



International
Labour
Organization

► **Global Employment Policy Review 2020**

Employment policies for inclusive
structural transformation



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structural transformation

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► Foreword

The Global Employment Policy Review (GEPR) is a new biennial publication prepared by the Employment Policy Department of the International Labour Organization (ILO). The purpose of the GEPR is to advance the ILO's contribution to global employment policy debates by giving greater visibility to current policy-oriented research, as well as to spur new policy-oriented research. The GEPR brings together contributions from the ILO's wider global employment policy team, including ILO colleagues both at headquarters and in field offices, with the latter providing a strong regional perspective on economic policy debates.

The GEPR was conceived as a "review" rather than a "report" because it is not a report in the usual sense of the word. At the core of the GEPR are a set of thematic chapters that address both persistent and emerging policy challenges and do not shy away from challenges that are difficult or indeed contentious. Each chapter is meant to be self-contained and to represent the viewpoints of the respective authors, while endeavouring to present clear policy messages. At the same time, the chapters have been selected to best demonstrate the ILO's current thinking on global employment policy challenges. The GEPR places a special emphasis on policy design and implementation so that its chapters will have as much relevance as possible to countries that are in the process of developing and introducing new employment policies, as well as reforming existing ones.

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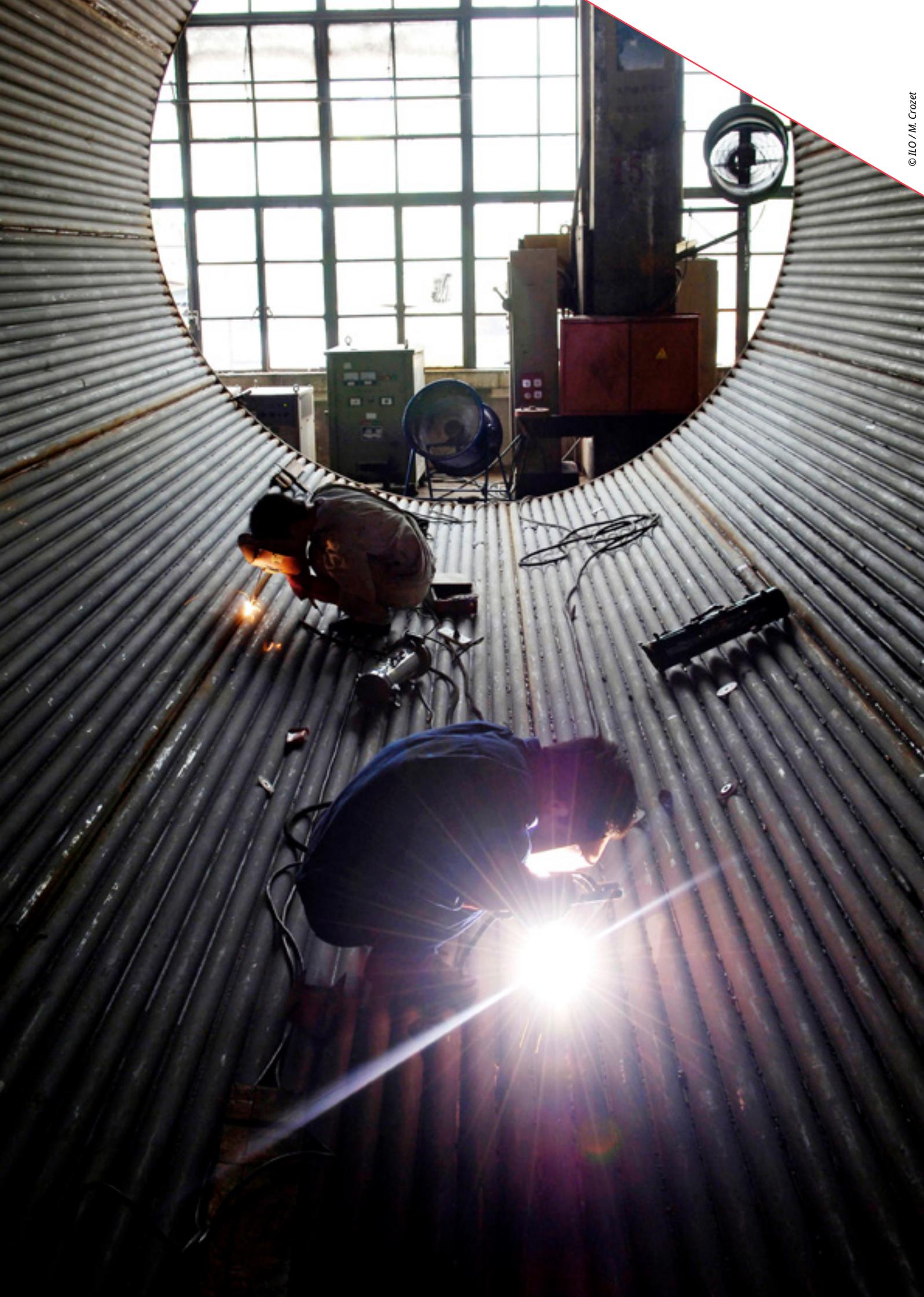
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► Executive Summary

Structural transformation and sectoral policies are central to inclusive and sustainable job-rich recovery and growth

This review of employment policies for structural transformation comes at a time when the world is looking for medium- to long term solutions to not only overcome the current crisis caused by the COVID-19 pandemic but also to build back better. In this context, this first edition of the Global Employment Policy Review (GEPR) focuses on a number of pertinent issues, in particular:

1. Processes and institutions dedicated to the design and implementation of sectoral policies, including a comparative survey of methods for identifying potentially promising sectors for structural transformation and trade expansion.
2. Developing skills policies for promoting trade and employment.
3. The role of employment-intensive investment programmes in contributing to structural transformation and thereby to peace and resilience.
4. Developing policies that combine the creation of decent work with a just transition to environmental sustainability, particularly in the context of national employment policies (NEPs).
5. A comparison of policy approaches for transitioning to formal employment in Africa, Asia and Latin America.

Structural transformation and sectoral policies are central to the work of the ILO, given its significant work programmes on macroeconomic, skills, trade and labour market policies, as well as on the employment impact assessments of policy interventions, transitions to formal employment and infrastructure investments.

How to design and implement industrial policies for inclusive and effective structural transformation: Processes and methods (Chapter 1)

While the role of industrial policies remains crucial, recent experiences (e.g., Basque Country, Costa Rica, Ghana, South Africa and Viet Nam) show that merely adopting an “industrial policy” is not by itself a guarantee for successful implementation that in turn will lead to structural transformation in a country. Where the design phase was used to accurately identify the nature of the economy and the potential of its different sectors, there was a higher likelihood of successful implementation. Moreover, industrial policies need time to be designed and implemented properly. They need to be part of a coherent policy package and aim for the same developmental and economic goals as the overall strategy for the country. They also have to be flexible and capable of regularly readjusting to changing circumstances. Possibly the most important lesson that can be drawn from the comparison of these case studies is that the identification of sectors and the process of continuous monitoring and evaluation will only succeed when as many partners as possible are involved. For example, a selection of industries dominated by the government will not attract the necessary stakeholder buy-in to ensure successful implementation. The analysis also found little evidence of the involvement of workers’ organizations in most cases and it is likely that their involvement would further increase policy effectiveness.

Identifying the right sectors is a complicated but necessary self-discovery process that should be based on dialogue, the wide-ranging participation of all relevant stakeholders and a rigorous analysis of the situation within a country. That is why the second part of Chapter 1 identifies three methods for providing guidance on identifying promising products and corresponding sectors to promote export expansion and structural transformation: (1) the growth identification and facilitation framework; (2) the economic complexity and product space method; and (3) the International Trade Centre (ITC) export potential and product diversification indicators method.

The comparative analysis of these three methods, accompanied by in-depth country studies, show that that structural transformation should not be viewed as an end in itself but as a means to create more and better jobs, that is “decent work”. This will occur through compositional shifts towards higher productivity sectors (whether new or established); associated increases in productivity within both expanding and contracting sectors; and economic growth more broadly. Although all three methods for promoting structural transformation are concerned with job creation, they differ in the degree to which job creation is integral to each method.

How can we make trade more employment-friendly through skill policies: from rhetoric to actionable policies (Chapter 2)

What is the role of skills policies in making trade more employment-friendly, especially as the global trade system is under greater pressure? Investing in skills can help make trade more beneficial by making it more inclusive and employment-friendly, as well as by helping to rebalance the playing field for competition in trade. Investing in skills is both a necessary enabler for effective participation in trade by countries at all levels of development and a key lever for improving the labour market outcomes of trade.

Along with technology, trade is a key factor that shapes the future of work through both the global diffusion of knowledge that it drives and the competitive pressures that it exerts. Trade drives the continual change in workplace skills needs, which calls for effective lifelong learning from pre-school to retirement. Such learning is critically important to the employability of workers at all occupational levels. There is therefore an acute need for lifelong learning to be inclusive and to embrace not only those who are already well skilled but also those at risk of being left behind.

It is widely recognized by policymakers that skills development is important to trade outcomes, which is reflected in both national trade strategies and national skills strategies. However, these strategies frequently lack the granularity of focus that is required to formulate actionable skills policies for tradable industries. The sense of urgency for such policies is growing thanks to the rapid technological changes that are shifting the contours of the global trading system. The analysis of the key aspects of this shift that are relevant to policy learning confirms the importance of making skills development systems more responsive to the requirements of inclusive trade and the related demands of technological change. In doing so, effective governance mechanisms should be established to make skills development systems more responsive and capable of taking actionable measures at a granular level. Furthermore, national, sectoral and regional policies on skills for inclusive trade should make a special effort to target workers who are at risk of being left behind, with a special emphasis on digital skills needs. Policies on skills for trade should also prioritize core employability skills, skills transferable between occupations, skills for modern forms of work organization and the utilization of available skills.

How can employment-intensive investment programmes contribute to sustainable structural transformation and peace and resilience? Learning from decades' experiences (Chapter 3)

The potentials of employment-intensive investment programmes (EIIPs) have not been fully appreciated, especially in responding to profound changes in an increasingly globalized economic system, which has left millions of workers either surplus to the requirements of the labour market or engaged in it yet unable to earn a decent living wage. This situation is exacerbated by factors such as technological advances, protracted conflicts, accelerating climate change and environmental degradation. All of this is contributing to social unrest, migration and conflict.

EIIPs can take the form of either public infrastructure programmes (PIPs), which increase aggregate demand within the national economy, or government-implemented public employment programmes (PEPs). Focusing on PEPs, the analysis shows that ILO innovations in relation to EIIPs can contribute to social justice, promote investment in capabilities, promote resilience through the sustainability of assets created and contribute to peacebuilding. They can also contribute to addressing the challenges of inequality, exclusion and vulnerability by creating a more inclusive labour market, particularly by enhancing household and community resilience as demonstrated by the Jobs for Peace and Resilience flagship programme.

The operational experience of EIIPs in recent decades has also shown that working with community-level and national stakeholders can strengthen and build local institutions and contribute to a more inclusive and productive society. Identifying the fiscal space to implement multisectoral national PEPs that address today's economic, social and environmental challenges may be an appropriate approach to building a more resilient and peaceful society.

How can employment and environmental goals be reconciled in national employment policies?: Towards better design and implementation (Chapter 4)

National employment policies (NEPs) provide a viable entry point for reconciling employment and environmental goals, notably through the promotion of "green jobs". In recent years, NEPs have become more environmentally friendly, encompassing different measures for the creation of decent jobs in the green economy. These have ranged from tax incentives and catalytic investment in promising sectors to training and skills development, including reskilling as part of active labour market programmes. However, there is scope for further improving the design of such policy measures and making their implementation more effective through an integrated approach.

More broadly, green jobs issues have often been included in national development frameworks rather than in dedicated green NEPs with their own specific characteristics. Therefore, there is a need for a coherent set of well-coordinated policies – in particular financial, industrial, employment/labour market, education and skills development policies – for promoting green jobs and a greener economy. A structural transformation towards a green economy with social justice implies radical changes in the way we produce, consume and work, which in turn requires a strong buy-in and commitment at all levels of society. Importantly, it should happen fast.

Based on an extensive review of policy measures and country cases, the analysis suggests that enhanced efforts will be required in order to forge stronger ties between employment and other policies to enhance sustainability, especially through policy research, capacity development, territorial/local approaches, and active labour market policies.

How can policies make larger impacts on informal work? A global comparative analysis of recent policy experiences (Chapter 5)

Formalization policies have varied significantly in different countries and regions. Focusing on Africa, Asia and Latin America and the Caribbean, where informality rates range above 50 per cent of total employment, an extensive review is undertaken to examine the reasons for these cross-regional variations (e.g., productive structures, the composition of labour markets, the nature of informality, institutional settings). The results show that productivity increases have a huge impact in economic growth and structural transformation processes, especially in cases with a higher informality rate, and that these economic drivers boost their potential when properly combined with institutional policies such as incentives and enforcement measures. These findings suggest that impacts tend to be limited when interventions are implemented in an isolated manner. Therefore, it is better to accumulate different interventions that complement each other, thereby supporting multiple and coordinated measures. Different regions need to prescribe the mix of economic and institutional policies according to their own needs; the proportion of 6:4 in Latin America and the Caribbean has been shown to be effective.

Concerning the way forward, many studies have pointed out that labour markets are generating new business models and new forms of employment at a rapid pace and that policymaking should try to adapt to it. Technologies offer the possibility of transforming or upgrading how labour market policies are implemented, in particular those related to the transition to formality. Fortunately, an increasing number of countries are now using new technologies for supporting the transition to formality. These e-solutions provide more transparency, information and innovative approaches for policymakers. However, these tools can only be considered as additions to – and not substitutes for – the structural drivers of the transition to formality that can help the implementation process to facilitate the transition to formality. Whatever other transformations the future may bring, tripartite social dialogue will remain the vehicle for ensuring that the transition to formality leads to better and decent jobs. Informal economy actors know their own problems and concerns best and social dialogue provides a channel for their voice to be heard in policymaking for the transition to formality.



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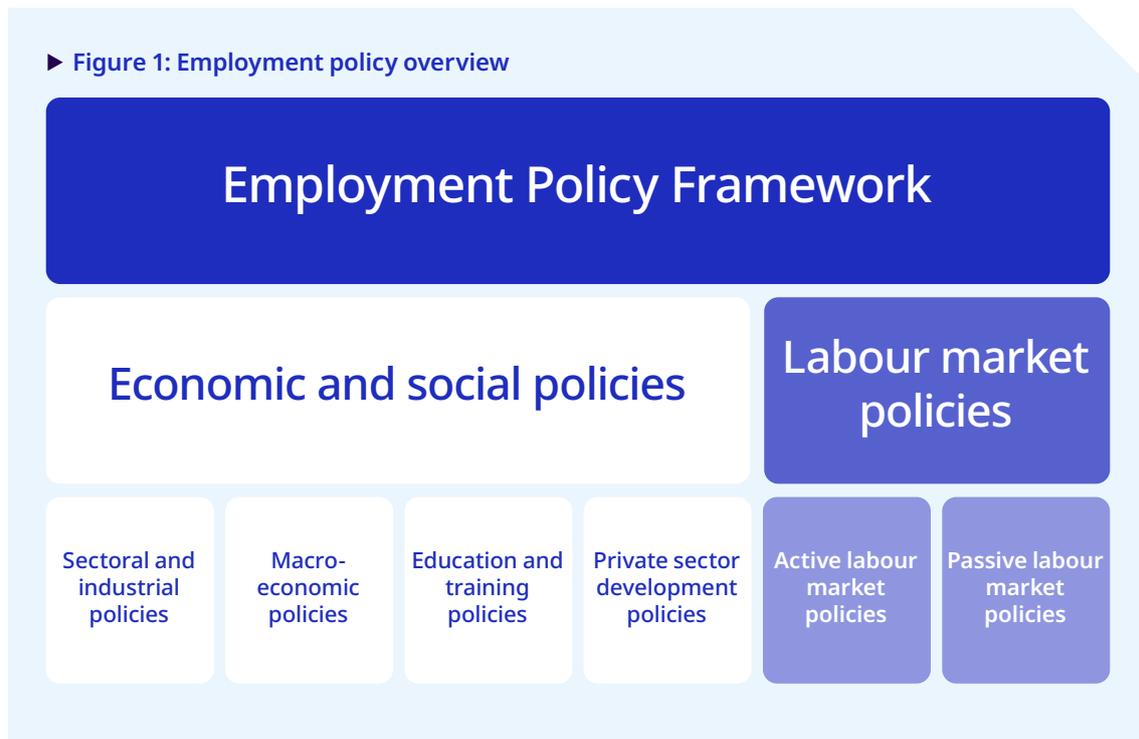
Introduction

► Overall introduction to the Global Employment Policy Review

The ILO's work in the area of employment policy is guided by the Employment Policy Convention, 1964 (No. 122), which states that ILO Member States that have ratified the Convention "shall declare and pursue, as a major goal, an active policy designed to promote full, productive and freely chosen employment."¹ More specifically, the ILO works in two broad areas of employment policy:

- **economic and social policies:** sectoral and industrial policies, macroeconomic policies, education and training policies, and private sector development policies; and
- **labour market policies:** active and passive labour market policies (figure 1).

► Figure 1: Employment policy overview



1 As of 2019, 113 Member States of the ILO have ratified Convention No. 122.

While each chapter of the Global Employment Policy Review (GEPR) is meant to stand on its own, this first edition of the GEPR has given priority to selecting chapters that address the structural transformation of economies. Central to the notion of structural transformation are compositional shifts in employment and output towards higher productivity sectors of the economy, particularly “leading sectors” characterized by economies of scale and macroeconomic spillovers. Such shifts are argued to give rise to productivity gains within both contracting and expanding sectors. These productivity gains in turn enable higher worker incomes, shorter working hours and better working conditions more generally, provided that productivity gains are equitably distributed.

In this sense, structural transformation from the ILO perspective is concerned with both the quantity and quality of employment. Such compositional shifts also typically occur alongside demographic shifts from rural to urban areas, which can give rise to increased urban informal employment and so are linked to rural development policies. In a narrow sense, sectoral policies are about facilitating structural transformation towards more productive sectors and product and process upgrading within all sectors. More broadly, sectoral policies also involve investments in infrastructure and skills development, as well as conducive macroeconomic and trade policies, often with the objective of stronger integration into international markets. Given the urgency of climate change, sectoral strategies must also address the job creation potential of investments in climate change mitigation and adaptation.

