetime" (ILO 2019b, 6).

of their learning from the foreign technology and knowledge embodied in intermediate inputs (Amiti and Konings 2007).

The complementary nature of skills and technological and knowledge spillovers highlights the importance of skills development to achieve productivity growth through international trade, especially in developing countries, where the skills base is patchy and firms' absorptive capacity therefore tends to be lower. This has implications not only for productivity at the firm level but also for a country's economic growth. Indeed, diverging levels of investment in skills development and in enhancing the absorptive capacity of firms explain much of the divergence in the development trajectories of countries participating in international trade (Keller 1996; Rogers 2004). The importance of skills development and lifelong learning is even greater if one bears in mind the accelerated pace of technological advancement, as the skills of the labour force must be continuously updated to generate technological and knowledge spillovers and sustain the enhancement of productivity through international trade.

8.1.4 The role of skills in achieving equality in employment and income

Another commonly observed fact is that, the aggregate benefits notwithstanding, the gains from international trade tend to be distributed in an inequitable manner across countries, sectors, firms and workers. Greater import competition caused, for example, by offshoring can drive unproductive firms out of the market, leading to job losses, declining wages or even the waning of an entire sector. Increased participation in international trade can cause the destruction and creation of jobs in different sectors and locations requiring a different set of skills; therefore, it can result in higher unemployment (Narula 2003). On the other hand, international trade increases demand for certain skills, leading to a wage premium for some occupations. In a hypothetical world in which labour is perfectly mobile, displaced workers can be absorbed by growing sectors. In reality, however, smooth transitions often do not happen because of frictional and structural barriers, leading to significant employment and income losses, especially among vulnerable population groups, and increasing the risk of prolonged negative economic and social consequences, such as poorer health outcomes and lower educational achievement across generations (Bacchetta et al. 2021; Pierce and Schott 2020; Autor, Dorn and Hanson 2015; Davis and von Wachter 2011).

This "skill premium" plays an important role in the inequality caused by international trade. Trade can induce skill-biased technological change

(Costinot and Vogel 2010; Pavcnik 2017), which favours skilled labour by leading to better employment opportunities or a wage premium, and disfavours lower-skilled labour by leading to displacement or declining wages (Thoenig and Verdier 2003; Hummels et al. 2014). This skill-biased polarization of labour markets caused by international trade contributes to widening inequalities between lower- and higher-skilled workers. Consequently, measures aimed at promoting skills development among vulnerable population groups must be in place to facilitate the labour market transitions of displaced workers and improve their ability to earn a higher income.

8.1.5 The role of skills in economic diversification and resilience

A further stylized fact regarding international trade is that trade diversification reduces volatility and thus increases economic resilience (Ardelean, Leon-Ledesma and Puzzello 2022; WTO 2021). The series of recent social and economic crises triggered by the COVID-19 pandemic and geopolitical tensions has drawn attention to the heightened risk of disruptions in trade and investment and the importance of building resilience through diversification. A high degree of specialization in a limited number of economic sectors can have a catastrophic impact on an economy if a country does not have a buffer against sector-specific shocks, such as the shocks experienced by tourism and other customer-facing services sectors as a result of the lockdown measures during the pandemic. A diversified economic structure would help countries to cope with such sector-specific shocks (WTO 2021).

Trade diversification can be promoted by a wide range of policies, including through skills development. Increasing the pool of skilled talent that can effectively perform a wide range of tasks across different economic sectors and occupations ensures that the right balance is struck between supply chains being lean on the one hand, and risk-averse on the other (Contractor 2022).

8.2 What supportive policies and strategies are required to ensure that trade is beneficial for everyone in society?

Despite the above-mentioned adverse distributional effects of trade, inclusive trade remains a catalyst for structural transformation and sustainable development, in particular if it is accompanied by relevant domestic policies and global cooperation.

Given the role of skills in enhancing productivity, bringing about a more equitable distribution of employment and income, and achieving economic resilience, skills development should form an integral part of comprehensive domestic policies to ensure that the gains from trade are distributed fairly. Disadvantaged population groups and economic units face significant domestic constraints such as limited access to finance, education and technology (Bacchetta et al. 2021). Skills development policies therefore need to be combined with industrial policies to enhance the competitiveness of a country's production system, as well as with other measures to support effective labour market transitions of the workforce. Policies and programmes to improve labour mobility include skills policies aimed at reskilling and upskilling workers, and social protection policies to support those suffering from job losses in the harder-hit sectors.