At a time when economies are struggling to find solutions to the devastating impact of the COVID-19 pandemic, a debate on employment policies and structural transformation could not be timelier. The COVID-19 pandemic has profoundly affected the world of work, expanding and aggravating previous challenges and creating new ones. For millions of workers who have been placed under short-term work schemes, have lost their jobs entirely or have been forced to work from home and are now faced with emerging challenges in terms of work-life balance and working conditions, it is not clear at all if and

when they will get back to their jobs and under which conditions. There is a general agreement that the world cannot and should not aim to get back to where labour markets stood before the crisis hit. Instead, the goal should be to foster a process of structural transformation towards more inclusive, green, fair and sustainable labour markets that provide decent job opportunities for all. All employment policy areas addressed in this edition of the GEPR can help to build back better in this sense.

This edition of the GEPR does not represent a comprehensive report on structural transformation and sectoral policies. Nonetheless, its five chapters cover many of the above-mentioned issues, in particular:

1. Processes and institutions dedicated to the design and implementation of sectoral policies, including a comparative survey of methods for identifying potentially promising sectors for structural transformation and trade expansion.
2. Developing skills policies for promoting trade and employment.
3. The role of employment-intensive investment programmes in contributing to structural transformation and thereby to peace and resilience.
4. Developing policies that combine the creation of decent work with a just transition to environmental sustainability, particularly in the context of national employment policies (NEPs).
5. A comparison of policy approaches for transitioning to formal employment in Africa, Asia and Latin America.

A summary of each of these five chapters is set out below, following a brief discussion of the resurgence of interest in sectoral policies and structural transformation in recent years, for which the works of Stiglitz et al. (2013), Salazar et al. (2014), the United Nations Conference on Trade and Development (UNCTAD) (2016), Rodrik et al. (2016) and Cherif and Hasanov (2019) provide particularly useful perspectives.

► Why the resurgence of interest in sectoral policies and structural transformation?

Sectoral policies are a means of achieving structural transformation and were prevalent in development policy discourse and practice in the decades following the Second World War, which experienced exceptionally high rates of economic growth. As argued by UNCTAD (2016, p. 176), “No country has made the arduous journey from widespread rural poverty to post-industrial prosperity without employing targeted and selective government policies to shift the production structure...”. Sectoral policies were challenged in the 1980s by the emergence of the so-called Washington Consensus, which focused on macroeconomic aggregates, such as government debt, deficit targeting and inflation targeting, while placing considerable emphasis on policies to attract foreign investment. Such targeting was central to the “structural adjustment policies”² of the Washington Consensus, which emerged within the broader offensive against the role of the state that accompanied the liberalization of international capital markets after the collapse of the Bretton Woods system.

Yet even at the height of the Washington Consensus, the most rapidly growing developing countries made extensive use of sectoral policies, of which the East Asian Tigers and China provided perhaps the most visible recent examples. Their success contrasted with the relative failure of many developing countries that closely adhered to structural adjustment policies. The global crisis of 2007–2008 also led to serious questioning by mainstream economists of the core tenets of the Washington Consensus. Together, these developments led to a renewed interest in, and appreciation of, the positive role that sectoral policies have played and can continue to play in economic development. Although World Trade Organization (WTO) rules have placed constraints on sectoral policies, there is a consensus that considerable scope remains for developing

countries to adopt them (Aggarwal and Evenett 2014; UNCTAD 2016).

There is a recognition that sectoral policies can indeed have negative distorting effects and that protective tariffs can be overdone. Yet key contributors to these debates also argue that even ostensibly horizontal development policies – such as investments in education and infrastructure – will inevitably end up benefiting some sectors over others, so that vertical sectoral targeting is in any case inevitable (Stiglitz et al. 2013; UNCTAD 2016).

Moreover, approaches to sectoral targeting have evolved, with Salazar et al. (2014) noting that “The use of top-down planning mechanisms in support of infant firms has, over the years, given way to a more decentralized approach, using an expanded range of support measures and instruments which aim to build clusters and linkages” (p. 20). At the same time, there is a wide appreciation that sectoral policies should be accompanied by supportive macroeconomic, trade, labour market and skills policies in integrated policy packages, and that they should promote inclusive structural transformation that systematically addresses the equitable distribution of productivity gains and the creation of decent jobs.

The current discussion of sectoral policies is also widening in scope to consider learning and knowledge accumulation as key objectives (Stiglitz et al. 2013; Salazar et al. 2014). For example, Stiglitz et al. (2013) argue that “the issues of diffusion of learning throughout society to equip and empower all private agents have received little attention, in marked contrast to those of resources allocation....Externalities in learning and discovery support an *infant economy* argument for governmental intervention that Greenwald and Stiglitz (2013) argue is far more robust than the conventional *infant industry* argument” (pp. 10–11, emphasis added). Learning

² The meaning of the word “structural” in the term “structural adjustment” is very different to its meaning in the term “structural transformation”, which refers to compositional shifts in output and employment and their macroeconomic and developmental implications.

implies uncertainty and risk. A key preoccupation of sectoral policies must therefore be how and when to shift away from policies that have not worked well, especially those that have failed to successfully promote the expansion of a targeted sector.

Structural transformation and sectoral policies are central to the work of the ILO, given its

significant work programmes on macroeconomic, skills, trade and labour market policies, as well as on the employment impact assessments of policy interventions, transitions to formal employment and infrastructure investments. It is hoped that this first edition of the GEPR will provide insights into the ILO's work in this regard that will prove useful to policymakers and other readers.

► Chapter summaries

Summary of Chapter 1: Industrial policies for structural transformation: processes, institutions and methods

Authors: David Kucera, Dorothea Schmidt-Klau, Johannes Weiss

There is a renewed interest in a new generation of industrial policies, which is motivated by the belief that well designed and implemented industrial policies are key to sustainable structural transition processes. This leads to questions such as the following: How can policymakers ensure that they get the process to design industrial policies right? What factors have an impact on the implementation of such processes? What methodologies exist for selecting the “right” industries? Chapter 1 seeks to answer these questions.

The first part of Chapter 1 includes the following five country/area case studies: (1) Basque Country, (2) Costa Rica, (3) Ghana, (4) South Africa and (5) Viet Nam. These cases show that merely adopting an “industrial policy” is not by itself a guarantee for successful implementation that in turn will lead to structural transformation in a country. Where the design phase was used to accurately identify the nature of the economy and the potential of its different sectors, there was a higher likelihood of successful implementation. Moreover, industrial policies need time to be

designed and implemented properly. They need to be part of a coherent policy package and aim for the same developmental and economic goals as the overall strategy for the country. They also have to be flexible and capable of regularly readjusting to changing circumstances. Possibly the most important lesson that can be drawn from the comparison of these case studies is that the identification of sectors and the process of continuous monitoring and evaluation will only succeed when as many partners as possible are involved. For example, a selection of industries dominated by the government will not attract the necessary stakeholder buy-in to ensure successful implementation. The analysis also found little evidence of the involvement of workers' organizations in most cases and it is likely that their involvement would further increase policy effectiveness.

One of the outcomes of this first part of Chapter 1 is that identifying the right sectors is a complicated but necessary self-discovery process that should be based on dialogue, the wide-ranging participation of all relevant stakeholders and a rigorous analysis of the situation within a country. That is why the second part of Chapter 1 identifies three methods for providing guidance on identifying promising products and corresponding sectors to promote export expansion and structural transformation: (1) the growth identification and facilitation framework; (2) the economic complexity and product space method; and (3) the International Trade Centre (ITC) export potential and product diversification indicators method.

Each of these three methods are considered in turn and their results compared. Uganda was selected as an illustrative example in Chapter 1 because these methods have been applied to in-depth studies of that country. Since the economic complexity and product space method and the ITC method each yield two distinct sets of sectors, results for five sets of sectors are considered altogether. The analysis finds that structural transformation should not be viewed as an end in itself but as a means to create more and better jobs, that is “decent work”. This will occur through compositional shifts towards higher productivity sectors (whether new or established); associated increases in productivity within both expanding and contracting sectors; and economic growth more broadly. Although all three methods for promoting structural transformation are concerned with job creation, they differ in the degree to which job creation is integral to each method.

Summary of Chapter 2: Making trade more employment-friendly: The role of skills policies

Authors: Cornelius Gregg, Bolormaa Tumurchudur-Klok, Olga Strietska-Ilina

Over recent decades, trade has helped to drive economic growth in developing, emerging and industrialized economies, while raising incomes and sharply reducing the incidence of poverty in emerging and developing countries. In recent years, however, growth in trade has slowed and the consensus in favour of continued trade liberalization has weakened. There is an increasing perception that the global trading system is not delivering opportunities for all, that too many are being left behind and that a tilted playing field affects the outcomes of trade.

Investing in skills can help make trade more acceptable by making it more inclusive and employment-friendly, as well as by helping to rebalance the playing field for competition in trade. Investing in skills is both a necessary enabler for effective participation in trade by countries at all levels of development and a key

lever for improving the labour market outcomes of trade.

Along with technology, trade is a key factor that shapes the future of work through both the global diffusion of knowledge that it drives and the competitive pressures that it exerts. Trade drives the continual change in workplace skills needs, which calls for effective lifelong learning from pre-school to retirement. Such learning is critically important to the employability of workers at all occupational levels. There is therefore an acute need for lifelong learning to be inclusive and to embrace not only those who are already well skilled but also those at risk of being left behind.

It is widely recognized by policymakers that skills development is important to trade outcomes, which is reflected in both national trade strategies and national skills strategies. However, these strategies frequently lack the granularity of focus that is required to formulate actionable skills policies for tradable industries. The sense of urgency for such policies is growing thanks to the rapid technological changes that are shifting the contours of the global trading system. Chapter 2 aims to highlight the key aspects of this shift that are relevant to policy learning and to identify the key elements of effective skills response measures. It makes use of evidence from ILO Skills for Trade and Economic Diversification (STED) sector skills studies, based on a review of skills in national trade policies and of trade in national skills policies, as corroborated by a United States case study on recovering manufacturing sectors that uses big data on vacancies advertisements.

Chapter 2 starts by exploring what is known about skills and trade, drawing on both the literature and empirical evidence from the ILO's policy work in this area. It reviews the connection between skills and trade – both the place of skills in national trade policies and the place of trade in national skills policies – and assesses the influence of skills in achieving a level playing field in international trade. It considers how to respond to trade-related changes in skills demand, reviewing the constraints on effective responses while presenting case study evidence based on the ILO's work, including analysis of jobs vacancies big data. The conclusions focus in particular on priorities for responding to changes in skills demand.



Summary of Chapter 3: The contribution of employment-intensive investment programmes to structural economic transformation for peace and resilience

Authors: Mito Tsukamoto, Anna McCord

Chapter 3 outlines the potential of employment-intensive investment programmes (EIIPs) for responding to profound changes in an increasingly globalized economic system, which has left millions of workers either surplus to the requirements of the labour market or engaged in it yet unable to earn a decent living wage. This situation is exacerbated by factors such as technological advances, protracted conflicts, accelerating climate change and environmental degradation. All of this is contributing to social unrest, migration and conflict. Chapter 3 explains how ILO-supported EIIPs play a transformative role in addressing such challenges, thereby contributing to peace and resilience.

EIIPs can take the form of either public infrastructure programmes (PIPs), which increase aggregate demand within the national economy, or government-implemented public employment programmes (PEPs). PIPs contribute to aggregate employment by promoting increases in the labour intensity of government expenditure; they often combine the objectives of public asset or service production with reducing poverty. PEPs create employment directly in order to fulfil the government responsibility to ensure that working-age populations have access to adequate income and offer short-term employment in response to temporary labour market disruptions. Such interventions contribute to positive economic, labour market and climate change transformations. They build on a century of ILO experience in this field, as well as more recent ILO-supported programme innovations around the world.

Chapter 3 focuses mainly on PEPs and describes, for example, how ILO innovations in relation to EIIPs can contribute to social justice, promote investment in capabilities, promote resilience through the sustainability of assets created and

contribute to peacebuilding. It outlines how PEPs promote a human-centred agenda and attempt to address the challenges of inequality, exclusion and vulnerability by creating a more inclusive labour market. It also outlines how PEPs contribute to household and community resilience by providing quality infrastructure and sustainable assets that are specified and constructed using engineering standards and appropriate technical and managerial inputs, as well as community and local government engagement. Chapter 3 also describes how these programmes can be designed to contribute to a peacebuilding agenda, using lessons learned from the Jobs for Peace and Resilience flagship programme.

Chapter 3 concludes by exploring how EIIPs contribute to sustainable development, addressing income inequality and ending poverty, with special emphasis on areas affected by conflicts, disasters and other humanitarian emergencies. It finds that the operational experience of EIIPs in recent decades has shown that working with community-level and national stakeholders can strengthen and build local institutions and contribute to a more inclusive and productive society. Identifying the fiscal space to implement multisectoral national PEPs that address today's economic, social and environmental challenges may be an appropriate approach to building a more resilient and peaceful society.

Summary of Chapter 4: National employment policies and environmental sustainability: Forging stronger ties

Authors: Valter Nebuloni, Christoph Ernst, Daniele Epifanio

“It is time to grow clean, to go green”. To this end and given that the transition to greener economies is not neutral in terms of labour market outcomes, informed policymaking will require a good understanding of the links and trade-offs between environmental sustainability and job creation. Global projections indicate that, although the net overall employment impact

of a structural transformation towards a green economy may be positive in the near future, there will be winners and losers. In spite of this realization, many governments have yet to embark on deeper reflection and shape policies that simultaneously and effectively address the environmental and social challenges. Admittedly, this is a complicated issue that adds to the already demanding mandates of ministries in charge of employment or environment policies.

As coherent and integrated country-level policy frameworks for enhancing the quantity and the quality of jobs, national employment policies (NEPs) represent a viable entry point for reconciling employment and environmental goals, notably through the promotion of “green jobs”. In recent years, NEPs have become more environmentally friendly, encompassing different measures for the creation of decent jobs in the green economy. These have ranged from tax incentives and catalytic investment in promising sectors to training and skills development, including reskilling as part of active labour market programmes. However, there is scope for further improving the design of such policy measures and making their implementation more effective through an integrated approach.

More broadly, green jobs issues have often been included in national development frameworks rather than in dedicated green NEPs with their own specific characteristics. Therefore, there is a need for a coherent set of well-coordinated policies – in particular financial, industrial, employment/labour market, education and skills development policies – for promoting green jobs and a greener economy. A structural transformation towards a green economy with social justice implies radical changes in the way we produce, consume and work, which in turn requires a strong buy-in and commitment at all levels of society. Importantly, it should happen fast.

Chapter 4 provides a brief introduction on climate change and the transition to a green and fair economy. It then reviews the interdependencies and transmission channels among the environmental, social and economic spheres, also introducing the green jobs concept, and it considers NEPs and other policy frameworks and measures for promoting employment, while addressing the effects of climate change. Based

on the findings of policy reviews and selected country cases, Chapter 4 concludes by drawing a number of policy implications and orientations for the transition to a sustainable future.

Summary of Chapter 5: Pathways to formality: Comparing policy approaches in Africa, Asia and Latin America

Authors: Juan Chacaltana, Vicky Leung

Almost five decades after the first use of the term “informal sector” in 1972 by the ILO and following intense debates around the concept and definition of informality, current international discussion emphasizes the need for innovative policy approaches to the transition to formality. The Transition from the Informal to the Formal Economy Recommendation, 2015 (No. 204) and the Sustainable Development Goals (SDGs) provide an international consensus on policies for the transition to formality.

Chapter 5 explores the regional dimension of formalization policies, focusing on Africa, Asia and Latin America and the Caribbean, where informality rates range above 50 per cent of total employment. Given the vast heterogeneity of informality, it is clear that there is no “silver bullet” solution for the transition to formality and that multiple and coordinated interventions are needed (integrated approach).

Based on the analysis of a diverse set of information, including some formalization episodes in a number of countries, we describe how these policy choices depend heavily on productive structures, the composition of labour markets, the nature of informality, institutional settings and so on. This means that each policy mix will have a different emphasis on drivers, depending on the relative nature and composition of informality in each country or region. In particular, we find that productivity increases have a huge impact in economic growth and structural transformation processes, especially in cases with a higher informality rate. The evidence shows that these economic drivers boost their potential when properly combined

with institutional policies such as incentives and enforcement measures. The evidence also indicates that impacts tend to be limited when interventions are implemented in an isolated manner. Therefore, it is better to accumulate and complement different interventions, supporting multiple and coordinated measures. Different regions need to prescribe the mix of economic and institutional policies according to their own needs; the proportion of 6:4 in Latin America and the Caribbean has been shown to be effective.

With respect to the way forward, many studies have pointed out that labour markets are generating new business models and new forms of employment at a rapid pace and policymaking should try to adapt to it. Technologies offer the possibility of transforming or upgrading how labour market policies are implemented, in particular those related to the transition to

formality. Fortunately, an increasing number of countries are now using new technologies for supporting the transition to formality. These e-solutions provide more transparency, information and innovative approaches for policymakers. However, these tools can only be considered as additions to – and not substitutes for – the structural drivers of the transition to formality that can help the implementation process to facilitate the transition to formality. Whatever other transformations the future may bring, tripartite social dialogue will remain the vehicle for ensuring that the transition to formality leads to better and decent jobs. Informal economy actors know their own problems and concerns best and social dialogue provides a channel for their voice to be heard in policymaking for the transition to formality.

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▶ Chapter 1

Industrial policies for structural transformation: Processes, institutions and methods

Authors: David Kucera, Dorothea Schmidt-Klau, Johannes Weiss

► Content and structure of the chapter

Before the COVID-19 pandemic turned labour markets upside down in most countries around the world, there was already a growing interest in a new generation of industrial policies that was motivated by the belief that well-designed and well-implemented industrial policies are key to sustainable structural transition processes. The demand for such policies has even increased due to the current crisis since it is a common understanding that we should build back better, ensuring a transformation towards inclusive, fair, green and sustainable economies. But how can a good design of such policies be ensured? What factors have an impact on their implementation? What methodologies exist to select the “right” industries? All these are questions that this chapter sets out to answer. In the first part,

through the examination of five interesting case studies, it is demonstrated that although the design phase is important, there is no guarantee that a well-designed industrial policy will be successfully implemented and bring about structural transformation in a country. One of the outcomes of the first part of this chapter is that identifying the right sectors is a complicated but necessary self-discovery process that should be based on dialogue, the wide-ranging participation of all concerned stakeholders and a rigorous analysis of the situation within a country. That is why the second part of this chapter identifies three methods for providing guidance on identifying promising products and corresponding sectors to promote export expansion and structural transformation.

► Processes of “self-discovery” for the design and implementation of industrial policies

Although much information is available on the *content* of industrial policies – and to a lesser extent on their *impact* – only limited information appears to be available on their *creation process* and its impact on the quality of such policies.³ This may reflect the traditional understanding of an industrial policy as a development plan for an industry sector or set of sectors that have been determined by governments. However, as defined by Rodrik (2004), the development of an industrial policy should be a process of “self-discovery”, “one where firms and the government learn about underlying costs and opportunities and engage in strategic coordination” (p.3). He defines “industrial policy” as “... *restructuring policies in favor of more dynamic activities generally, regardless of whether*

those are located within industry or manufacturing per se”.

That dynamic approach to interpreting industrial policies is taken in Chapter 1 in order to identify country/area examples of such processes of self-discovery and the institutions that have supported them and to determine if this approach would ensure a better linking of industrial policies with structural transformation processes. The five country/area examples are Costa Rica, Ghana, the autonomous community of the Basque Country in Spain, South Africa and Viet Nam. The selection of these examples was mainly based on the availability of information. The review compares the five cases, draws policy conclusions and identifies next steps towards a policy-oriented research agenda in this area.

³ See for example UNIDO (2013, p.1), which asserts: “The process of industrial policymaking is as important as its output which is typically an industrial policy document. However, while industrial policy documents are readily available once they have been completed, information on the underlying processes and the necessary institutional capacities is scarce, especially in an African context”.

Country/area examples

Costa Rica

Introduction

Costa Rica has a long tradition of strong industrial policies, with a specific focus on the sector of medical equipment, and has emerged as an important regional actor in the corresponding global industry. It all started in the late 1990s when the Costa Rican Investment Promotion Agency (CINDE) concluded that the country's growth strategy and industrial policy were too narrowly focused on the very volatile worldwide electronics industry. The resulting challenge was to identify and attract one or more specific industries that could provide a significant boost to the national economy (WEF 2016; Bamber and Gereffi, pp. 6–7).

Policy development process and policy content

In the late 1990s, Costa Rica decided to directly and deliberately target the medical equipment industry as part of its development policy. It had already put in place a range of incentives to attract investment, such as tax incentives that included exemptions from income tax and other local taxes and exemptions from import tariffs on intermediate capital goods, inputs and raw materials. Given those incentives and its proximity to the United States, Costa Rica was perceived as having the potential to develop a strong medical equipment industry that could serve the United States and other markets. In that policy development and implementation process, CINDE was instrumental in efforts to attract international medical equipment companies, bringing more jobs to the country and increasing the sophistication of the country's process and product offerings. It acted as Costa Rica's official investment promotion agency and proactively reached out and provided support to potential foreign investors who were interested in locating their service or manufacturing companies. It also offered "handholding" services and provided regular advice as foreign companies navigated the country's administrative hurdles during the selection of suitable sites. This included providing relevant information and technical advice on topics such as human resources pay scales, land acquisition and labour regulations (Monge González et al. 2010, p. 12; Pagés 2010, pp. 320–322).



Costa Rica also showed strategic vision and flexibility in adapting its industrial policy to target specific subsectors that had particularly promising value-added potential. Medical devices differ in complexity, ranging from simple disposable devices (such as catheters) and surgical and medical instruments (such as biopsy forceps) to therapeutic devices (such as heart valves) and complex medical equipment (such as MRI machines). As of 2007, Costa Rica had achieved some success in attracting international companies to its medical equipment sector. However, these businesses mainly focused on producing low-complexity disposables because the sterilization processes that are a prerequisite for producing higher-value items were not locally available. CINDE realized that it had to add those processes to the local economy in order to develop more complex links in the value chain and it made extensive efforts to attract firms that could provide the missing services. This started to pay off in early 2009, when BeamOne arrived, a contract sterilization processor with headquarters in the United States, followed by Sterigenics in 2011. In less than three years, Costa Rica successfully managed to attract a range of enterprises in the cardiovascular sector, including Boston Scientific (2009), Abbot Vascular (2010) and St. Jude Medical (2010). In 2013, Costa Rica was exporting products valued at nearly \$300 million in therapeutic medical devices and a further \$500 million in surgical and medical instruments. Meanwhile, the export share of lower-value disposables fell from 90 per cent in the early 2000s to less than 50 per cent (Crespi et al. 2014).

Overall, four key policy actions proved particularly effective in the Costa Rica case:

1. **Industrial policy focused on attracting companies in high-skill sectors.** Beginning in the 1990s, CINDE actively pursued high-skill manufacturing companies that had a higher propensity to remain in the country in order to carry out capital-intensive investments. The higher-skilled workers in such companies appear to have a higher degree of satisfaction with their respective working conditions than those engaged in lower-value operations.
2. **National labour legislation was extended to export processing zones (EPZs).** Unlike many other countries around the globe, Costa Rica applies its national labour legislation and inspections equally to EPZs and the rest of the economy. However, unionization in the country as a whole is low.
3. **Employers standardized job titles to enhance mobility and facilitate recruiting.** Companies established standardized job titles and categories, which allow human resources departments and hiring managers to better assess job candidates' experience levels and training across different companies. This led to enhanced labour mobility throughout the sector.
4. **Labour provisions were included in key trade agreements.** Being a member of the Dominican Republic – Central America – United States Free Trade Agreement (CAFTA-DR) helped Costa Rica to consolidate its position as a key contributor to the sector. Consequently, its trade is also subject to the labour provisions that are part of trade agreements with the United States (Gereffi et al. 2016, pp. 72–73; Moran 2002; Jenkins 2005; Koehler-Geib and Sanchez 2015).

Implementation results

The strength of Costa Rica's economy and its attractiveness as an investment location are at least partly the fruit of its successful industrial policy. For example, it has witnessed stable economic growth rates (3.2 per cent in 2017) and relatively low inflation (2.6 per cent in 2017), combined with a well-educated labour force and comparatively low levels of corruption. The country's continuing popularity as an investment destination is evidenced by strong yearly inflows of foreign direct investment (FDI), amounting to US\$ 2.54 billion in 2016 (4.5 per cent of gross domestic product (GDP)) and US\$3 billion in 2017 (5.2 per cent of GDP). These values are higher in per capita terms than several Organisation for Economic Cooperation and Development (OECD) countries. Moreover, Costa Rica's high-tech sectors, in particular in the area of medical equipment, serve as growth clusters in which each new actor or activity adds depth to the entire sector and thus renders it more attractive for new entrants. Overall, the country has had remarkable success over the last two decades in setting up and promoting a network of export-oriented

technological companies, associated public institutions and universities and a skilled workforce (United States 2018).

Other tangible metrics support this view, although challenges remain. Exports grew steadily and reached US\$ 1.7 billion (2014), while approximately 19,000 jobs were generated by 2014. Process and product upgrading have become more sophisticated; nevertheless, multinational companies are still mainly moving lower-value-added activities to the country, such as components manufacturing, as opposed to other activities with higher margins, such as research and development. Moreover, spillovers to other parts of the local economy that go beyond direct employment and salaries have remained slow to develop. Leading firms usually spend an average of 23 per cent of their total procurement budget in the country (not counting utilities and overheads) and the vast majority of that outsourcing is limited to areas such as low-tech components (carton and plastic packaging, moulds, etc.) and non-technical services (catering, facility maintenance and logistics, etc.) (WEF 2016).

The medical equipment sector is arguably the most successful industry that has been developed in Costa Rica under its FDI-driven, high-tech export industrial policy. Accounting for 12 per cent of total national exports, medical devices became the largest export sector in the country in 2015. In the same year, more than 50 firms participated in the medical devices supply chain, with an additional 16 companies supplying support and packaging services. This sectoral growth added to the economy approximately 17,500 jobs in manufacturing over the period 2000–2015, with about 2,000 jobs added each year since 2012. This job creation provided new opportunities for both women and men, with 54.4 per cent of the workforce being female. The numbers also show that the industry relies on a highly skilled workforce: By 2012, 10–20 per cent of the workforce consisted of engineers and 10–15 per cent consisted of technicians. The remaining 60–80 per cent of direct production workers were initially recruited from the unskilled labour pool, which had previously served the clothing production sector (Gereffi and Fernandez-Stark 2016, pp. 27–28; Gereffi et al. 2016, pp. 70–71).

As the sector developed, the companies that established operations in Costa Rica also

changed their profile. Before 2000, they were mostly located in the low-tech and primarily cost-driven disposables product category. Over time, companies with higher-level degrees of technological sophistication entered the country. When asked during interviews why they came to Costa Rica, companies predominantly referred to the two following factors: (1) latecomers were prompted by the existing positive experience of earlier movers and (2) the know-how of Costa Rican managers, in addition to skills upgrading by local employees and suppliers, rendered Costa Rica more and more attractive to foreign high-tech companies (Gereffi and Fernandez-Stark 2016, p. 29).

In addition, improvements in conditions of work, employment and labour rights have occurred. For instance, job quality in the medical equipment sector has improved over time, as measured by the spread of permanent contracts, increasing wages and better conditions of work. Two main drivers impacted these changes: (a) a tightening labour market thanks to a growing number of firms setting up operations in the country and (b) global industry regulations that demand strict processes to ensure the integrity of final products. Therefore, companies began to take a proactive approach to the issue of retaining adequate human capital. This led not only to improved wages but also to increased job security in the form of permanent contracts, with more than 90 per cent of employees hired on a permanent basis by 2012. The stricter global regulation of the sector also contributed to creating a culture of health and safety in addition to improved conditions of work. Firms need the sector-specific International Organization for Standardization (ISO) 13845 quality management system certification to participate in the value chain and also have to comply with the United States Food and Drug Administration and European Union (EU) requirements for sale in the United States and European markets. Therefore, their operations are subject to inspection by foreign public auditors at regular intervals. This trend is further supported by a noticeable general shift in Costa Rica's private sector towards augmenting occupational health and safety (Gereffi et al. 2016, pp. 71–72; Jenkins 2005).

Overall, the country achieved the top 15 of the World Economic Forum's "Labour-Employer



Relations" ranking several times between 2010 and 2015. However, the right to strike and freedom of association remain limited in practice. Although Costa Rica has legally enacted the framework permitting collective bargaining, freedom of association, the right to organize and the right to strike and has also ratified the eight core conventions of the ILO, its history of limited trade union activity has persisted. In this context, "solidarity associations" tend to have greater weight within the medical devices sector; these are collectives at firm level that supply members with benefits, such as interest free credit and housing loans (Gereffi et al. 2016, pp. 71–72).

In summary, the Costa Rica case shows that an industrial policy focused on a specific sector, rather than a broader range of sectors or clusters, can be a viable development strategy and can lead to impressive economic results. In this context, significant commitment from investment promotion agencies and relevant government bodies, as well as a readiness to refocus the industrial policy on market segments with particularly high value-added activities, appear to be important success factors.

Ghana

Introduction

Since its independence in 1957, Ghana has experienced three main time periods of industrialization: an inward import substitution industrialization strategy (1965–1983); an outward liberalized industrialization strategy (1984–2000); and most recently, since 2001, a private-sector-led industrial development strategy that is heavily focused on value-adding processing of Ghana's natural resources (Newman et al. 2016). The policy development process and the policy content for the most recent of these three periods are described below.

Policy development process and policy content

In 2005, the development of an industrial policy was proposed to complement the development efforts of the Ghana Trade Policy. The activities and tasks were specified in the Trade Sector Support Programme document of the Ministry of Trade and Industry (MOTI) to be carried out by the Policy Planning,

Monitoring and Evaluation (PPME) Division. The following were the expected outcomes:

1. Developing and publicizing an industrial policy.
2. Identifying strategic sectors and developing sector strategies.
3. Establishing sectoral working groups and effectively monitoring the implementation of sector strategies.
4. Establishing industrial databases for all companies operating in strategic sectors, including small and medium-sized enterprises (SMEs), and tracking their performance.
5. Developing the MOTI's technical capacity in targeted sectors.

A range of outputs under the above outcomes, particularly the selection of strategic sectors, were not carried out by the PPME alone but shared with external consultants. The process also included an analysis of options and consultations with domestic stakeholders to ensure their buy-in. Although the private sector participated fully in the process, there was little evidence of workers' participation. Traditional social dialogue processes do not appear to have been put in place to foster a discussion between workers and employers.

The industrial policy process was carried out over the following six sequential phases:

1. **Identification of key thematic areas**, through two trade and industry stakeholder forums held in October 2006 and September 2007 by the MOTI, at which 500 policy options were developed and discussed.
2. **Review of documentation on industrial development and competitiveness** in Ghana to provide the Government with the structure and general framework for developing the content of the industrial policy.
3. **Analysis of a wide range of policy options in all thematic areas** to develop options across various thematic areas on the basis of Ghana's development experience, focus group meetings and stakeholder consultations.

4. **Broad consultations within ministries, departments and agencies, the private sector, research and educational institutions and civil society** to offer the participating stakeholders the opportunity to express recommendations, reject some policy options and add new ones within each thematic area.

5. **Additional stakeholder consultations to select the appropriate policy options.**

6. **Internal review of the policy documents by the MOTI and consultants** to produce a final list of policy recommendations. These recommendations were the basis of the final policy document that was drafted by MOTI and consultants, without the involvement of other government ministries.

The Cabinet, headed by Ghana's President, was informed of the industrial policy process on a regular basis via periodic briefings on the activities of the MOTI. The stakeholders involved in the industrial policy development process included key government ministries, government implementing agencies and private sector and civil society organizations (UNIDO 2013, pp. 7–14). In April 2009 (four years after the original approval), the Ghana industrial policy document was presented to the Cabinet. The policy was endorsed and entered into force in June 2010.

In terms of its overall content, Ghana's industrial policy intends to expand productive development and technological capacity in the manufacturing sector and promote agro-based industrial development and spatial distribution of industries in order to achieve a reduction in poverty and income inequalities in a context of high underemployment and informality rates. It seeks to ensure the high quality and competitive products that will render Ghana capable of accessing the global market. The overarching goal is to change the existing industrial structure by developing a competitive manufacturing sector.

In the context of Ghana's long-term strategic vision of obtaining middle-income status no later than 2020, the core development objectives of this industrial policy are to: "(1) expand productive employment in the manufacturing sector; (2) create a modern productive economy with high levels of value added; (3) expand technological

capacity in the manufacturing sector; (4) promote agro-based industrial development; (5) promote spatial distribution of industries in order to achieve reduction in poverty and income inequalities; (6) provide consumers with fairly priced, better quality products and services; (7) make firms within the industrial sector—especially manufacturing firms—competitive on both domestic and international markets” (Newman et al. 2016, p. 66; Ansu 2013, pp. 510–513).

Sector-specific policy content. The industrial sector is projected to grow at an average annual rate of more than 20 per cent in the medium term. The main drivers expected to help achieve this target include the construction sector; infrastructure development in the oil sector; energy and water subsector growth in 2011 and beyond, resulting mainly from the Bui Dam’s operations; production of gas to power thermal generation; and an increase in output from the mining sector, especially in salt production to meet industrial demand.

Under the national industrial policy, industrial sector-specific policies include measures to:

- ▶ “strengthen the links between industry and research and development institutions;
- ▶ decentralize industrial development to exploit the resource endowments of districts;
- ▶ establish new and emerging industries such as **petrochemicals, fertilizer and liquefied petroleum gas cylinders** production on the back of the new oil and gas industry;
- ▶ establish manufacturing enterprises to process **agricultural produce**;
- ▶ exploit the **limestone** deposits in northern Ghana for the production of cement and for industry, as well as utilization of the significant **clay** deposits in the country for the production of bricks and other building materials to support the programme for the construction of affordable housing units;
- ▶ rejuvenate the **textile industry** in an integrated manner, from seed production to spinning, ginning and printing;
- ▶ establish integrated **shea butter** processing factories in the three northern regions,

targeting the processing of 50,000 tons of shea butter per annum for both local and international markets;

- ▶ rehabilitate abandoned but viable **manufacturing** enterprises, including the jute factory, tomato cannery, gold refinery and ceramics production;
- ▶ establish a second **oil refinery** in the western region to boost the production of petroleum products for exports and for national energy security;
- ▶ review and implement plans for an integrated **iron and steel** industry;
- ▶ establish industry support centres to assist firms in becoming internationally competitive; and
- ▶ seed and facilitate the creation of industrial anchors and deploy the full benefits of existing free zone, export zone and related investment laws to accelerate industrial development.” (Newman et al. 2016, pp. 69–70)

Implementation results

Actual implementation of the industrial policy was to be effected through the Industrial Sector Support Programme, which was to be implemented over a five-year period. The Association of Ghana Industries (AGI) decided to complement the efforts of the MOTI by setting up an eight-member high-level committee at the National Council level to coordinate activities relating to the implementation of the policy. The AGI is also poised to establish a desk office and eventually a complete secretariat at the AGI Directorate for effective coordination of the private sector’s input into the implementation of the industrial policy. (Zaney 2011; Ghana 2011)

However, the actual implementation of the above-mentioned measures appears to have been poor. Even seven years after the start of the implementation period, it is hard to point to key achievements, in particular given that the industrial development fund that was intended to provide much-needed long-term financing for industry was never established. The AGI regularly reminded successive governments to fully implement the policy that was supposed to

turn the fortunes of the economy around. The foreseen secretariat to implement the policy was also never established. The Government should have provided a contribution in the form of seed capital for the donors to contribute, but this did not happen. There seem to have been little support for the MOTI. According to press sources in Ghana, the Government also admitted that the country's manufacturing sector has not responded well to the various efforts to reform economic and trade policy over the past decade (*B&FT Online* 2017, 2018; Domfeh 2016).

Given the poor policy performance mentioned above, there is interest in revising the policy. For example, the *Ghana Business Development Review Report* issued by the University of Ghana Business School (UGBS) stated that the Government should review the current industrial policy and its implementation strategy. The report stated that the manufacturing sector continued to face many challenges that severely impeded the productivity of companies. Therefore, there was an urgent need for the public sector to review the industrial policy and its implementation programme, known as the industrial sector support programme. Moreover, the Government should put in place the necessary measures and resources for its full and effective implementation (*B&FT Online* 2018).

The actual economic data appears to confirm this impression. In 2016, the manufacturing sector's GDP contribution amounted to 4.6 per cent, a decrease of 0.2 per cent relative to 2015. Meanwhile, the corresponding overall industry contribution was 24.2 per cent in 2016, representing a 0.9 per cent point drop. Although Ghana's overall economy grew by 8.5 per cent in 2017, largely boosted by oil and gas, manufacturing performance was disappointing. Data released by the Ghana Statistical Service showed that manufacturing grew by 3.7 per cent in 2017, whereas mining and quarrying and oil and gas grew by 46.7 and 80.4 per cent, respectively. The UGBS report mentioned the high cost of utilities, the volatility of the exchange rate, the complexity of taxes, high material costs, high credit costs, poor power supply and unfair competition in local markets as the principal challenges that were responsible for stalling manufacturing growth in recent years. To effectively tackle these challenges, the UGBS report noted that the Government should

listen to the voice of industry in reviewing and implementing the industrial policy (*B&FT Online* 2018).