8.2.1 Policies to stimulate productive development

While the main focus of this chapter is on the nexus between skills and inclusive trade, it is important to recognize that skills are part of the answer, but only a part. When thinking about the structural changes that are required for sustainable development, a broader perspective is necessary to enable skills development measures to play a useful role within a set of policies designed to improve both social and economic outcomes. Therefore, before discussing how skills policies can support inclusive trade (see section 8.2.2), we shall consider briefly the need for comprehensive industrial and productive development policies.

To build resilience and achieve sustainable development, it is necessary to design specific development paths based on local and regional

opportunities, which depend on the available mix of knowledge assets, skills and institutions. These elements are part of a more comprehensive and inclusive view of the development process. The response to the COVID-19 crisis constitutes a unique opportunity to revisit policy goals and define an integrated policy approach to structural transformation and sustainable growth that ensures social and economic upgrading.

Under such an integrated approach, it is important to consider the complementarities between different policies aimed at fostering productivity and resilience. These policies can have national, sectoral and local dimensions and should take into account the interdependence between various factors underlying economic and social performance, ranging from demand-side factors, such as innovation and research and development (R&D), technology, trade and investment, to supply-side factors, such as education and skills, and institutional, social and financial structures.

A sectoral or local approach is also key to achieving resilience. This means adopting different combinations of measures and policies to meet the different needs of economies. Indeed, the requirements of different ecosystems in terms of resilience and efficiency may vary depending on local challenges and opportunities.

Sector- or region-based policies are an essential starting point for structural transformation and sustainable growth that strikes a balance between efficiency (more productivity) and resilience. In that regard, comprehensive industrial policies are needed to ensure social and economic upgrading. Such policies are aimed at developing a gradual development pathway towards new activities within the existing institutional and economic frameworks, not merely at leveraging local skills and competences.

Dani Rodrik, a leading development economist, and his co-authors have highlighted in their recent publications the need for a *new industrial policy* to address the challenges of increasing productivity while reducing inequality in society (Rodrik and Stantcheva 2021a, 2021b; Autor et al. 2022). "Where will the good and productive jobs come from?" is the question they have raised to highlight the need for integrated and reoriented growth and development policies. Their main argument is that it is essential to integrate productivity and inclusivity agendas, in contrast to the traditional approach in which those two areas are addressed through separate policy tools. For example, Rodrik and Stancheva (2021a) present a simple organizing framework, summarized in a 3 x 3 matrix, that can be used when considering policies to achieve inclusive prosperity (examples of policies are given in Appendix I). One key point raised by the same authors in a related paper is that "good jobs are contingent on higher productivity and the expansion of good firms" (Rodrik and Stantcheva, 2021b, 828). Their proposed strategy to foster the creation of

good jobs focuses on productivity enhancement along the middle spectrum of the labour market. They further emphasize that the strategy requires iterative and collaborative governance practices to ensure flexibility, as the creation of good jobs depends on a wide array of decisions on investment, technology, work and business organization, the consequences of which are complex (Rodrik and Stantcheva, 2021b, 835).

The implications of the need to reorient growth and development policies are summarized in table 8.1 below, taken from Autor et al. (2022), who compared what they refer to as a "good-jobs development model" (the text in the red box in the table) with traditional growth policies (in light blue) on the one hand, and with traditional social protection and poverty reduction strategies (in dark blue) on the other. In contrast to the traditional growth model, the next generation of growth policies will have to target SMEs that have the potential to enhance both employment and productivity, most of which are in the services sector. The authors argue that traditional industrial policies would need to be revised and extended to segments of the informal economy. Sustainable growth is possible only by "creating more productive, better jobs for workers at the bottom of the skill distribution". Future development policies will therefore need to strike a balance between social protection and productivity growth. Moreover, new technologies that are labour-friendly should be treated as a "global public good" (Autor et al. 2022, 79–80).