In addition to the issues mentioned above, severe resource constraints were faced by the coordinating entities. Other issues highlighted in a 2013 UNIDO report included that the PPME did not have the required resources to effectively cope with the challenges of monitoring and evaluating the process and that capacity-building programmes did not effectively benefit the process because training and capacity programmes were biased in favour of people who were not part of the process. The UNIDO report also mentioned that the number of technical staff in the MOTI was very low, in particular the number of staff assigned to the industrial policy process. The report further asserted that the public sector in general primarily attracted individuals who preferred the associated stability and official privileges and that, as a result, highly qualified and motivated people were difficult to hire and/or retain (UNIDO 2013, pp. 27–30).

In addition, Aryeetey and McKay (2007) pointed out the lack of a coherent development vision among the main political parties in Ghana since they tended to prioritize politically opportune public spending based on what they anticipated would win elections rather than on a longer-term development strategy. Furthermore, Whitfield and Jones (2009) underlined the role of the aid system and foreign aid in determining the incentives of political leaders and public servants, as well as the conditions in which policies and other initiatives have to be created and pursued.

Finally, Whitfield et al. (2015, pp. 234–261) examined the two key economic sectors of cocoa export and palm oil. They concluded that intense rivalry within ruling coalitions and fragmentation among ruling elites explained why it was so difficult to implement effective industrial policies in Ghana. These political struggles had a significant negative impact on the performance of public bureaucratic agencies, regardless of whether they were run by political appointees or career civil servants.

According to Aryeetey and Kanbur (2017, pp. 189–190), Ghana never adopted and implemented a real long-term industrial development strategy in order to replace state-led import substitution.

In their view, the current natural resource-based industrial development strategy is still not a real strategy but rather a list of industrialization options. This lack of strategic direction reflects two underlying drivers: (1) the policy determination power of the donor community in pushing for reform of the investment climate and (2) the unstable relations between Ghana's private and public sectors.

Autonomous community of the Basque Country

Introduction

The autonomous community of the Basque Country in the north of Spain bordering France has seen some of the strongest technological and industrial growth across Europe. In 2016, approximately 23 per cent of Basque Country GDP was generated in its industrial parks, while GDP per capita in the Basque Country is about 25 per cent higher than in the rest of Spain. A complex mix of public policies can explain the industrial success that contributed to the higher GDP per capita. For example, in 2006, the government of the autonomous community drove what would eventually be known as the "second transformation of the Basque Country". This range of policies, plans and institutions included the creation of a business competitiveness and social innovation plan 2006–2009 and a science, technology and innovation plan, as well as the creation of the Basque Innovation Agency, among other innovative promotion initiatives and state agencies.

Probably the most effective of these policies was the establishment of industry-specific clusters,⁴ in which companies and their subsidiaries working in the same field were incentivized to work together on research and development and drive innovation by taking advantage of their close proximity with each other. A total of 20 such clusters currently operate in the Basque Country, ranging from automotive and electronics clusters to energy, audiovisual and IT clusters, which interact with the Basque Country's

main universities and research centres and maintain their own research and development departments (Marques 2018; OECD 2011a).

Policy development process and policy content

In the early 1990s, the government of the autonomous community decided to make its cluster policy a central element of its policy. This new approach aligned well with previous efforts that had been made in the areas of science, technology and innovation since the early 1980s. In order to establish clusters, the government carried out a range of studies, the first four of which were conducted by the Monitor Group led by Michael Porter and subsequently managed by local consultants who employed Porter's methodology to identify a series of particularly promising sectors. In addition to identifying key implementation sectors for the cluster policy, these studies also enabled their relative prioritization and thus facilitated the *successive* creation of clusters over a period of more than 15 years. During phase one, 50 sectors were identified that were capable of competing in international markets, while phase two involved grouping these sectors into appropriate clusters and analysing options for making them more competitive (Monge González and Salazar-Xirinachs 2017, p. 32; Aranguren Querejeta 2010).

While implementing the cluster policy, the government of the autonomous community invested in other improvements such as the formalization of work, the achievement of stable labour relations and the development and upgrading of value chains, in parallel to Europe's 2020 strategy with its clearly defined employment objectives and provision of guidance. It was also considered essential to promote social dialogue and mutual trust among the relevant economic actors. For example, to be able to provide the fiscal space for developing the region, it was important for private businesses to comprehend the need to formalize their fiscal situation in order to support the government, which in turn would thereby have a greater capacity to support those businesses. To that end, a participatory approach

⁴ A cluster can for example be defined as "a geographical proximate group of interconnected companies and associated institutions in a particular field, linked by commonalities and externalities" (Monge González and Salazar-Xirinachs 2017, p. 31).

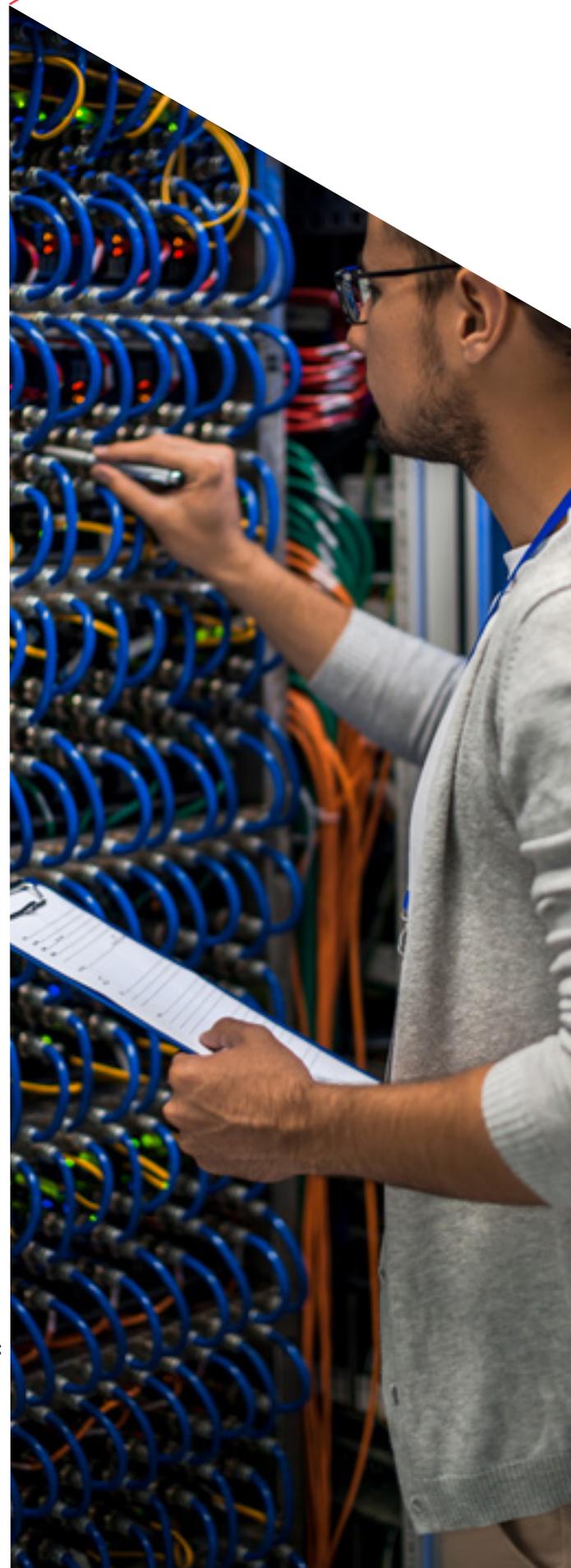
was taken that involved the government of the autonomous community, provincial governments and municipalities. This made it easier to form closer relationships with people and allowed greater control over the resources used and increased accountability (Monge González and Salazar-Xirinachs 2017, p. 34).

In terms of the actual creation of cluster associations, the goal was to create an effective mechanism for cooperation among the companies in the cluster, as well as between these companies and other relevant actors. The cluster policy thereby helped to promote a common vision and shared criteria for tackling challenges and identifying effective solutions, while dismantling sectoral barriers in order to unite different value chains and technology platforms within one cluster. The first step in this process was to identify a set of larger companies that could work as trailblazers for other SMEs to follow. As a second step, once those trailblazers had been successfully identified, the actual “desk work” began, with the assistance of a consulting firm. This involved conducting many interviews and creating documents that specified a more precise understanding of the sector, for example for the different value chains of the cluster. This information was then presented to the trailblazer businesses in order to encourage them to form a cluster (Monge González and Salazar-Xirinachs 2017, p. 35).

While these two steps were carried out, the consulting firm organized a range of meetings with the trailblazer enterprises to pinpoint the main challenges (both international and domestic) of the Basque Country economy. An executive committee was created together with the trailblazing company and expert working groups were convened to determine how to tackle the challenges identified. For example, working groups were convened on issues such as supply and demand, technology and purchasing. Usually, six-month time frames were set as deadlines for these working groups to propose solutions to address the challenges identified.

Such preparatory work could take up to a year to finish before the cluster could begin to operate autonomously, without requiring help from the consulting firm (Monge González and Salazar-Xirinachs 2017, pp. 35–36).

Overall, the cluster policy was developed in four broad time periods (Konstantynova 2017):



- ▶ **1989–1999:** *Laying of the cluster policy foundations.* The government of the autonomous community initiated cluster-mapping studies and support programmes, carried out general awareness-raising and established working cluster groups and associations.
- ▶ **2000–2005:** *Review to improve and fine-tune policy.* The cluster policy was maintained, with important changes to its organizational structure of cluster associations in order to better justify public funding and introduce new sectors and strategic action plans.
- ▶ **2006–2013:** *Support of cluster policy to grasp new opportunities.* A variety of activities were carried out focused on cluster policies and associations in specific thematic areas. Pre-clusters were also created to stimulate the growth of emerging industries with high potential.
- ▶ **2013–2016:** *Reassessment of the cluster policy.* Regional sector priorities were reallocated and cluster coordination was handed over to the regional business development agency, while improving the alignment of the regional strategy with EU funding priorities.
- ▶ **2016-present:** *Stronger emphasis on including initiatives in new areas such as environment, technology, skills development, support for SMEs, etc.*

Implementation results

The Basque Country industrial policy is widely perceived as a positive example. Although the autonomous community only hosts about 2 million inhabitants, its industrial strength is impressive. For example, per capita income is no less than €30,500 p.a. (compared to €25,600 in the EU overall) and industry is responsible for approximately 23.5 per cent of GDP, which makes the Basque Country one of the most industrial areas in the entire EU, with revenues amounting to about €72 billion. The region saw the successful transformation of steel industries, tool manufacturing companies and other obsolete sectors into a modern high-tech industry, including automotive and aeronautic sectors that export 70–90 per cent of their production and are

thus significant contributors to the autonomous community's trade balance surplus. The success is underlined by the fact that many multinational companies have their headquarters in the region, such as Mondragón, Iberdrola, Sidenor, Tubacex, Aernnova Aerospace, Arcelor, Cie Automotive, Irizar, Gestamp, Sener, and ITP Aeronautica (Barciela 2017; EU 2017a; Wallander 2014).

Moreover, a significant part of the success of the Basque Country industrial policy arises from the fact that it is revised and updated regularly to effectively take into consideration new challenges and a constantly changing business environment. For example, the most recent industrial policy document is an industrialization plan for 2017–2020, which includes the specific objective of rendering the current industrial policy regime even more effective by “continuing the modernization and the improvement of the regional industrial policy with advanced programmes and an efficient use of public resources” (EU 2017b).

In summary, the autonomous community of the Basque Country was one of the first areas worldwide to adopt a cluster approach in its industrial policy. This policy is now almost 30 years old and, although no impact evaluations allow for the determination of a definite causal link, the general transformation of the Basque Country economy over this period has been impressive, outperforming for most relevant indicators the rest of Spain and in some cases even the rest of Europe. This success can be attributed to a complex and intentional process of identifying suitable sectors, efforts to include as many relevant stakeholders as possible and ongoing revisions and adaptations of the industrial policy to changing business circumstances. It is also a good example of an effort to ensure policy coherence, whereby the focus was not only on the industrial policy approach but took other policies into account as well and established links with them. It is unlikely that the cluster policy would have been successful if it had not been made part of the wider economic and development agenda of the region. Also noteworthy is the clear export orientation of the policy. For example, the Director General of the Basque Institute for Competitiveness stated that the secret of Basque Country's economic success was the fact that its industry quickly internationalized, whether by

producing components and tools for overseas companies or by establishing manufacturing subsidiaries abroad (Crespi et al. 2014, pp. 211–213; Cooper 2012). Last but not least, it was always possible to ensure that the necessary financial resources were made available. This was partly the result of the financial independence of the autonomous community from the central Government of Spain.

South Africa

Introduction

Although there had been specific industrial policy interventions in South Africa since 1994, there was no formal industrial policy until 2007, when the National Industrial Policy Framework (NIPF) (South Africa 2007a) was approved. This was followed in the same year by the first implementation plan, the so-called Industrial Policy Action Plan (IPAP) (South Africa 2007b), which was issued by the South African Department of Trade and Industry (DTI), the main government department responsible for industrial policy. Both the NIPF and IPAP emphasized that the coordination of instruments and policies impacting the industrialization process was crucial. In particular, IPAP noted that it was essential to provide an integrated and comprehensive response for extending industrial policy. It also identified several key areas for policy integration and intervention, including (a) stronger alignment between industrial and macroeconomic policies; (b) innovation and skills policies that are aligned to the priorities of specific economic sectors; and (c) the use of private and public procurement activities in order to increase employment and domestic production in a range of sectors (Zalk 2014, pp. 341–242; Zalk 2012, pp. 345–356).

Policy development process and policy content

The NIPF provided the overall framework and rationale for supporting industrial development, while the IPAP specified these through strategic interventions (and tailored support) to priority industries, in particular within manufacturing. To achieve its goals, the NIPF was created with the following core objectives:

- ▶ economic restructuring and reversal of the trend of deindustrialization;
- ▶ transition towards greater value-adding, labour-intensive and environmentally sustainable economic growth paths, particularly in internationally competitive, non-traditional tradable goods and services;
- ▶ shift of more economic activity to historically disadvantaged people and regions; and
- ▶ contribution to wide-ranging industrial development in Africa (especially via infrastructure development, augmented industrial productive capacity and broader regional integration) (TIPS 2016, p.19).

More specifically, the original 2007 IPAP (South Africa 2007b) identified the following lead sectors as the central focus of implementation :

- ▶ **Transport equipment and metals.** This sector was perceived as an opportunity to revitalize growth in manufacturing by reducing the import leakage of the public capital expenditure programme and taking advantage of the boom in mining and minerals-processing at the time. It was also seen as a possible platform to develop export capabilities.
- ▶ **Automotive assembly and components.** In South Africa’s leading manufacturing sector, an opportunity was identified to double vehicle production and at the same time expand the share of locally produced content.
- ▶ **Chemicals, plastic production and pharmaceuticals.** The plan identified major opportunities to augment local contributions to the production of polymers, especially for automotive and packaging applications, as well as for locally produced pharmaceuticals.
- ▶ **Forestry, pulp and paper, and furniture.** Potential was identified in this sector to generate much-needed income and jobs in poor rural communities. In particular, the Eastern Cape and KwaZulu Natal provinces could benefit from an increased number of plantations to generate additional economic growth and employment while reinvigorating processing activities, including sawmilling and furniture manufacturing.

Since then, important progress has been made in developing and implementing the industrial policy in terms of establishing suitable sectoral strategies and cross-cutting instruments such as industrial financing, procurement, trade tariffs and other instruments that are not specific to a particular sector. However, the mobilization of the required supporting instruments, including the securing of the necessary budgetary and extrabudgetary funding and the alignment of the industrial policy with various other policies, has advanced at a slow pace. In addition, the economy has been undermined by three important shocks that made the success of the policy less likely: (1) continuing currency volatility and overvaluation; (2) the global financial crisis and subsequent recession; and (3) a shock to domestic electricity prices and supply (Zalk 2014, p. 327; Haines 2015, pp. 172–173).

Over time, the clothing and textile sector and the automotive sector have been perhaps the greatest constant in sectoral targeting. The automotive sector has received probably the largest incentive support, while the clothing and textiles sector benefited from significant trade protection and recurrent financial interventions. However, the underlying aims of these interventions differed significantly. The automotive policy focused on expansion and realignment of the industry (a shift from local production to export orientation), while the clothing and textiles policy primarily focused on survival in a rapidly changing global environment in which competition with imports posed a threat to one of the country's largest employers. In addition to these explicit focus areas, a number of more generic interventions were also driven by sectoral issues. For example, policies such as the clustering strategy involved the selection of industries in clusters, while general interventions such as the special economic zone policy defined limitations under which industries qualified for the most attractive incentives (TIPS 2016, p. 26).

Implementation results

Critiques of the approach taken by the Government have been very strong from the beginning. It was criticized for having too many instruments and agencies involved in formulating and implementing industrial policies. Other obstacles identified were a disconnect between

the private sector and the Government, the fact that policy instruments were not appropriately targeted and a lack of self-correction mechanisms (Hausmann et al. 2008, p. 1; Zalk 2014, p. 352; Bhorat et al. 2017, p. 230).

In 2017, the Government evaluated the industrial policy and identified the following key factors that determine its success: proper design and targeting; strong oversight mechanisms; social dialogue; good collaboration with business and labour; adequately resources; policy coherence and programme alignment; an orderly transition to a less carbon- and more technology-intensive industrial economy; innovation and dynamism; and developmental regulatory frameworks to support the industrialization effort (South Africa 2018, pp. 29–30).

Some sources such as Webster and Sikwebu (2009, p.176) also highlight the important role of strong tripartism or “tripartism plus” as essential for the success of key economic reforms. However, other research (such as Dibben et al. 2015) suggests that tripartism in South Africa has failed because of factors such as the structural weaknesses of both the labour movement and organized business.

Further evidence that industrial policy in South Africa has not been effective was found by Imbs (2013, p. 538), who stated that although the share of manufacturing output had been increasing since 1970, that trend had suddenly reversed in 2003 and the country had been deindustrializing ever since. The main reason for this was that South Africa increasingly specialized in services, which means that this structural change is not qualitatively different from the usual steps of diversification that most developing economies undergo. Imbs concluded that such deindustrialization was not necessarily inefficient, but that given the very high speed of transformation it had given rise to substantial social costs.

In summary, South Africa has made significant efforts since the mid-2000s to establish an effective industrial policy. However, its effectiveness has been impeded by such factors as issues relating to resource mobilization, alignment with other relevant policies and external economic shocks, as well as a lack of political support. There is little evidence to date that important improvements have been made,

such as better targeting of the policy, greater use of social dialogue and increasing the engagement between the Government and the private sector. Some progress has been made in terms of linking industrial policies to skills development. To move forward, the recommendations of the TIPS (2016) report appear to be particularly pertinent: (1) strengthen intergovernmental coordination and capability; (2) strengthen developmental compact with social partners; and (3) prioritize sectoral interventions and objectives.

Viet Nam

Introduction

Viet Nam’s history of national industrial change can be divided into four broad time periods: 1954–1975 (Viet Nam War); 1976–1985 (from socialist industrialization to the start of *Doi Moi*); 1986–2005 (transition towards a market economy); and 2006–present (WTO accession and further industrialization). The following table provides a general overview of the industrial policy mix during these periods (Anh et al. 2016; UNECA 2016, pp. 92–93):

► Table 1: Time periods in recent Vietnamese history

	1965–1975	1976–1985	1986–2005	2006–present
Policy plan	Socialist industrialization in North Viet Nam	Socialist industrialization in a centrally planned economy	<i>Doi Moi</i> : transition towards market-oriented and open economy	Industrialization in post-WTO entry period and economic restructuring
Objectives and key industries	Development of (heavy) industry	Overcome consequences of the war and restore infrastructure networks and industrial bases, focusing on heavy industry	<p>1991–1995 Development of priority sectors: (e.g. cement, steel, oil, mining)</p> <p>1996–2000 Development of light export-oriented industries (textiles and garments, footwear, paper production)</p> <p>2001–2005 Expansion of manufacturing sector with a focus on development of high-tech sectors</p>	Policies to boost economic structural change towards modernization and industrialization; increased export orientation
Instruments	First five-year plan (1961–1965), which was disrupted by United States air strikes	Continue the interrupted first five-year plan (1960–1965) by incorporating the second five year plan (1976–1980)	Protectionism for key industries; new investment-friendly laws; creation of EPZs to encourage export production	Specific strategies for about 39 key industries; technology transfer promotion via FDI; new business and investment laws

Source: Based on Anh et al. (2016).

5 In 1986, under the leadership of Nguyen Van Linh, Viet Nam initiated a series of reforms known as *Doi Moi*, which moved the country away from a centrally planned socialist model towards a more market-oriented economy (Vuong 2014).



Since the *Doi Moi* reforms, Viet Nam has experienced strong industrial growth: between 1986 and 2013, despite the severe economic crises caused by the collapsing former Soviet Union bloc, the financial crisis in Asia and the global financial crisis, industrial value-added increased at an 8.3 per cent average annual rate. This rapid industrial expansion caused important structural changes in the economy. For example, from 1986 until 2012, the share of agricultural workers in the labour force declined from 78.2 to 47.4 per cent. Meanwhile, the competitiveness of the manufacturing industry increased significantly and its structure became increasingly diversified. Nevertheless, after almost three decades of rapid development, Viet Nam's industry now appears to have arrived at a "glass ceiling". Possible causes of this stagnation are that the country was caught in a "low value-added trap" with low integration into global value chains and decreasing productivity (Dinh 2014; Vu-Thanh 2017, p. 167; Altenburg 2011, pp. 64–65; Cunningham and Pimhidzai 2018, pp. 1–2).

Policy development process and policy content

The industrial policy framework of Viet Nam is directed by a nationwide socio-economic development strategy (SEDS) for a ten-year period, which is complemented by a five-year plan for socio-economic development as well as industrial and sector strategies and master plans. The main actor responsible for conducting and supervising these industrial strategies and plans is the Ministry of Industry and Trade, while the Ministry of Planning and Investment carries out the implementation of the five-year plans. The Ministry of Planning and Investment is also responsible for coordinating with the private sector via its Foreign Investment Agency, Enterprise Development Agency and Department of Economic Zones. The current SEDS for the 2011–2020 period emphasizes as priorities knowledge-intensive industrial production and increased local content in final products. Three main industries have been identified as priority areas until 2020: (a) mechanical engineering (agricultural machinery, automobiles, complete equipment, shipbuilding and mechatronics); (b) electronic equipment and information and communications technology (ICT); and (c)

products from new technologies (digital content, new energy, renewable energy and software) (Anh et al. 2016, pp. 248–249; UNECA 2016, pp. 94–95).

An additional seven sub-industries were identified as priority areas: agriculture–forestry–fishery processing; bauxite mining and processing; chemicals; leather and footwear; plastic; steel; and textiles. The plastics industry was removed from the priority list for 2011–2015, while bauxite mining and processing and steel were removed for 2016–2020. The fact that the plastics industry achieved rapid growth (average annual growth rate of 20–25 per cent in 2005–2010), thus significantly increasing its international competitiveness, may explain why it was dropped as a priority industry. The removal of bauxite mining and processing from the 2016–2020 priority list is primarily explained by concerns for sustainable development. Last but not least, the steel industry's removal from the 2016–2020 priority was based on the reasoning that Vietnamese steel products lacked the competitive advantage relative to countries with a longer tradition of manufacturing such products (Anh et al. 2016, pp. 248–249; Anh et al. 2016, pp. 21–22).

Over time, government support for the priority industries has focused on three key areas: (1) the provision of a production site; (2) trade promotion support; and (3) research and development activities. Production sites were allocated promptly to support new and expansion projects, while trade promotion support efforts focused on providing financial support for building and developing enterprise brand names, as well as improving international quality-management standards (via industry associations). In addition, enterprises in priority industries were given the opportunity to introduce their products on the web page of the Ministry of Industry and Trade and to display their products at national and local trade fairs and exhibitions. Also, financial support for companies in the priority sectors was made available for activities relating to research and development. Funds from the central budget were used for: (a) efforts in technology transfers; (b) developing the capabilities of scientific and technological bodies, such as laboratories and research and development institutions; and (c) researching modern technology or equipment to augment quality, productivity and cost efficiency.



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At the same time, local-level funds were allocated to test/trial production before the respective technology or equipment was put into mass production as well as to manufacturing projects aimed at environmental protection (Anh et al. 2016, pp. 248–250).

Implementation results

Viet Nam's industrial policy is a mix of policies. The policies that had the biggest effect on its industrial development are those that created an overall framework of incentives for companies regardless of their respective ownership structure. Nevertheless, many industrial policies were targeted at specific ownership sectors as opposed to industries or businesses as a whole. Most notable are the policies that offer special privileges to state-owned enterprises. As stated, for example, in the Report on Economic Concentration of the Ministry of Industry and Trade (Viet Nam 2012), the state economic groups hold a dominant position in the vast majority of key sectors and industries, such as aviation, coal and minerals, electricity, infrastructure, oil and gas, railway and transportation (Vu-Thanh 2017, p. 170; Perkins and Anh 2010, p. 14).

Viet Nam's sector-specific policies have also been criticized as inadequate for reaching the goals listed in the Government's planning documents. Accordingly, many of these documents offer little more than a general list of the instruments such as protective barriers or tax reductions. Critics have also claimed that not all of the required components of a sound strategy were included in the measures, such as resource- and demand-supply projections, comparative advantage/disadvantage evaluations and risk management measures. However, the most significant point of critique is the perceived lack of an overarching strategy that covers the country's entire industry and the fact that too many sectors are currently targeted, thus obstructing policy coherence. A range of failed sector-specific strategies seem to confirm these views. One key example is the steel industry, in which production was misaligned because of an inaccurate assessment of domestic demand. Currently, the steel producers of Viet Nam are not competitive relative to steel imports from Association of Southeast Asian Nations (ASEAN) countries and China. However, thanks to Viet Nam's preferential/strategic policies,

including special support for its domestic shipbuilding industry, domestic production capacity amounts to approximately 9 million tons, of which 6 million tons are sold on the domestic market at subsidized prices (UNECA 2016, pp. 94–95; Anh et al. 2016, pp. 250–251; Altenburg 2011, p. 67).

Nevertheless, positive examples also exist. One such example is the Government's strategy for ICT, which is widely considered to be better designed, with clearer goals to be attained via detailed policy instruments and focused projects. Currently, ICT markets are competitive, with multiple internet service providers, hardware and software vendors as well as multiple mobile phone networks. Several Vietnamese ICT companies have also started to invest in neighbouring countries as well as in Latin America and Africa. Another positive example is Viet Nam's textile industry, which has been among the country's top five exports since 2001. However, it is still highly labour-intensive and Viet Nam is progressively losing its comparative advantage to other developing nations such as Bangladesh and Cambodia (UNECA 2016, pp. 93–94; Anh et al. 2016, pp. 250–251; Chang and Zach 2018, p. 10).

Currently, Viet Nam is operating within the framework of the SEDS for 2011–2020. This plan seeks to accomplish goals such as the improvement of market-oriented institutions and infrastructure, as well as of human resources for modernization and industrialization. In the context of the overall goal of transforming Viet Nam into an industrialized country by 2020 (as defined in the 2011–2020 SEDS), recent debates on the country's industrial policy have focused on three major issues.

First, Viet Nam still lacks a well-coordinated industrial policy framework, that is, a sector-specific policy, trade policy, macroeconomic policy as well as other policies. Individual sector plans and strategies have been developed largely in isolation, without much coordination between them. Moreover, although export-oriented sectors and production projects have access to preferential credit policies, the great majority of these beneficiaries are state-owned enterprises rather than private companies.

Second, industrial policy does not seem to have made an impact on improving the country's

competitiveness. For example, the export-oriented industries have had to rely heavily on imports, as opposed to inputs from domestic industries, given the absence of suitable local suppliers and supporting industries. In addition, the desired spillovers from FDI, especially through technology transfers and linkages with domestic businesses, have been rare in practice.

Third, earlier industrial policies did not manage to facilitate change in the structure of firms or the creation of large-size private companies. Policy measures (particularly for exports) have remained dispersed across many different documents and have not always been consistent, especially with regard to the type and range of financial incentives and instruments. Viet Nam's industrial policy could also have been more effective in stimulating domestic companies to build partnerships and production linkages in order to lower costs and augment productivity (Anh et al. 2016, pp. 254–256; Perkins and Anh 2010, pp. 38–39).

In summary, Viet Nam's industrial development efforts since the *Doi Moi* reforms marked the start of significant structural transformation and unprecedented economic growth. These impressive results over recent decades make it easy for the observer to overlook some of the underlying shortcomings. Going forward, in order to ensure the continuing success of its industry, the country could in particular increase the coherence of its diverse range of industrial policies, develop a consistent overall industrial policy framework, and provide equal economic incentives to both state-owned and privately owned businesses.

Conclusions: Some recommendations on industrial policy

The following table provides a basic overview of some characteristics of the industrial policy of each of the five country/area cases considered above.

Category	Basque Country	South Africa	Viet Nam	Costa Rica	Ghana
Design (content)	+	o	o	+	+
Implementation quality	+	-	o	o	-
Time duration	+	o	+	+	-
Social dialogue	o	o	o	o	o
Political support	+	-	+	+	o
Financial commitment	+	-	-	+	o
Institutional setting	+	o	o	o	-
Political support and integrated approach	+	-	+	+	o

Legend: + = good; o = acceptable; - = needs improvement

It is clear that all of the industrial policies considered have room for improvement. The lessons learned from the analysis of the country/area examples suggest the following policy recommendations.

Proper design matters. The capacity to design industrial policies does not seem to be a problem. Most of the policies analysed are rigorous

documents in terms of content that consistently provide strong arguments for the sectors identified.

Industrial policy processes as self-discovery processes. Where the design phase (including both the overall strategy and the selection of sectors) was used to accurately discover the nature of the economy and the potential of

sectors, there was a higher likelihood of success during the implementation phase. However, the self-discovery process should not end once sectors have been identified and policies put in place. The self-discovery process should be repeated during implementation in order to identify changes and new challenges and if necessary to change directions. Such a rigorous self-discovery process not only leads to a realistic understanding of challenges, opportunities and changes but also enables the type of dialogue that leads to the buy-in of all stakeholders.

Design and implementation take time. The analysis also showed that industrial policies take time to be designed and implemented and that they should be flexible and capable of being adjusted continuously to changing circumstance. The first generation of industrial policies is often only the start, but through proper monitoring and evaluation later generations will often gain in quality.

Resources should be committed and institutions should be put in place and/or strengthened. The availability of funds and the establishment of functioning institutions seems to be a major success factor. Resources include private sector investment as well as public investment. Incentive structures should be resourced and financial promises – from whatever

source – should be kept. Institutions should be capacitated to play their respective roles in the process of implementation and a clear structure of roles and responsibilities should be put in place in order to avoid duplication of work.

Integrated approaches are needed. Isolated industrial policies that are delinked from other policies do not work. The need to align industrial policies with overall economic and development policies and ensure policy coherence between different policies is a challenging task, but it ensures that the industrial policy put in place receives the recognition and support that it needs in order to be successful. This is not the case when the process of building an industrial policy is driven exclusively by the private sector.

Participation of all stakeholders along the entire process of design and implementation is essential. The design of the policy, the identification of sectors and the implementation process (including constant monitoring and evaluation) will only succeed if as many partners as possible are involved. If the design process is not participatory, there is a high risk that the policy will remain an unused document on the shelf. Although there was little involvement of workers' organizations in most of the processes analysed, it is likely that their involvement would further increase the effectiveness of the processes.

► Methods to provide guidance on identifying promising products and corresponding sectors for promoting export expansion and structural transformation

While the first part of Chapter 1 set out to analyse the evolution of industrial policies from design to implementation, the second part provides a comparative survey of three key methods that have been developed to provide guidance on identifying promising products and corresponding sectors for promoting export expansion and structural transformation:

- the growth identification and facilitation framework (Lin and Xu 2016);

- the economic complexity and product space method (Hausmann and Klinger 2007; Hidalgo and Hausmann 2009; Hausmann et al. 2014); and

- the ITC export potential and product diversification indicators method (Decreux and Spies 2016).

The second part of Chapter 1 considers each of these methods in turn and compares their results.

Uganda has been selected as an illustrative example because these methods have been applied to in-depth studies of that country. Since the economic complexity and product space method and the ITC method each yield two distinct sets of sectors, results for five sets of sectors are considered together. Chapter 1 concludes with an overall assessment of the three methods, including their implications for the creation of decent work.

Growth identification and facilitation framework

The growth identification and facilitation framework (GIFF) is a method for identifying potentially promising sectors following comparative advantage based on countries' relative factor endowments. Lin and Xu (2016) apply GIFF to Uganda, a country with high population-to-land ratios and an abundance of natural resources and the first least developed country to be analysed in this way. The first step is to identify countries that either have per capita incomes two to four times as high as Uganda or that had a similar per capita income as Uganda 20 years ago, which are argued to provide aspirational benchmarks for Uganda. From this list of 34 countries, 9 countries are selected with average annual GDP growth rates of greater than 6 per cent over 20 years. Since relatively few countries are able to sustain such high growth rates, in practice relatively few are candidates to be benchmark countries in the GIFF method, at least as applied to Uganda. From this list of 9 countries, Lin and Xu select those countries that may be classified as broadly similar to Uganda in terms of high population-to-land ratios, although they do not present these ratios for potential benchmark countries or provide the threshold ratios that informed their selection. This reduces the list of benchmark countries to 5 countries: Nigeria and Uzbekistan, which Lin and Xu classify as resource-rich, along with China, India and Viet Nam, which they classify as resource-poor but having well-developed labour-intensive sectors.

For these countries, the next step is to analyse their export data at the four-digit Standard International Trade Classification (SITC) level. These data are analysed asymmetrically for the resource-poor versus resource-rich countries. Thus, for China, India and Viet Nam the method ranks the top ten sectors by share of country exports as of about 20 years ago and notes which of these have fallen most in this ranking over time. These sectors are meant to suggest export market opportunities for Uganda. Conversely, for Nigeria and Uzbekistan the method looks at sectors that have moved into the top ten sectors over time, which are also meant to suggest export market opportunities for Uganda. Based on that assessment, the study identifies seven potentially promising sectors (grouping similar four-digit SITC sectors). Up to this point, little of this assessment is specific to Uganda and the method would arrive at a similar set of sectors for other countries that are similar to Uganda in terms of per capita income and relative factor endowments.

These seven sectors are then screened according to whether there is a significant domestic market (based on imports into Uganda); whether there are transport impediments (given that Uganda is landlocked); whether capital requirements are low and production in benchmark countries is by SMEs (given the predominance of SMEs in Uganda); and whether there are supporting productive inputs or supply chains. This pares down the number of potentially promising sectors to apparel, footwear and leather goods; radio and video equipment; and cotton yarn. Notably dropping out of consideration is automobiles, which grew in recent years to become Uzbekistan's most important manufactured export. To this list of four sectors are added sectors for which an index of so-called revealed comparative advantage (RCA)⁶ has increased for Uganda in recent years, including paper and printing, dyes and pigments, glass and glassware, as well as certain products of agriculture and fishing. These sectors are shown in fuller detail in table 2, based on exports of benchmark countries in the upper panel and RCA indexes in the lower panel (for sectors whose

6 The revealed comparative advantage (RCA) index is equal to a country's exports for a sector relative to its total exports divided by world exports for that sector relative to total world exports. If the RCA for a sector is greater than 1, a country is said to have a revealed comparative advantage in that sector.

RCA increased as of 2013, the most recent year of export data is considered).

Lin and Xu argue that these potentially promising sectors should further undergo comparative value chain analysis, using firm-level data to compare Uganda's costs of production in these sectors with the cost of production in benchmark countries. This would "screen out sectors where Uganda does not actually have comparative advantage, and ... identify key sector-specific constraints" (Lin and Xu, 2016, p. 22). Such analysis is a considerably larger undertaking than applying the GIFF itself, which is based on readily available data and is also an assessment of absolute rather than comparative advantages.

The GIFF method's insistence on the primacy of relative factor endowments in identifying potentially promising sectors also raises questions of anomalies. For example, why is it that a number of the sectors in Uganda for which the RCA index has increased are relatively capital-intensive, seemingly at odds with Uganda's relative factor endowments? How did Uzbekistan become so successful in production of capital-intensive automobiles, given that the authors argue that the country has "the greatest similarity with Uganda" in terms of relative factor endowments (Lin and Xu 2016, p. 16)? The authors note that the automobile sector is supported by the Government via interest-free and subsidized loans to an Uzbekistani firm in a joint venture with General Motors, yet is it not clear why such support should preclude the sector from consideration by Uganda or other countries. Nor is it clear why value chain analysis should be required to assess comparative advantage if this is determined first and foremost by relative factor endowments. The answers to these questions are important to validate the basis on which benchmark countries are selected and potentially promising sectors are selected and screened.