▶ **Table 8.1 Development model based on the creation of good jobs**

		At what stage of the economy does policy intervene?		
		Pre-production	Production	Post-production
Which segment of the economy do we care about?	Low productivity	Investments in education and health		Cash transfers; full-employment macro policies
	Middle productivity		Promotion of higher-quality jobs in services; employer-linked training policies; job-creating customized business incentives; "appropriate technologies"	Safety nets
	High productivity	Innovation systems; intellectual property rules; trade agreements	Subsidies; R&D incentives	Corporate tax incentives

Source: Autor et al. (2022, figure 9).

8.2.2 Skills policies and strategies required for inclusive trade

Depending on the context, there are two types of skills-based strategies to support inclusive trade: short-term strategies and longer-term ones. Moreover, effective skills strategies, regardless of the time frame for their implementation, must integrate diverse entry points of targeted interventions for vulnerable groups into their interventions.

8.2.2.1 Quick-win solutions: What skills?

The COVID-19 crisis accelerated structural change to a considerable extent, and this is continuing with the adoption of new technologies, further digitalization and shifts in the patterns of GSC trade. The crisis itself led to a huge loss of employment, often concentrated in certain sectors, and in many cases the new jobs that are emerging in the recovery phase are

not identical to those that were lost. The future resilience of workers, firms and economies will depend on the ability to quickly identify and seize new employment opportunities.

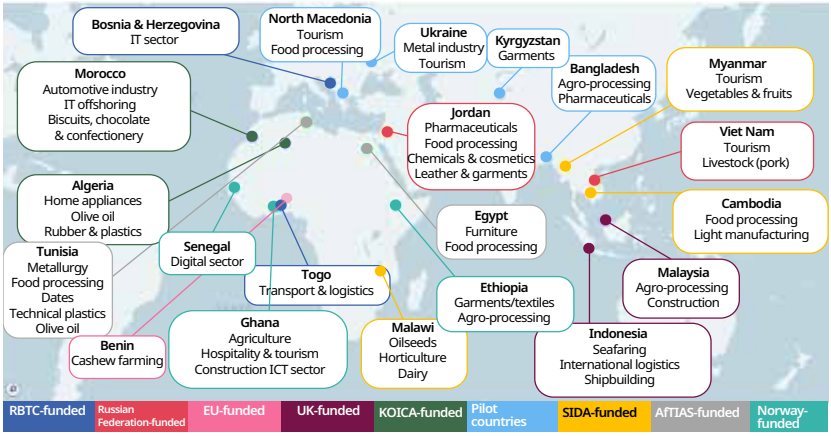
A trade-related employment shock can have a persistent negative impact on the labour market outcomes for workers (ILO and WTO 2017). Effective skills strategies need to be designed to reskill and upskill workers who lose their jobs or who may be vulnerable in the future; to improve their transferable, or "soft", skills and make them more employable; and to use skills development to build a comparative advantage in expanding areas of the economy that are capable of absorbing unemployed workers.

Effective skills strategies should seek to ensure that sufficient and relevant skills are available to enable the upgrading process that leads to inclusive growth of economies. What, then, are the current and emerging skills priorities for businesses and workers in tradable sectors?

The involvement of firms in trade and GSCs affects not only the level of skills required, but also the types of skills (ILO and WTO 2017). The ILO's Skills for Trade and Economic Diversification (STED) programme provides relevant granular qualitative evidence based on the observation of patterns in key business capabilities that firms need to strengthen or create to be able to participate successfully in tradable sectors, whether as exporting or import-competing firms. Addressing those business capabilities gaps shapes the skills that firms are looking for among workers. Some key categories of skills priorities identified through the STED programme in over 25 countries and more than 50 tradable sectors (see figure 8.2) are summarized below.[3]

3 Adapted from Chapter 2 of ILO 2020c.

▶ Figure 8.2 Development cooperation under the ILO's Skills for Trade and Economic Diversification programme



Ongoing STED work through SIFA project
Zimbabwe (Horticultural sector) - United Republic of Tanzania (Beef) - Eswatini (Horticultural sector) - Ghana (Garments and textiles)

AfTIAS = Aid for Trade Initiative for the Arab States; KOICA = Korea International Cooperation Agency; RBTC = Regular Budget for Technical Cooperation (of the ILO); SIDA = Swedish International Development Cooperation Agency; SIFA = Skills Initiative for Africa.