It would also be useful if the method presented indicators for potential benchmark countries of their relative labour, capital and natural resource endowments – with respect to *different* natural resources – as well as explicit indicator thresholds to determine how countries should be classified. This is especially important for natural resource endowments, given the asymmetry between how export data is analysed for

countries classified as resource-rich versus those classified as resource-poor.

Economic complexity and product space

The economic complexity and product space method identifies potentially promising sectors largely based on multidimensional analyses of export data at the four-digit SITC level, encompassing roughly 1,000 products (Hausmann and Klinger 2007; Hidalgo and Hausmann 2009; Hausmann et al. 2014). Although their approach is based on export data, Hausmann et al. (2014) argue and provide evidence that the method is not about export-oriented growth per se but rather about economic growth more generally. They explicitly contrast their approach with conventional trade theory, in which comparative advantage is based on relative factor endowments, and instead they emphasize the importance of the contemporary productive structure of the economy, arguing that "what a country produces today affects what it could produce tomorrow" (Hausmann et al. 2014, p. 10).

The notion of economic complexity is based on the inverse relationship across countries between the diversity and ubiquity of their exports, in which diversity and ubiquity are described as "indirect measures of the capabilities of each country" (Hausmann et al. 2014, p. 10). Economic complexity in turn is strongly positively related with per capita income and the growth of per capita income. Richer countries have greater economic complexity in that they tend to export a more diverse range of products that are less ubiquitous on global markets, in the sense that they are exported by relatively few other countries. By contrast, poorer countries have less economic complexity in that they tend to export a narrower range of products that are exported by many other countries. Correcting for scarce natural resources (which have low ubiquity for reasons having little to do with complexity), the inverse relationship between the diversity and ubiquity of exports across countries is used to derive economic complexity indexes for countries and corresponding product complexity indexes, in which higher index values are meant to reflect greater underlying capabilities.



Economic complexity is complemented by the notion of product space, a mapping of products in which their “proximity” is meant to indicate the extent of similarity in the knowledge required to produce them. Similarity in terms of productive knowledge is not equivalent to similarity in terms of product complexity, since pairs of products having similar complexity can differ widely in terms of the knowledge required to produce them. For example, although electronics and machinery are similar in terms of product complexity, they are not proximate to each other in terms of product space.⁷ Therefore, the measures of proximity in product space (associated with productive knowledge) and product complexity (associated with capabilities) are distinct from each other, as are productive knowledge and capabilities in the authors’ usage.

As is the case for economic complexity, the extent of similarity in productive knowledge is measured indirectly in terms of the probability of any two products being co-exported by countries. This is based on the hypothesis that countries frequently export pairs of products because of the similarity in knowledge required to produce them. Visually, products are represented in the product space by circles whose size represents the share of global exports and in this sense the method accounts for potential product demand. The product space is characterized by both outlying products and strong clusters of products, the most important of which concern electronics, chemicals and pharmaceuticals, machinery, construction materials and wearing apparel. When exports from the products in a cluster are summed and represented as a unit, Hausmann et al. (2014) refer to these as “communities”, which are useful in providing a clearer sense of demand for groups of similar products. Products within clusters are closely connected in terms of productive knowledge, yet clusters differ widely in their proximity to each other. For example, the construction materials cluster is adjacent to the machinery cluster but somewhat removed from the electronics cluster. In the author’s usage, “proximity” is not country-specific, whereas “distance” is. That is, “proximity measures the similarity between a pair of products” (in terms of the knowledge required to produce them) whereas “distance” refers to “the distance between the products that a country

7 See Hausmann et al. (2014), p.13, figure 18, and p. 19, figure 19.

makes and each of the products that it does not” (Hausmann et al., 2014, p. 39).

Complementing the measures of economic and product complexity, proximity and distance in product space is a measure that reflects the extent of connectedness in product space. For any given country, the closer in product space that country’s current products (as measured by exports) are to prospective products, the greater the opportunities for diversification into new products. From the notion of connectedness are derived measures of opportunity gain, which for any given country reflects the potential benefit of diversifying into each product that it does not yet successfully export. For poorer countries with lower economic complexity, a key challenge to diversifying into new products is that they tend to produce more outlying, weakly connected products and therefore have low average opportunity gain across new products. Rich countries with higher economic complexity also tend to have lower average opportunity gain, but this is because are already centrally integrated into the product space.

Hausmann et al. (2014) apply these measures of complexity, distance and opportunity gain to identify promising sectors for promoting diversification and economic growth for Uganda, while also assessing the promising export markets for these sectors. They note that Uganda’s total exports are concentrated in more peripheral products in the product space, largely in agro-processing. Yet Uganda’s exports to the Middle East, Asia and particularly other countries in sub-Saharan Africa are more diverse; for example, Uganda’s exports to sub-Saharan Africa of machinery make up 13 per cent of its total exports to sub-Saharan Africa, while construction materials make up 5 per cent, chemicals 4 per cent, food processing 4 per cent, metal products 3 per cent and electronics 2 per cent. This suggests that sub-Saharan Africa markets are particularly promising for Uganda’s objective of diversification.

Hausmann et al. create two scatter plots of the more than 700 products that Uganda is not currently exporting in terms of their distance (Uganda-specific), which are presented on a

horizontal axis against complexity (non-country specific) and opportunity gain (Uganda-specific) on a vertical axis.⁸ Analogous figures are presented for communities of products, which are useful in providing a sense of product demand to inform Uganda’s diversification strategies. Both scatter plots show strong positive correlations, indicating that products with greater complexity and opportunity gain are more distant from Uganda’s current productive knowledge and that their viable production would therefore be more difficult to achieve. For any given distance, there is also a fair amount of (vertical) variation among products in terms of product complexity and opportunity gain. It therefore makes sense for Uganda to endeavour to produce those products providing the greatest benefit (in terms of product complexity and opportunity gain) for any given distance from its current productive knowledge. The list of potential products is restricted by the authors to those that are less than average distance and present positive opportunity gains and greater than average complexity for Uganda (in practice, products with a complexity measure in the bottom 25 per cent), so that diversification is not an end in itself but pursued only in so far as it extends Uganda’s capabilities.

Hausmann et al. (2014, p. 21) write that a “potential trade-off exists between creating more versus better jobs”, which relates to a central challenge in identifying potentially promising sectors in Uganda and many other developing countries: how to reconcile the existence of large numbers of underemployed, low-skilled rural workers with the need to diversify out of agriculture. The authors address this challenge by developing two rankings of sectors that give different weights to the (normalized) indexes of complexity, distance and opportunity gain. Providing two such rankings rightly leaves it to policymakers to decide how to best to address the potential trade-off between the quality and quantity of jobs, as well as the associated risks involved. The “parsimonious transformation” ranking gives greater weight to distance (60 per cent) than to complexity or opportunity gain (20 per cent each), whereas the “strategic bets” ranking gives greater weight to complexity and opportunity gain (40 per cent each) than to distance (20 per cent). In other

8 See Hausmann et al. (2014), p.20, figure 26.

words, the parsimonious transformation ranking gives priority to products that are more within the reach of Uganda's current productive knowledge, whereas the strategic bets ranking gives priority to products that, while riskier for Uganda to pursue, would arguably provide greater benefit in terms of the development of capabilities and economic growth.

These rankings are shown in **table 3**. The parsimonious transformation ranking consists predominately of agro-processing and agrochemicals and the strategic bets ranking predominately of construction and industrial materials. Importantly, the products under both rankings are contained within large communities of products, indicating sizeable shares of global exports and so potential product demand. The authors do not provide measures of the comparative labour- or skills-intensity in the two sets of sectors or of earnings or quality of the typical jobs within them, but their underlying argument is that the parsimonious transformation ranking is associated with more labour-intensive jobs, particularly in rural areas, while the strategic bets ranking is associated with fewer but better jobs, particularly in urban areas.

Tables 2 and 3 merit comparison to highlight the differences between the GIFF and economic complexity methods. Apparel and electronics appear in **table 2** but not in **table 3**, the former because it does not have greater than average complexity for Uganda and the latter because it is the product community most distant from Uganda's current productive knowledge.⁹ Also worth noting is that the overlapping sectors between **tables 2 and 3** (for agro-processing, paper and paper products, and printed products) are based on the RCA index (lower panel of table 2) and not on the exports of the GIFF benchmark countries (upper panel of **table 2**).¹⁰ In addition, **table 3** lists many more sectors than **table 2** and these are ranked – and therefore prioritized – in **table 3** only. This is because the measures of complexity, distance and opportunity gain vary

by gradations and indeed it would be possible to continue the rankings in **table 3** to include hundreds of products. In contrast, the GIFF method is based on thresholds and dichotomies, for which a product either makes the list or does not (though thresholds are evidently subject to adjustment). The results of the economic complexity method therefore provide more options to policymakers, especially considering the two sets of rankings for parsimonious transformation and strategic bets.

International Trade Centre export potential and product diversification indicators

The ITC has developed two indicators to identify potentially promising sectors, the export potential indicator (EPI) and the product diversification indicator (PDI), both based on export data at the six-digit Harmonized System (HS) classification level, encompassing roughly 4,000 products (Decreux and Spies 2016).¹¹ A number of products are excluded a priori from the construction of the EPI and PDI because they are harmful to the environment or human health or because they are extractive.

The EPI is intended to help countries expand their exports – that is, to reach their export potential – in established sectors in which they are already exporting products. The difference between the EPI and actual exports provides a measure of “untapped” export potential. The EPI and untapped export potential are the only measures in this survey expressed in value terms. Because untapped export potential is expressed in value terms, it can be used to estimate the number of jobs that would be created if a country were to reach its export potential. Indeed, the ITC has applied fixed employment multiplier analysis to a social accounting matrix for Jordan to estimate the number of jobs (direct, indirect and income-induced) that would be created in Jordan if it were

9 See Hausmann et al. (2014), p.20, figure 27.

10 The rankings in table 3 are meant to be for products that Uganda does not currently export, which raises the question of how the RCA index can be calculated for them. For example, “printed books” appears in both tables 2 and 3. This may result from the differences in sectoral aggregation between the tables. For example, “manuscripts, typescripts and plans” appears together with printed books in table 2 but not in table 3.

11 In some cases, six-digit HS products are grouped to maintain consistency over time following revisions to the HS.

to reach its export potential as measured by its EPI (ITC 2018). Because the survey data used to construct employment multipliers often contain breakdowns by sex, skill levels, age groups and other worker characteristics, this approach could be extended to estimate how the jobs created by a country that reached its export potential would be distributed among different groups of workers.¹²

For any given country and product, the EPI is constructed as the multiplicative product of three components: supply, demand and ease of trade. The central variable for **supply** is the projected market share, measured as the ratio of a country's exports of a given product relative to world exports of that product and adjusted by the projected GDP growth (over five years) of the exporting country. Projected market share is in turn adjusted to account for both the extent of re-exports (intermediate trade) in a country's exports of a given product and the tariffs that the exporting country faces for a given product relative to the average tariffs for the product that are faced by other countries.¹³

The central variable for **demand** is the projected imports of a given product into the importing country. Projected imports are constructed as the multiplicative product of current imports of a given product and the projected growth of per capita income and population (over five years) in the importing country.¹⁴ Projected imports are adjusted to account for both the relative tariffs for a given product between the exporting and importing country and product-specific measures of geographical distance.¹⁵

Finally, **ease of trade** is the ratio of actual exports from the exporting country to the importing country relative to hypothetical exports if the

exporting country had the same market share in the importing country as in the world market. A ratio of greater than one can reflect such factors as common language or long-established commercial relations between trade partners. The country-level measures are then aggregated to create an EPI for any given exporting country vis-à-vis the world market. Because the EPI is aggregated up from country-level measures, it is possible to construct the EPI and untapped export potential with breakdowns by different importing regions; the ITC makes such breakdowns available for individual importing countries, as well as for five main regions and 15 subregions around the world.¹⁶

In contrast with the EPI, the PDI is intended to help countries identify export opportunities in new rather than established sectors. Like the EPI, the PDI is constructed as the multiplicative product of supply, demand and ease of trade. As with the EPI, the PDI is available with breakdowns for individual importing countries and for five main regions and 15 subregions.¹⁷ Although the demand and ease of trade components are identical in the EPI and PDI, supply in the PDI is based on the economic complexity and product space method described above. However, a key distinction between the PDI and the economic complexity and product space approach, at least as applied to Uganda, is that the PDI considers product demand much more systemically since it is embodied in the PDI on a detailed product-by-product basis. In addition, whereas the parsimonious transformation and strategic bets rankings shown in **table 3** for Uganda are based on different weights applied to the measures of complexity, distance and opportunity gain, the PDI is based solely on the measure of distance. The list of potential products in the PDI is also not

12 However, for such breakdowns the limitations of fixed multiplier analysis may be particularly problematic given its assumption that hiring for new jobs would follow the distribution of current jobs among different groups of workers.

13 These relative tariffs account for price sensitivity in that they are adjusted by the substitution elasticity between suppliers of a given product, distinguishing among 43 product sectors. This also holds for the relative tariffs between the exporting and importing country in the demand component of the EPI.

14 The projected growth of per capita income is adjusted by the income elasticity of demand for different products, distinguishing among 92 product sectors (two-digit HS level).

15 The measures of geographical distance account for both the distance between the exporting and importing country and the average distance between the exporting country and other countries exporting a given product.

16 See ITC, "Export Potential Map: Spot Export Opportunities for Trade Development".

17 See ITC, "Export Potential Map: Spot Export Opportunities for Trade Development".

restricted to those having positive opportunity gains and greater than average complexity for a country, as it is in **table 3**. However, the PDI list is restricted in other ways relating to country-specific supply constraints. For example, products for which a country does not have suitable land or sea access to produce them are excluded from the PDI. The ITC also performs supplementary analysis to indicate whether a sector has positive developmental attributes in terms of technology content, price stability and the representation of SMEs and women workers (Decreux and Spies 2016, pp. 16–17).

Shown in **table 4** for Uganda are the EPI and untapped export potential values for the top 25 products as measured by the EPI, ranked by untapped export potential, while shown in **table 5** are the top 25 products as measured by the PDI, all taken from the ITC website. Rankings for all top 50 EPI and PDI products are also available on the ITC website, which as noted above is useful in providing policymakers with a wide range of prioritized options. **Table 4** consists largely of raw agricultural and agro-processing products, although it also contains three products of iron or steel (rankings 14, 18 and 22). **Table 5** also consists largely of raw agricultural and agro-processing products. As the PDI is based on the distance measure of the economic complexity and product space method, **Table 5** is most directly comparable with the left-hand panel of **table 3**, which gives priority to the distance measure in developing the parsimonious transformation ranking. Both **table 5** and the left-hand panel of **table 3** list agro-processing products and agro-chemicals (particularly fertilizers), although **table 5** contains more raw agricultural products and does not list tobacco products since they are excluded as being harmful to human health. The main reason that **table 3** lists fewer raw agricultural products appears to be that many of these are excluded because they have less than average product complexity for Uganda, in keeping with the approach of Hausmann et al. (2014) that diversification is not an end in itself but should rather extend Uganda's capabilities.¹⁸

However, policymakers may find it useful to know which products they could diversify into even if these products are not of greater than average complexity for their country.

Conclusions

A number of comparisons have been made above among three methods for identifying potentially promising products and corresponding sectors in order to reveal the differences in their approaches and findings. A few additional observations merit consideration. All three methods are primarily based on trade data. This means that non-tradable sectors are excluded by construction, including both goods and services, as are tradable goods sold exclusively in the domestic market. Given the current data limitations with respect to tradable services in the data sources used by these methods, these sectors are also excluded.¹⁹ Both GIFF and the economic complexity and product space methods only use data on gross trade flows and therefore do not account for imported intermediates, which are particularly important in the context of global supply chains (GSCs). With the notable exception of the ITC's EPI, which incorporates tariffs, the three methods also do not address trade policy, including market access and preferences. At the same time, the authors of these methods do not suggest that their results are the final word on identifying target sectors. For example, both Lin and Xu (2016) and Hausmann et al. (2014), in their studies on Uganda, discuss the need for improvements in infrastructure and finance along with skills development and a range of other policy considerations. As long as the results of these methods are qualified and contextualized in this manner, they can provide useful guidance to policymakers.

Another consideration that should be applied to the results of these methods concerns the fallacy of composition, in that not all countries may be able to successfully diversify into the target sectors identified at the same time, given the constraints imposed by the size and growth

¹⁸ See Hausmann et al. (2014), p.20, figure 26.

¹⁹ It is worth noting that, of the five areas of priority investment in Uganda's second national development plan of 2015 – agriculture; minerals and oil and gas; tourism; infrastructure; and human capital development (Uganda 2018) – the three methods under review are able to provide results only for agriculture and for minerals and oil and gas.

of world markets. The less the results of a method are specific to a country, the more this is a concern. This is especially the case for the GIFF, given that only a few countries are able to sustain growth rates of greater than six per cent over 20 years and thereby attain designation as benchmark countries. This means that a number of different countries will end up with the same target sectors, such as apparel and footwear. Even if a country were able to successfully diversify into these or indeed any other sectors structured along the GSCs, the challenge of upgrading beyond the lower tiers of the GSCs remains. This challenge is therefore not specific to the GIFF results but rather pertains to the results of all these methods for sectors that are structured along GSCs.

Structural transformation should not be viewed as an end in itself but as a means to create more and better jobs – decent work in the ILO parlance. This occurs as a result of compositional shifts towards higher productivity sectors (whether new or established); associated increases in productivity within both expanding and contracting sectors; and economic growth more broadly. Although all three methods are concerned with job creation, they differ in the degree to which job creation is integral to each method. Since the ITC's EPI and untapped employment potential measures are expressed in value terms, they can be used to directly estimate employment, which the ITC has indeed done through fixed employment multiplier analysis (ITC 2018).

The concern about the potential trade-off between more and better jobs was a key motivation for Hausmann et al. (2014) to construct separate sector rankings for parsimonious transformation and strategic bets. However, it would be useful to complement these rankings with data on comparative labour- and skills-intensity and measures of the quality of typical jobs within these sectors, as well as with employment multipliers. This is complicated by the fact that these sectors have not yet been established within a given country, at least as expressed in export data, so that information on them will be limited in establishment and labour-force surveys or in input-output tables and social accounting matrices. However, useful information could be gleaned by looking at data for similar sectors within a given country or the same sectors within similar countries.



The key measures in the economic complexity and product space method are intended to reflect underlying capabilities and productive knowledge, yet these are only addressed indirectly and abstractly. For countries that wish to diversify into new industries, more concrete and specific information on skills and knowledge requirements is needed for workers and employers alike. This goes well beyond the capabilities and knowledge that are tied directly to production and involves all the skills and knowledge that translate production into sales, including marketing, certifying and servicing.