Source: ILO web page on the STED programme, www.ilo.org/sted.

Digital skills: While digitalization and technological advances offer an enormous potential for enhancing the competitiveness, productivity and efficiency of companies, their development and deployment require an increasingly wide range of digital skills at different sophistication and specialization levels across almost all occupations. Anticipating, identifying and delivering these digital skills needs is crucial both for improving competitiveness and productivity and for making trade inclusive. In Senegal, the STED approach has been applied from 2019 onwards to support the Ministry of Employment, Vocational Training, Apprenticeship and Placement in the preparation of a digital skills strategy to meet the needs of the digital economy. The key challenge was that the provision of technical and vocational education and training (TVET) for the ICT sector was not well developed, with very few training programmes focusing on medium- to lower-level skills. Accordingly, the STED programme in Senegal sought to support employers and TVET providers in identifying priority areas and diversifying the training opportunities offered while focusing on the higher-level skills required by employers. The resulting recommendations centred on skills development in several areas that are important for the Senegalese digital sector to be able to compete in global markets, including business process outsourcing, digital marketing, production of multimedia digital content and software development (mobile apps and games). The main direct output has been

the development and validation of the Digital Development Strategy for Vocational and Technical Training, which was adopted by the Government of Senegal in 2020.[4] The strategy, which is aligned with the National Development Plan and the Senegal Digital Strategy 2025, is intended to contribute to the development of the human capital required for the growth of the digital economy. To achieve a better match between the training offered and labour market needs, the strategy promotes the use of digital technologies in the provision of TVET services and supports digital inclusion. Key activities under the action plan for implementation of the strategy include the launching of five new training programmes,[5] the digitalization of existing training programmes, the development of a basic digital skills framework for trainers and learners, training of trainers and learners in skills for digital entrepreneurship, and the creation of "digital clubs" for TVET students. Digital clubs are an inclusive ecosystem designed to enable learners to develop digital and entrepreneurship skills and strengthen their innovation capacity in preparation for their entry into the labour market. In addition, a digital skills needs analysis was carried out and training in the skills identified was delivered to all staff in the Ministry of Employment, Vocational Training, Apprenticeship and Placement, from directors down to training inspectors, trainers and administrative staff.

Core work skills:[6] Skills strategies for inclusive trade should prioritize core work skills, skills that are transferable between occupations and skills for modern forms of work organization. The competitiveness of firms in the tradable sectors of developing countries hinges on productivity enhancement and their ability to meet the skills requirements for the transition to a green and digital economy. An important factor in that regard is the extent to which firms use a combination of modern forms of work organization and digital technologies. New forms of work organization not only rely on core

4 The full text of the strategy (in French only) is available from the following ILO web page: www.ilo.org/africa/countries-covered/senegal/WCMS_775643/lang--fr/index.htm.

5 Two examples are: (a) the Advanced Technician Diploma in the Development of Mobile Applications, a two-year programme that prepares students to analyse, design, implement and deploy mobile apps so that they can seize the opportunities created by the expansion of mobile commerce; and (b) the Technician Certificate in Home Automation, which provides training in designing, building and maintaining home automation systems and in improving energy management and home security.

6 The ILO framework of "core skills for life and work in the twenty-first century" is a set of non-technical skills, such as social and emotional, cognitive and metacognitive, basic digital skills and basic skills for green jobs, that are transferable across occupations and professions, as well as between low- and high-level jobs. Core work skills enable individuals to continuously acquire and apply new knowledge and skills; they are also critical to lifelong learning. Various organizations have given different labels to these skills, including "key competencies", "soft skills", "transferable skills" and "essential skills". The ILO uses the terms "core work skills" and "core skills for employability" (ILO 2021c).

work skills, such as teamwork/collaboration, communication, problem-solving, organizational skills and planning skills, but also require strong people management skills for a wide range of managerial occupations and specialized skills such as quality management, enterprise resource planning, quality assurance and control, root cause analysis, maintenance of working areas and troubleshooting. As part of the ILO's work under the STED programme, gaps in core work skills were identified as a key constraint on the competitiveness of companies in the textile and garment sector in Ethiopia. The STED diagnostic research, carried out in 2019, found that a large proportion of garment workers, especially female workers, have not been exposed to formal jobs or industrial environments, and often lack a basic level of education. This lack of core work skills can hinder their ability to transition successfully into workplaces. To address this problem, a number of skills interventions were undertaken as part of the ILO's STED-based projects in Ethiopia, including the development of a comprehensive package to support the country's pre-vocational core work skills programme for the textile and garment sector. This package was designed to help workers with limited core work skills to transition into the industry and be successful in their jobs. In addition, core work skills were mainstreamed into the curricula of three selected institutes: Arba Minch University, Bahir Dar Polytechnic College and Hawassa University. These interventions were developed in response to the fact that graduates often lack core work skills when entering the world of work.

Technical skills or job/occupation-specific skills:[7] As a consequence of the combination of trade, technological advancement and other mega drivers of change, the skills demanded are changing constantly. At the same time, skills shortages and gaps in the quality and relevance of technical skills can constrain the ability of firms in developing countries to succeed in international trade (ILO 2020c). For instance, the ILO's STED-based project covering the agrifood and metallurgy sectors in Tunisia, which was conducted between 2015 and 2017 within the framework of the Aid for Trade Initiative for the Arab States (AfTIAS),[8] highlighted a number of underlying problems

7 Technical skills or job/occupation-specific skills are specialized skills, knowledge or know-how needed to perform specific duties or tasks (Brewer 2013).

8 AfTIAS is a multi-donor, multi-country and multi-agency programme, designed and launched by the International Islamic Trade Finance Corporation on behalf of the Islamic Development Bank Group in 2013. The ILO's STED methodology was applied in Tunisia (agrifood and metallurgy sectors) and Egypt (food processing and wood and furniture sectors) under AfTIAS Phase 1 (2014–18).

in each sector. In the agrifood sector, business capability[9] bottlenecks were identified in areas such as product traceability, product quality, international marketing, conformity to international standards and lack of local expertise in tasting olive oil. In the metallurgy sector, gaps were identified in quality control, international certification and international marketing. To address these shortcomings, several interventions were implemented under the project: (a) strengthening technical skills in sensory analysis and food labelling (including company training on compliance with the new European standard on food labelling); (b) mainstreaming of training on quality in TVET programmes in the agrifood sector (including training and certification based on international standards); (c) support for the promotion of exports of oysters from the city of Bizerte through innovative packaging and the establishment of a regional cluster; (d) the creation of a platform for training to achieve certification according to international standards in welding and quality control in the metallurgy sector; and (e) strengthening managerial skills, with a particular focus on designing an international marketing strategy for both sectors. The lack of relevant skills makes it difficult for vulnerable workers to improve their employability outcomes. While core work skills are increasingly important to success in tradable sectors, technical skills remain essential. Across the whole range of sectors addressed through the STED programme in different developing countries, similar shortcomings in business capabilities appear to limit firms' success in trade. However, there are differences in context meaning that similar business capability gaps can have very different skills implications in different sectors and countries (ILO and WTO 2017). Table 8.2 below shows an illustrative sample of the types of occupational skills found through work under the ILO's STED programme to be linked to common business capability bottlenecks (ILO and WTO 2017). An effective strategy to address these bottlenecks must involve skills development as a key component. Depending on countries' skills systems and their skills availability, the exact skills needed differ. Appendix II presents, as a further example, the skills commonly needed to strengthen agrifood value chains in developing countries, based on a synthesis of skills analyses under the STED programme in ten developing countries. It highlights the importance of granular skills analysis at the sectoral and local level through social dialogue and consultations with stakeholders in order to understand,

9 The term "business capability" is used here to clarify that the capabilities under consideration are at the level of the business, not at the level of the individual or team. Business capabilities are characteristics of business organizations, not of workers or individuals (Gregg, Jansen and Uexkull 2012, 57).

anticipate and develop the skills required for firms to enjoy future success in international markets.