To progress beyond identifying potentially promising products and sectors requires an understanding of the binding constraints that limit their expansion. This requires more in-depth analysis, such as through market systems analysis (Springfield Centre 2015). Both market systems analysis and value chain analysis seek to assess

products and sectors that are already extant in a country, yet the objective of the economic complexity and product space method is to identify potentially promising sectors that have not yet been established. Understanding the binding constraints on these sectors will require different approaches. It is also worth noting that the methods surveyed are premised on the use of very detailed sectoral data. The corresponding results of these methods lend themselves to market systems analysis and value chain analysis, which examine specific products and markets. Yet there may be a disconnect between these fine levels of sectoral detail and the broader objectives of structural transformation. That is, even if a country were able to successfully diversify into the top five or ten ranked products identified by these methods, this raises the question of whether such diversification is more incremental than transformational.

► **Table 2: Potentially promising products for Uganda based on the growth identification and facilitation framework**

Based on exports of benchmark countries
Cotton yarn
Non-knit men's suits; Non-knit women's suits; Non-knit men's shirts; Non-knit women's shirts; Knit T-shirts
Processed leather; Leather footwear; Leather apparel; Rubber footwear
Radio receivers; Video recording equipment; Video displays
Based on revealed comparative advantage (RCA) indexes for Uganda
Edible fruit and nuts; Peel of citrus fruit or melons*
Preparations of meat, fish or crustaceans*
Paper and paperboard; Articles of paper pulp, paper or paperboard
Printed books, newspapers, pictures and other products of the printing industry; Manuscripts, typescripts and plans
Tanning or dyeing extracts; Tannins and their derivatives; Dyes, pigments and other colouring matter, etc.
Glass and glassware

Source: Lin and Xu (2016).

Note: * indicates sectors for which RCA increased as of 2013 but decreased as of 2010; four-digit SITC sectors are separated by semi-colons.

► **Table 3: Potentially promising products for Uganda based on economic complexity and product space**

Parsimonius transformation ranking	Strategic bets ranking
1 Margerine, etc.	1 Printed matter, NES
2 Confectionary, non-chocolate	2 Varnishes and lacquers; Distempers, etc.
3 Jams, jellies, marmalades	3 Miscellaneous articles of base metal
4 Edible products and preparations, NES	4 Paper and paperboard cut to size or shape, NES
5 Fruit, temporarily preserved	5 Wadding, wicks and textile fabrics for machine use
6 Other materials of vegetable origin, NES	6 Aluminum and alloys, worked
7 Tobacco, manufactured	7 Structures and parts of aluminum
8 Bakery products	8 Wood packing cases, boxes, cases, crates, etc.
9 Plastic packing containers and closures	9 Metal casks or drums for packing goods
10 Fixed vegetable oils, NES	10 Trailers and transports containers
11 Cigarettes	11 Articles of paper pulp, paper, paperboard, NES
12 Packing containers of paper	12 Polyvinyl chloride
13 Beer made from malt	13 Polyethylene
14 Bottles, etc. of glass	14 Structures and parts of iron, steel
15 Flour and meals of fruit and vegetables	15 Builders' carpentry and joinery
16 Vegetables, frozen or in preservative	16 Printed books, pamphlets, maps and globes
17 Non-alcoholic beverages, NES	17 Gauze, cloth, grill, netting, reinforced fabric, etc.
18 Insecticides	18 Plastic packing containers and closures
19 Fertilizers, NES	19 Fiber building board of wood or vegetable material
20 Propellant powders and other explosives	20 Paper and paperboard, creped, crinkled, etc.
	21 Other sheet and plates of iron, steel, worked
	22 Polypropylene
	23 Packing containers of paper
	24 Construction materials of cement

Source: Hausmann et al. (2014).

Note: NES indicates "not elsewhere specified"; white highlights indicates industries that appear in both rankings.

► Table 4: Potentially promising products for Uganda based on the export potential indicator (EPI)

Top 25 products by EPI ranked by untapped export potential (EPI minus actual exports)		
	EPI (mn \$)	Untapped (mn \$)
1 Coffee, not roasted, not decaffeinated	572.3	148.9
2 Cane or beet sugar & chemically pure sucrose	168.2	111.3
3 Beans "Vigna & Phaseolus" NES, dried and shelled	129.6	95.4
4 Maize seed for sowing	137.3	84.1
5 Grains of hides and skins of bovine or equine animals in dry state	102.6	81.4
6 Cocoa beans	138.3	79.8
7 Hides & skins of goats or kids, in the wet state	70.6	59.3
8 Palm oil (excluding crude) & fractions	95.1	58.2
9 Fish NES, cured	83.2	44.3
10 Vegetable fats, oil and fractions, hydrogenated, inter-esterified, etc.	68.1	42.0
11 Portland cement	100.0	38.6
12 Milk	57.3	34.8
13 Black tea, packings > 3kg	55.5	33.2
14 Bars & rods of iron or non-alloy steel	41.1	26.5
15 Wheat or meslin flour	40.8	23.6
16 Low-fat milk powder	32.5	21.2
17 Fish cuts, fresh	43.7	20.0
18 Flat-rolled products of iron or non-alloy steel	38.1	19.8
19 Soap & organic surface-active products	34.7	18.5
20 Sesamum seeds	44.4	17.2
21 Fish fillets, frozen	28.7	17.2
22 Tubes for iron or steel	25.6	15.2
23 Broken rice	30.8	13.2
24 Unrooted cuttings & slips	32.5	12.0
25 Gold, semi-manufactured, for non-monetary purposes	41.6	10.5

Source: ITC, "Export Potential Map: Spot Export Opportunities for Development"

Note: NES indicates "not elsewhere specified".

► **Table 5: Potentially promising products for Uganda based on the product diversification indicator (PDI)**

	PDI ranking
1	Cut flowers & buds, fresh
2	Cashew nuts, in shell
3	Cashew nuts, unshelled
4	Cloves
5	Crude palm oil
6	Lac, natural gums (excluding gum arabic), resins, balsams, etc.
7	Flours of fish or crustaceans
8	Cane molasses from sugar refining
9	Molluscs & other aquatic invertebrates
10	Prepared or preserved tunas
11	Mineral or chemical phosphatic fertilizers
12	Wattle extract
13	Avocados, fresh or dried
14	Wood, sawn/chipped lengthwise, sliced, peeled, thickness > 6mm
15	Melons, fresh, excluding watermelons
16	Grains of hides and skins of bovine or equine animals in wet state
17	Vegetable products, NES
18	Jute & other bast fibers, raw/retted
19	Wood charcoal, including shell or nut charcoal
20	Chickpeas, dried & shelled
21	Goat meat
22	Virola, mahogany, imbuia & balsa, sawn/chipped lengthwise
23	Binder/baler twine of agave
24	Unrefined copper
25	Margarine (excluding liquid)

Source: ITC, "Export Potential Map: Spot Export Opportunities for Development"
Note: NES indicates "not elsewhere specified".

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▶ Chapter 2



Making trade more employment-friendly: The role of skills policies

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► Introduction

Over recent decades, trade has helped to drive economic growth in developing, emerging and industrialized economies, while raising incomes and sharply reducing the incidence of poverty in emerging and developing countries. In the past few years, however, growth in trade has slowed and the consensus in favour of continued trade liberalization has weakened. There is an increasing perception that the global trading system is not delivering opportunities for all, that too many are being left behind and that a tilted playing field affects the outcomes of trade.

Investing in skills can help make trade more acceptable by making it more inclusive and employment-friendly, as well as by helping to rebalance the playing field for competition in trade. Investing in skills is both a necessary enabler for effective participation in trade by countries at all levels of development and a key lever for improving the labour market outcomes of trade. Investing in skills complements policies such as social protection and active labour market policies in making trade more sustainable and inclusive.

Along with technology, trade is a key factor that shapes the future of work through both the global diffusion of knowledge that it drives and the competitive pressures that it exerts. Trade drives the continual change in workplace skills needs, calling for effective lifelong learning from pre-school to retirement, which is critically important to the employability of workers at all occupational levels. This intensifies the need for lifelong learning to be inclusive, embracing not only those who are already well skilled but also those at risk of being left behind.

It is widely recognized by policymakers that skills development is important to trade outcomes, which is reflected in both national trade strategies and national skills strategies. However, these strategies frequently lack the granularity of focus that is required to formulate and effectively implement relevant policies. The sense of urgency for such policies is growing thanks to rapid technological changes that are shifting the contours of the global trading system. This chapter aims to highlight the key aspects of this shift that are relevant to policy learning and to identify the key elements of effective skills response measures. It makes use of evidence from the ILO's STED sector skills studies, evidence from a review of skills in national trade policies and of trade in national skills policies, and corroborating evidence from a United States case study on recovering manufacturing sectors that uses big data on vacancies advertisements.

The chapter starts by exploring what is known about skills and trade, drawing on both the literature and empirical evidence from the ILO's policy work in this area. It reviews the connection between skills and trade – both the place of skills in national trade policies and the place of trade in national skills policies – and assesses the influence of skills in achieving a level playing field in international trade. It considers how to respond to trade-related changes in skills demand, reviewing the constraints on effective responses while presenting case study evidence based on the ILO's work, including analysis of jobs vacancies big data. The conclusions focus in particular on priorities for responding to changes in skills demand.

► What we know about skills and trade²⁰

Trade, in combination with technology, creates both opportunities and challenges that demand a skills development response. However, the capabilities of countries and firms to respond effectively is not evenly distributed: developing countries and their firms need to converge on the capabilities of their industrialized country counterparts. Skills gaps and shortages constrain developing countries in benefiting from trade.

The section starts by looking at how the interaction of trade and structural transformation create a need for a learning economy, to which skills development makes an important contribution. It highlights how the capacity to trade is not evenly distributed internationally or within economies. It observes how trade tends to increase the relative demand for higher skills in countries at all levels of development and the wage premium earned by higher-skilled workers. It describes how skills gaps and shortages constrain developing countries from benefiting from trade, as well as how education and skills development policies play an important role in the impact of trade on labour market outcomes in countries at all levels of development.

Trade, structural transformation, skills and the learning economy

Trade and the adoption of new technologies mean that economies at all levels of development are continuously undergoing structural transformation, causing changes in the demand for skills. That is a consequence of modern patterns of economic growth and improvement based on productivity growth, innovation and diversification. Where structural change becomes more rapid or more concentrated, this can increase the incidence of job losses and skills obsolescence. This raises the stakes in ensuring that economies are capable of adjusting efficiently through structural transitions that affect specific

regions and industries, thereby improving labour market outcomes and improving the resilience of the careers and livelihoods of the workers affected.

Solow (1957) showed that most increases in productivity are related to learning. The accumulation of human capital in the form of skills and knowledge contributes to the creation of value through exporting and economic diversification (Hausmann and Klinger 2007; Hidalgo et al. 2007; Hidalgo and Hausmann 2009; Fortunato et al. 2015). A country's growth path depends on its accumulation of capabilities that lead to upgrading in quality and value added, as well as to diversification in products and services produced for both domestic and export markets. This in turn leads to higher living standards and higher-quality jobs in exporting industries.

Stiglitz et al. (2013) argue that "markets, by themselves, are not likely to produce sufficient growth enhancing investments, such as those associated with learning, knowledge accumulation, and research". Therefore, governments should "focus on promoting learning, infant industries and economies, exports, and the private sector, not only in manufacturing but also agriculture and services such as, health, information technology, or finance". Skills development systems make an important contribution to learning, especially when considered to include from pre-school as far as the conclusion of initial education and training; formal and informal workplace learning; and other continuing training and education, whether conducted through technical and vocational education and training (TVET), universities, active labour market programmes or other arrangements.

Capabilities accumulated through trade do more than raise productivity among exporting firms. The technologies, business practices and skills adopted or developed by exporting firms and their suppliers spread among their domestic competitors and other economic sectors,

²⁰ This section draws significantly on ILO and WTO, *Investing in Skills for Inclusive Trade*, 2017, Chapters 1 and 2.



providing one of the main channels of economy-wide improvement and development. As a result, relevant new skills and improvements to skills development systems benefit the economy as a whole even if they are intended initially for the benefit of exporting firms.

Capacity to participate in trade is not evenly distributed

Developing-country sectors are less well equipped than their industrialized country counterparts to respond to change in market demands. To the extent that they can compete on the basis of low-cost strategies after market opening, the price advantages that they can bring to the market offer some protection initially for otherwise undifferentiated goods and services. However, costs and incomes rise as low-income countries engage more deeply in trade and more low-income competitors engage with the market, thereby reducing cost advantages over time. Firms have to respond by becoming more flexible, upgrading and offering products and services that are differentiated from those of their competitors. To achieve this, the business capabilities of developing-country tradable sectors, as well as their domestic value chains, must converge in strength on those of their industrialized-country counterparts.

Not all firms are equally well positioned to achieve this. Large, long-established, domestically owned firms often have sufficient management capacity and financial resources to identify investable opportunities in tradable markets; build and acquire the capabilities and technologies needed; perhaps build relevant experience by creating or upgrading a domestically trading business; and establish international sales, marketing and distribution arrangements. Domestically owned SMEs are usually less capable; have less accumulated resources to invest even in proportion to their size; and find it more difficult to divert enough management attention to understand what is required to export and to plan and implement accordingly. They are less likely to be able to afford to dedicate resources to export sales and customer service. As most SMEs have only a small number of senior managers and professional-level employees,

it is difficult for them to develop the depth and breadth of high-level skills that international competitors can achieve. As a result, firms that are larger and better resourced are much more likely to export successfully. Where SMEs export directly, it is usually to narrow market niches in which they have developed a specialist expertise that is partly based on firm-specific know-how and skills.

Trade increases relative demand for higher skills

Trade tends to increase the demand for higher skilled workers relative to the initial skills composition of the workforce (Autor et al. 2003; Michaels et al. 2014; Wood 1994; Thoenig and Verdier 2003; Bustos 2011; Burstein et al. 2013). Patterns of comparative advantage often favour the export of products requiring higher skills. The offshoring of activities from industrialized to developing economies may increase the demand for skills in both. Activities that are offshored often use mid-level skills in significant volumes. Shifting these jobs from a country well-endowed with high skills can raise the skills profile of employment in that country, while also raising the skills profile of employment in a country mainly endowed with low skills. Along with technological change, these transitions can cause job losses for some, a topic which will be addressed later.

Trade tends to favour growth, or at least sustainability among high-productivity firms that are likely on average to employ workers at higher skill levels. Exposure to trade also induces or accelerates technological change by opening up opportunities, exerting competitive pressures and easing access to imported technologies and know-how. This does not happen automatically; it requires not only investment in developing or adopting new technologies but also making complementary improvements in business practices. Such investment drives change in skills needs in both industrialized and developing economies.

Effects of trade on wages by skill level

There is evidence that an increase in trade tends to increase the skill premium. Reallocation of workers towards exporting industries on average leads to higher wages among these workers, reflecting higher skills requirements among them (Bernard and Jensen 1997; Schank et al. 2007; Helpman et al. 2017, Hummels et al. 2014).

The offshoring of activities from industrialized to developing economies tends to lower the wages of workers whose jobs are at risk of being offshored and of those in similar low- and medium-skilled jobs doing routine work. However, there is evidence that offshoring tends to increase pay among high skilled workers doing non-routine work that is hard to offshore (Hummels et al., 2014). Both trends contribute to increasing wage inequality. Negative shocks to trade can also affect skills development, including job-related training provided by employers. A recent study of international trade and worker outcomes in the United Kingdom provides evidence that developments in trade can have an impact on the provision of training. In the case of the United Kingdom, both wages and the provision of job-related training decreased as the result of an increase in import prices of intermediate goods, with likely negative repercussions for future productivity growth and earnings potential (Costa et al. 2019).

There is evidence that trade liberalization has also contributed to increases in the skill premium by inducing skill-biased technological change – technological change that increases the demand for higher-skilled workers relative to lower-skilled workers. However, there are also cases in which the skill premium has decreased over time despite trade liberalization, showing that this link is not inevitable. Data from four South American countries shows the skill premium decreasing as the relative supply of higher skills increases (see Cruz and Milet, unpublished). The question is therefore how higher-skill jobs can be promoted in the context of trade and how workers can be supported in their transition to such jobs.

Skills gaps and shortages constrain developing countries in benefiting from trade

International trade usually leads to higher average productivity in an economy because it enables the expansion of the most productive firms and forces the least efficient firms to exit (Melitz 2003), while inducing surviving firms to increase productivity. Skills shortages and gaps in the quality and relevance of skills can constrain the ability of firms to develop and implement successful strategies, slowing the expansion of successful productive

firms and potentially slowing the creation of new employment opportunities. They can therefore constrain the effectiveness with which firms can participate in tradable markets, with respect to both exporting and effective import competition.

ILO analyses of tradable sectors in many developing countries throughout the world have shown that deficiencies and shortages of skills in firms and in the labour market result in significant constraints on most developing countries' tradable sectors, both currently and in terms of implementing future-oriented strategies for export and domestic markets (see box 1).

► Box 1: Skills gaps in tradable sectors in developing economies: Evidence from the ILO's STED programme

The ILO's STED development cooperation programme supports the countries and sectors concerned in formulating and implementing strategies for bridging the skills challenges and gaps identified in order to improve export performance in tradable sectors. The programme includes skills needs diagnostics and analysis of the constraints that skills place on the growth of sectors. The programme has been undertaken or launched in more than 30 sectors in about 20 countries. Examples of gaps in skills for operations include shortages of the mid-level technical skills needed to expand and upgrade manufacturing industries in Cambodia; and a need for improved technical skills along the value chain in Malawi's oilseeds sector in order to achieve and assure product quality that is compliant with the standards required by international customers. However, gaps also often occur in the skills needed to ensure that other vital business activities can be implemented effectively, for example in marketing skills; science and engineering for improvement and development of products; and industrial engineering and supply chain management (such as in the Ethiopian textiles and garment sector).

Where a sector uses domestic sources of inputs, its performance in tradable markets may be constrained by the capabilities of its suppliers. For example, the capacity of a food-processing sector to export and compete domestically with imports is often constrained by the performance of the farmers that supply it. Shortcomings in productivity and quality, food handling, food safety and compliance and matching the timing of supply to market demand often make it difficult for food processing enterprises to meet the requirements of customers in otherwise attractive tradable markets. Skills gaps in areas like agronomy, food handling and the management of small enterprises are not the only constraint, but they play an important role (such as in the Ghanaian agro-food sector). Because of the large share of employment in the agriculture sector, the negative consequences of constraints on processed food exports in terms of lower economic and employment dividends may be greater than in the food-processing sector itself. The productivity of the sector and the value chains – international and domestic – of which it forms a part is below the potential offered by the sector's resources and strategies, which diminishes returns for both labour and capital.