Other transferable skills: Many of the skills highlighted by the STED programme lie on a middle ground between core work, technical and digital skills; they are increasingly relevant across multiple occupations in several economic sectors. Examples include managerial skills, organizational skills, customer handling, prioritization of tasks and administrative support. Transferable skills are important with regard to both dealing with the changes in the future of work caused by the ongoing megatrends and multiple crises and making trade more inclusive. Transferable skills are particularly important in the case of workers at risk from employment shocks driven by structural change, including trade-led employment shocks. A relevant example is the follow-up intervention under the STED programme in Tunisia that sought to strengthen managerial skills for international marketing (see below).

▶ Table 8.2 Common business capability bottlenecks and related occupational skills areas

Common business capability bottleneck	Examples of linked occupational skills areas
Efficiency and effectiveness of operations	▶ Technical skills of machine operators, assemblers, crafts, technicians, etc. ▶ Production management skills, including people management and engineering ▶ Core and "soft" skills of workers at all levels required for modern work organization and productivity improvement
Compliance with standards and regulations	▶ Quality assurance and compliance skills ▶ Regulatory management skills ▶ Laboratory scientist and technician skills ▶ Document management skills
Marketing, sales and channel management	▶ Marketing skills, channel management skills ▶ Sales management skills ▶ Sales skills ▶ Teleservice skills
Innovation, design and product development	▶ Development engineering and science skills ▶ Design skills ▶ Process engineering skills ▶ Supply-chain management skills

Common business capability bottleneck	Examples of linked occupational skills areas
Supply-chain management and logistics	▶ Logistics management and work skills ▶ Sourcing and procurement skills ▶ Marketing skills
Value-chain development	▶ Key skills outside the exporting sector that contribute to the sector's success, e.g. for food processing: agronomy, food safety and logistics management skills

Source: ILO and WTO (2017, table 2.2).

Skills strategies at the sectoral level can foster greater participation in trade and GSCs by setting out actionable measures agreed on by stakeholders to address the skills needs that are relevant to success in trade and by promoting their implementation. This would ensure that limited availability of skills does not constrain the ability of firms to expand and engage in trade.

Policies to strengthen capabilities in common business areas can have numerous benefits for firms aiming to succeed in trade, and skills development is an important component of those policies. Some potential benefits include increased productivity and competitiveness, improved compliance with standards and regulations, and better management of sourcing, marketing, sales and supply chains. In addition, enhanced capabilities in innovation, product design and development can lead to the creation of new high-quality products and services. This, in turn, can drive economic growth and create new decent jobs. Furthermore, improved supply chain management, sourcing and procurement allow businesses to reduce costs and increase their efficiency, which can lead to increased profits and greater competitiveness. In general, understanding the skills-related implications of strengthening business capabilities and investing in policies to address those skills needs can help countries to achieve their economic and development goals.

8.2.2.2 Longer-term strategic skills responses

The unequal geographical distribution of high-value activities along GSCs is a key problem for developing countries and for regions in developed countries that have suffered from trade-related employment shocks or have been left behind.

At the same time, high-value production activities such as marketing, services for customers, product development and innovation, together with the underlying technologies and infrastructure, offer opportunities to move up the supply chain and add more value, improve productivity and

create more decent jobs. Applying new technologies and modern practices of business process and work organization to existing activities also presents an opportunity to add value. While these opportunities can help countries to create decent jobs, improve livelihoods and attract investments, harnessing them requires a skilled workforce. More importantly, it requires strategic longer-term and systemic solutions by countries.

Skills are an important factor in gaining a comparative advantage in international trade, and skills development should be used as part of strategic industrial and trade policies to strengthen the social and economic outcomes of trade integration. This can be achieved either by ensuring that skills development systems generally enhance a country's participation in trade or through more targeted skills development aimed at building a comparative advantage in the higher-value-added activities of GSCs.

In that regard, creating a greater number of decent jobs should be a central goal for developing countries, where there is a large volume of low-paid, low-skilled employment. In many cases, businesses in developing countries may not have the capacity to identify skills needs, to effectively use the available skills in their workforce or even to appreciate the potential improvements that could be achieved with a higher-skilled workforce. This means that in order to transform the economic and social performance of firms – in terms of their having a better understanding of the role of skills development and skills utilization (economic performance) and of their offering decent jobs to workers from vulnerable groups (social performance) – policies need to be adopted that influence firms' market, product and service strategies and human resource management practices, such as work organization and job design (Sung and Ashton 2015). The structure of local labour markets is crucial for inclusive growth, as emphasized by Rodrik and Sabel (unpublished), who posit that "producing good jobs is a source of positive externality for society".

Productivity is the outcome of a combination of factors (innovation, R&D, capital investment, and modern practices of management and work organization, among others), and boosting the supply of skills on its own will not deliver the required structural changes. This points to the need to establish or strengthen institutional mechanisms of skills governance in developing countries with a view to fostering consistent and sustained efforts and bringing together the right institutions to collaborate over the long term. Key features of such mechanisms include integrated policy domains (for example, with skills policies integrated into demand-side policies such as economic development and trade to stimulate weak demand); a central role

for industry; buy-in from stakeholders (notably employers and trade unions); and providing dialogue platforms to meet and shape demand for skills.

At the same time, policies on skills, education and training often do not receive enough attention when governments are planning for structural change. The importance of such policies may be recognized at a high level of policymaking, but this does not always translate into the granularity required to identify skills needs and how these can best be addressed. Governance mechanisms to make skills development systems more responsive and capable of taking actionable measures at the granular level should therefore be established or strengthened (ILO 2020c). This should be done at the local, sectoral and regional levels and should involve relevant ministries and government agencies, employers' and workers' organizations, and providers of education and training (including leading academics and universities).

The ILO developed the STED approach accordingly to contribute to the alignment of skills development policies with policies on trade, economic diversification and industrial development, and to support the enhancement of skills needs anticipation systems. The approach aims to help policymakers in developing countries to work with the private sector, including employers' and workers' organizations, in understanding and anticipating future skills needs and in identifying appropriate skills responses in a strategic manner. STED-based activities enable national and sectoral stakeholders to test and pilot some of the basic functions of skills councils before committing to establishing them formally, or to support the definition and implementation of such councils' strategic functions where a commitment to establish them had already been made. For instance, the STED approach was applied in Ghana between 2019 and 2020 to support the Government's strategy for strengthening the country's TVET sector and making it more responsive to the needs of industry. One of the elements of this strategy is the creation of "sector skills bodies" for key economic sectors, organized under the Commission for Technical and Vocational Education and Training. The ILO and the German Agency for International Cooperation have collaborated to provide the Ghanaian authorities with advice on and technical assistance in establishing sector skills bodies. The ILO's technical assistance involved using the STED approach to support such bodies in identifying and anticipating skills development needs and developing sectoral skills strategies to address those needs.

Effective skills strategies should include initiatives addressing skills utilization through enhanced human resource and people management and use of modern practices of work organization. Firms in developing countries are often unaware of what skills their employees have or how to deploy them effectively. Workers who are enabled to use their skills at work have higher

job satisfaction, show greater personal productivity and are less likely to want to change employers. Skills utilization is about "confident, motivated and relevantly skilled individuals who are aware of the skills they possess and know how best to use them in the workplace, working in workplaces that provide meaningful and appropriate encouragement, opportunity and support for employees to use their skills effectively in order to increase performance and productivity, improve job satisfaction and employee well-being, and stimulate investment, enterprise and innovation" (Braňka 2016, 15). Relevant firm-level actions include understanding what skills will be required in the light of business strategy; planning staff progression and career pathways; matching skills to job openings; redesigning jobs; and making changes to work organization in order to ensure that skills are better utilized.

▶ 8.3 Conclusion

In an increasingly globalized and digitalized world with multiple and overlapping crises, the extent of the resulting challenges as well as opportunities underlines the need to design comprehensive and effective policies that can make the global economy more inclusive, sustainable and resilient. Inclusive trade and GSCs can undoubtedly catalyse the structural transformation that is required for sustainable development, especially if they are accompanied by relevant national policies and international cooperation.

This chapter emphasizes the importance of having effective policies on skills and lifelong learning as an integral part of industrial and productive development strategies that are designed to build resilience and foster sustainable development. The role of skills development in enhancing the benefits of international trade for decent work has long been recognized. It is well understood that skills mismatches and shortages are among the constraints holding back workers and businesses, and hence also economic development. Skills are part of making trade matter to everybody and promoting opportunities for decent work through trade.

Over the past few years, awareness has increased of the urgent need to address such megatrends as climate change, ever-accelerating digitalization and heightened risks of social, economic and political disruption. The centrality of skills is arguably more relevant than ever, as the skills base of a

country is the foundation not only of productivity but also of equality and the resilience of workers, enterprises and society as a whole. In order to harness the role of skills in promoting inclusive trade, effective measures to support skills development and lifelong learning must be adopted as an integral part of comprehensive economic, fiscal, social and labour market policies and programmes – especially measures targeting vulnerable population groups in developing countries.

Yet inequity in education and skills development is a challenge in many countries, especially in developing countries. Governments, employers and providers of education and training should endeavour to provide equal learning and skills development opportunities for marginalized and vulnerable groups, including low-skilled workers, employees of micro, small and medium-sized enterprises, the self-employed, women, people with disabilities and migrants (ILO 2020c). Targeted measures should be integrated into national, sectoral and regional policies on skills for inclusive trade.

To that end, technical cooperation and knowledge-sharing related to skills and lifelong learning should be promoted among countries and development partners.

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▶ Appendix I

Policy matrix for achieving inclusive prosperity

At what stage of the economy does policy intervene?				
		Pre-production stage	**Production stage**	**Post-production stage**
Which income segment do we care about?	**bottom incomes**	primary education and early-childhood programmes; vocational training	minimum wage; apprenticeships; reduced social security contributions by firms; in-work benefits	social transfers (housing, family, child benefits); guaranteed minimum income; earned income tax credit; full-employment macro stabilization policies
	middle class	public higher education; adult retraining programmes	industrial policies; occupational licensing; on-the-job training; collective bargaining and work councils; trade policies	unemployment insurance; pensions
	top incomes	inheritance, gift and estate taxes	R&D tax credits; competition and anti-trust policies	top income tax rates; wealth taxes; corporate taxes

Note: In the above matrix, Rodrik and Stantcheva present a set of policies for each cell based on combinations of countries' income segments and production stages (Rodrik and Stantcheva 2021c, 327). They argue that the policy discussion of these sets of policies "could be organized around two questions. First, which income group is the target of the policies intended to address inequality?" (Rodrik and Stantcheva 2021a, 1). "Policy priorities differ depending on whether policies are targeted at the poor at the bottom, the middle class or the top segment of the income distribution" (Rodrik and Stantcheva 2021a, 2). Second, at what stage of the economy should the policy intervention take place? "Pre-production stage policies" are those shaping the endowments that individuals and households "bring to the market such as education and skills, financial capital, social networks and social capital. Production stage policies are those that directly shape the employment, investment and innovation decisions of firms" (Rodrik and Stantcheva 2021a, 2); and "post-production stage policies" are redistribution policies that transfer income and wealth once they have been realized.

Source: Rodrik and Stantcheva (2021a, figure 1).

Appendix II

Areas of skills gaps frequently seen in the agrifood value chains of developing countries

Production	Aggregation	Basic processing/ packaging	Domestic distribution	Secondary processing/ packaging	Domestic distribution
Agronomy	Food safety, quality and compliance	Food safety and compliance	Export distribution	Food safety, quality and compliance	Export distribution
Pest and disease control	Logistics	Technician/ operator skills	Domestic marketing	Compliance management	Domestic marketing
Food safety	Business skills	Production management	Export marketing	Technician/ operator skills	Export marketing
Resource management	Technical, business and compliance advice/ coordination	HR skills	Product management	Production management	Brand management/ fast-moving consumer goods
Good agricultural business skills	Labour standards	Business skills	Channel management	HR skills	Product management
		Advice/ coordination	Cold chain	Work organization	Channel management
Technology management and application		Customer service	Logistics	Sourcing	Cold chain
		Technology management	Customer service	Marketing	Logistics
		Product innovation		Technology management	Customer service
		Process innovation		Product innovation	
		Supply chain management		Process innovation	
				Supply chain management	

... and entrepreneurship across every stage of the value chain

Source: ILO (2020c, figure 2).