Many of the practical problems underpinning capability gaps in developing countries are familiar from the industrial history of developed countries, where they have been addressed progressively. Starting in the 1980s, the success of practices pioneered in Japan, such as *kaizen* and the Toyota production system, inspired many leading North American and European businesses to start reforming their approaches to operations management. Over time, this has driven the widespread adoption of new forms of work organization, new human resource management practices that incorporate greater emphasis on skills development, and a systematic focus on compliance with standards (internal and external to the firm) and regulations. These changes have evolved in both manufacturing industries and tradable services sectors such as IT services, in which management approaches such as the capability maturity model and agile methodologies have had a major impact.

Although industrialized country firms have stronger capabilities, they still need to strengthen them if they are to develop, adopt and implement effective strategies that will raise productivity. Deficiencies in management capabilities related to export markets often constrain SMEs from exporting and, more broadly, are sometimes identified as an underlying cause of skills mismatch, including the underutilization of skills (OECD 2009; McGowan and Andrews 2015). The broad sector-level consequences of failing to implement effective strategies include constraints on the rate of increase in unit productivity; on the introduction of new or improved products; on improvements in quality and compliance; and on effectiveness in connecting to attractive markets.

Education and skills development policies play an important role in the impact of trade on labour market outcomes

Technological change is the most significant underpinning driver of changing skills needs, with respect to not only hard technologies such as machine vision, industrial robots or mobile apps but also soft technologies such as working practices, design thinking and interpersonal

networks. Such change operates jointly with market and social forces and incentives; new technologies are adopted because of the benefits that they bring beyond the objective technological improvements that they offer, in concert with other changes. Trade intensifies the pressure on firms to improve, increasing the potential rewards for market success by providing access to larger markets and making new or updated technologies accessible globally. It reduces barriers to the reorganization of production, allowing activities to be located wherever that is most advantageous to the lead firms in global and regional value chains.

The technological and economic changes that trade helps to drive affect the calculus of advantage between locations for different types of activity, in ways that can cause substantial changes in skills demand in countries at any level of development. For example, thanks to changes in the relative advantage for the production of manufactured goods, exports of goods from China plateaued in about 2014, thereby providing a boost to other manufacturing locations, including some in industrialized countries.

Some types of activity, notably garment manufacturing and electronics assembly, have been moving between centres of activity as the relative advantages in costs, labour availability, business environment, infrastructure and market access offered by different locations change over time. A succession of developed and emerging economies have had to adjust to the resulting job losses, while also seeking to preserve what they could by specializing in higher value-added activities within these sectors. Lower-skilled workers and workers whose skills have not stayed up to date are often vulnerable to losing their jobs, even if employment is increasing overall. Low-skilled workers who lose their jobs are especially vulnerable to difficulties in finding good new jobs.

Some of this change is predictable as existing trends continue over time, while some of it is discontinuous and hard to predict. Tradable sectors in industrialized countries that have long been exposed to this sort of change and their leading successful firms have mechanisms to cope with and indeed benefit from it, thanks to their strengths in marketing, innovation, continuous improvement and change management.

The empirical evidence suggests that high-skilled workers can adjust relatively well to changes in skill demand, both through their own efforts and because employers invest more in the skills of workers who are already relatively higher skilled (Artuç and McLaren 2015; Blanchard and Willmann 2016). However, lower-skilled workers are less likely to be able to invest effectively in their own skills and employers are likely to invest less, making upskilling or reskilling of lower-skilled workers slower and less certain.

The mobility of workers across firms and sectors can be difficult where their transferable skills are limited, their skills are primarily firm-specific or there are barriers to mobility in terms of costs, access to learning and the ability to learn. High-skilled workers appear to be more mobile than low-skilled workers and therefore switch more easily into expanding and more competitive industries and firms (Lamo et al. 2011; Artuç et al. 2015; Artuç and McLaren 2015; Utar 2016).

When changing jobs is difficult for workers, adjusting to changes in trade can become costly for workers and society, take longer than expected or not happen at all. Such costs include, for instance, the need for retraining and longer periods of unemployment or precarious employment, or lower starting wages in a new job owing to the initial lack of skills and knowledge required by the new employer.

The consequences of changing skills needs can be biased significantly by gender. This may arise because occupations are gendered in many country and sector contexts, while the skills associated with those occupations may be more or less transferable. Also, in many country contexts men get better access than similarly qualified women to upskilling and reskilling opportunities, potentially making it easier for them to move to other work.

This has implications for policies on general initial education, with a need to enhance the core work skills and learning-to-learn skills that are usually formed in the course of initial education. It also has implications for lifelong learning and for specific adjustment to employment shocks to facilitate lower-skilled workers in upskilling during their career and to target workers who find it difficult to adjust to changes in skills demand for both upskilling and reskilling.

Economic geography, trade and skills

The location of firms in tradable sectors is shaped internationally to a significant extent by economies of agglomeration. Firms derive advantages from being located close to other firms that produce similar products and services, undertake specialized activities in the same supply chain or are related through similar technologies and activities. To the extent that there are advantages to be gained from locating some activities elsewhere, firms derive advantages in sourcing, contracting and undertaking FDI effectively when based in an agglomeration. There are many examples globally, such as Silicon Valley in the United States, which is well known for its technology industries; the machinery and electronics clusters of Guangdong in China; and the furniture cluster of southern Viet Nam.

Skills play an important role in economies of agglomeration. Providers of education and training in skills that are relevant to the cluster have a large and sophisticated market for their services and have access to the information and resources needed to respond well to the skills needs of firms and workers. Firms have access to a deep pool of relevant skills in their local labour markets, both at education and training institutions and in workplaces. Formal collaborations – and often less formal contacts – between firms and between individuals drive learning and the exchange of knowledge. Education and training institutions play a central role in these processes, not just by providing initial education and training but also through the continuing education and training services they provide by acting as hubs for knowledge exchange and research and through their outreach activities to firms and workers.

The advantages of locating activities in an area that offers economies of agglomeration influence a sector's development, both by influencing the success of firms already located there and by influencing decisions about mobile investment. Reinforcing economies of agglomeration is a mechanism through which successful skills policies can contribute to sector growth.

► Policies on skills and trade

If investing in skills is important to trade outcomes and the inclusiveness of those outcomes, then this should be reflected in national policies and international policy debate on trade and skills. We review here how they are reflected.

The section looks at the position of skills in national trade policies and how national skills address issues relating to trade, exports and competitiveness. It also looks at current issues in the policy literature with respect to making trade beneficial to all and how these are linked to skills.

Skills in national trade policies

The ITC publication *National Trade Policies for Export Success* (2011) recognizes the crucial role of skills in promoting and enabling exports and FDI and in advancing the success of trade policies by:

1. creating competitive infrastructure services;
2. promoting exports and foreign investment;
3. moving goods across borders effectively;
4. addressing export market issues; and
5. improving inputs and capital goods.

Some specific areas of policy intersection include the role of skills in enabling efficiency-seeking FDI; developing supply chain linkage; supporting technology transfers; targeting and enabling foreign investment; and the development and exploitation of intellectual property rights by SMEs. The publication also refers to the need for government workers skilled in administering trade and in logistics, as well as the need for the technical skills required for participating in international standard-setting among others.

The links between trade and skills, in particular between exports and skills, are clear in national policies and in studies on trade policy that focus on the national level.

The authors reviewed 16 national export strategies and similar national policy documents from developing countries or areas published over the last decade,²¹ with the following findings:

- There is strong reference to skills needs relating to trade. Aligning the supply of skills with the needs of exporters is identified as one of the high-priority issues that should be addressed in order to meet strategic goals. Strategies are also proposed to reform skills development systems, with collaboration between policymakers on trade, skills, education and training for policy coherence.
- Most of the export strategy documents reviewed address the development needs of priority exporting sectors, along with specific proposals for how these can be addressed.
- Skills gaps that arise repeatedly cut across sectors, including deficiencies in the quality of initial education; poor levels of basic skills; mismatch between the specific skills available and the skills needed by exporting industries, even where workers' qualifications are at the right level; deficiencies in workers' skills among SMEs and in agriculture; and deficiencies in skills in management and marketing.
- Many strategies also identify skills gaps in the technicalities of exporting, ranging from government skills in negotiating trade deals and managing export flows to export management and professional skills in businesses.

The authors also reviewed Diagnostic Trade Integration Studies (DTISs) for the 52 countries covered by the Enhanced Integrated Framework (EIF) for Trade-Related Assistance for the Least Developed Countries.²² These studies are undertaken by EIF partner international organizations to inform and advise EIF partner least developed countries on trade strategies.

21 Armenia, Afghanistan, Bangladesh, Botswana, the Dominican Republic, Ghana, Jamaica, Kenya, Malawi, Mauritius, Occupied Palestinian Territories, Pakistan, Peru, Rwanda, Sri Lanka and Zambia.

22 See EIF website, <https://www.enhancedif.org/en/publications>

Essentially, all of these studies identify deficiencies in labour force skills as a key constraint on effective participation in trade. Common themes are similar to those seen in the review of national export strategies, including that the skills and education of most of the workforce are too low for employment in the exporting industry; there are too few workers with the specific skills needed by exporters; and better skills and literacy are needed to upgrade exporting industries.

However, most DTISs only go into detail on skills needs in two areas: developing the skills needed to underpin the growth of high-skill tradable services sectors; and strengthening skills in management and implementation of trade facilitation and trade policy.

Overall, although some national trade policies take a notably granular approach to skills needs that involves drilling down from sector analyses, most policies address skills at a high level or focus only on a few specific details. Since the details of the skills needs that are important to success in trade are complex and contingent on the circumstances of the country and its tradable industries, there is a need to adopt granular strategies on skills for trade that complement higher-level national trade strategies.

Trade, exports and competitiveness in national skills policies

The ILO Human Resources Development Recommendation, 2004 (No. 195) advocates “national human resources development, education, training and lifelong learning policies which are consistent with economic, fiscal and social policies” (Para. 1). In 2008, the International Labour Conference recognized the importance of ensuring “policy coherence by linking education, research and skills development to labour markets, social policy, technology, public services delivery, trade, investment and macroeconomic policies” (ILC 2008, para. 16).

Although ILO Recommendation No. 195 calls for skills policies to be linked to trade policies, national policy documents on skills, education

and training vary greatly in their linkage between the two. The word “trade” is not used often, but references to “competitiveness” and to adjusting to “globalization” are common, both of which imply a focus on skills needs arising from trade. References to increasing “productivity” and promoting “innovation” are also common, and although they are also relevant to domestically trading enterprises, they substantially encompass the relationship between skills and trade. Less directly, many national policy documents on skills, education and training state that education and training provision should be responsive to the skills needs of enterprises and the employability needs of workers, implying that they should respond well to the skills needs of enterprises in tradable sectors and their domestic suppliers, among other businesses.

However, many policy documents on education and training focus on establishing or improving upon good practices without making explicit reference to meeting the demand for industry skills. The risk is high that this lack of explicit emphasis undermines a core principle of good quality training – its relevance to the skills needs of enterprises and workers, whether in tradable or other sectors.

Across many countries, the institutions that are responsible for skills anticipation produce policy documents with the explicit purpose of linking skills development to the needs of enterprises, workers and industry development. Other mechanisms to link skills development to the skills needs of industry include the quantitative skills forecasting models that are used by some ministries of education or labour and TVET agencies to inform consultative and planning processes at the level of individual providers of education and training. These mechanisms are much less mature, where they exist at all, in less developed economies than in their industrialized counterparts. Even where they are well developed at the national level in an industrialized economy, mechanisms to analyse and tackle the specific skills needs of disadvantaged subnational regions, such as those that have been slow to recover from trade-led shock to employment, are often not well developed.

Role of skills in making trade beneficial for all

Internationally, assessments of the benefits of trade are increasingly contested. More policy and political attention is being directed at the extent to which trade is conducted in a way that maximizes its benefits and shares them fairly between participating countries, as well as the extent to which its impact within participating countries is inclusive. Imbalances in the distribution of trade benefits between countries are attributed to imbalances in the playing field on which international trade is conducted. Some argue that less developed countries lose out systematically, which places their enterprises and workers at a disadvantage in trade and slowing their pace of development.

The need for a level playing field in trade is a major current theme of trade policy organizations. The OECD argues that all countries and firms should compete on an equal footing and that “unless more is done to level the playing field, unfair trade practices risk endangering ... major achievements” in trade liberalization. It focuses on addressing market distortions arising from factors such as state support and investment treaties, highlights the central place of access to digital and local business services and argues that “(p)roviding workers with the right mix of skills can help ensure that globalisation translates into new jobs & productivity gains rather than negative outcomes” (OECD 2017a, 2017b, 2019).

UNCTAD argues that global markets are becoming increasingly concentrated and less contested and are dominated by global value chains that are governed by large firms based in advanced economies, whereas developing economies and their firms and workers do not obtain an equitable share of the value that they add in the production of goods and services. UNCTAD identifies both “skills development and infrastructure” as necessary to ensure the developmental benefits of trade, but argues that the transfer of technologies and the diffusion of knowledge from the lead companies in value chains, as well as the digitalization of economic activities, are among the key factors that shape the development landscape now and will do so in the future (UNCTAD 2018).



Although there are differences in perspective about what is necessary to level the playing field in trade, there is agreement on positioning skills development as centrally important to achieving positive and equitable outcomes from trade in order to distribute the benefits of trade more equitably among countries. As noted earlier, skills strategies can also contribute to distributing the benefits of trade more equitably within countries.

The ILO's experience in policy work on skills and trade supports this view. In the ready-made garment sector, for example, FDI and outsourcing to least developed countries often commences using a low added-value "cut-make-trim" or "cut-make-package" model that is relatively undemanding in skills requirements but can be upgraded to add higher-value activities such as

design, pattern-making, sourcing, merchandizing and logistics in a "free-on-board model if the skills needed for these activities can be developed. In the digital sector, for example, providing local businesses with the digital operations management and marketing tools that they need to empower themselves in tradable markets requires sophisticated technical and business application skills in areas such as analytics, digital marketing and automation. Skills therefore have an important role to play in achieving a fairer distribution among participants of the benefits of trade. The strategies needed to meet these skills needs should be fine-grained and capable of responding to the complex specific needs of industries and occupations.

► Responding to trade-related changes in skills demand

If skills are important to trade outcomes and are already considered to be important in trade strategies, what are the priorities in skills for trade and what strategies can we use to align policies on skills and trade?

This section considers the connections between structural change, shocks to employment and skills obsolescence. It draws conclusions on the types of skills strategy required for growth and development and for resilience in the face of change. It highlights the importance of digital technologies and work organization as factors that shape skills needs, with reference to a case study on skills demanded by manufacturing industry in four states in the United States. Finally, it discusses how to align national skills development systems with the business and employability needs that arise from trade and technological change.

The core evidence for Chapter 2 is obtained from analyses of STED sectoral studies and experiences in 15 countries.²³ Since these are qualitative findings that apply exclusively to developing countries, we compare the results with a quantitative case study that uses the real-time big data of job advertisements in the states of Florida, Indiana, Kentucky and Michigan. Reference is also made to the evidence on trade strategies, DTISs and national skills policies described in the previous section.

Structural change, shocks to employment and skills obsolescence

Structural change driven by trade is a major factor shaping the demand for skills, but at the same time the availability of skills limits the pace at which economies can adapt. Key areas of

23 Bangladesh, Cambodia, Egypt, Ethiopia, Ghana, Jordan, Kyrgyzstan, Malawi, Morocco, Myanmar, Northern Macedonia, Senegal, Tunisia, Ukraine and Viet Nam. See ILO (2010, 2011a, 2011b, 2012a, 2012b, 2015a, 2015b, 2015c, 2016a, 2016b, 2016c, 2016d, 2016e, 2017a, 2017b).

interaction between trade-led structural change and the demand for skills include structural shifts in the sectoral composition of economies; structural shifts in the roles, products, services and positioning of businesses within sectors; and shifts in the occupational composition of sectors and the skills content of occupations that are required to deliver the existing mix of products and services.

Some trade-related change arises from shifts in the geographic location of activities, whether those shifts occur within value chains through offshoring, through relocation between competing offshore locations or through onshoring. However, businesses and workers can also lose out as a result of changes in technologies and markets that render existing products, services, processes and skills obsolescent. With technological change now a constant in all sectors, sustained employability requires career-long learning at all skill levels, with special emphasis on the low-skilled and disadvantaged workers who are least able to adapt without support and are least likely to receive adequate learning opportunities in employment, as highlighted by the Global Commission on the Future of Work (2019) among others.

In some cases, substantial job losses connected with trade reflect a regional (subnational) structural change under which a concentration of tradable industries that have historically provided relatively high-productivity, relatively well-paid employment to the region loses its capacity to do so, whether through loss of comparative advantage or through shrinking markets. Productivity increasing faster than demand in products and services in which the industry retains comparative advantage can also play a role. Where this occurs, the region may no longer have the capacity to provide jobs that are approximately matched to the skills of displaced workers. Employment in locally traded sectors may be squeezed, as closed and downsized businesses purchase less locally and as local consumer spending is hit, making it more difficult for displaced workers to find jobs locally in other sectors even below their skill levels. Since workers who lose their jobs have a limited propensity to migrate away from their existing homes, the immediate unemployment effects are often confined to a regional labour market

within the country rather than being spread across the national labour market. Under such circumstances, in which job losses occur on a large scale, workers are likely to take longer on average to find new employment, partly because it takes longer for the regional labour market to adjust to absorb the stock of unemployed workers and partly because the shock itself is likely to depress economic activity within the region. A greater duration of unemployment has a negative impact on both the likelihood of re-employment and the wages received after re-employment (see, for example, Abraham et al. 2016).

Where cognitive and behavioural non-cognitive skills are weak at school-leaving age, this has a persistent impact on core work skills, limiting the employability of workers who need to find new jobs and limiting their ability to acquire the new skills that would be required to enter a different occupation. A lack of inclusiveness in education and training and underdeveloped systems for lifelong learning can especially limit the scope for lower-skilled workers to either improve their employability while actually employed or upskill at their own initiative after losing employment. A combination of different constraints that affect workplace learning means that many workers receive less ongoing training than they would if human resource management were stronger, if employers were more certain of their own ability to benefit from employee training and if there were a better supply of training available. Immature or absent systems of validation and recognition of the skills of workers, combined with weak human resource management, lead to workers' skills being underutilized, constrain productivity growth and cause their skills to degrade through lack of practice (OECD and ILO 2017). As a consequence, learning skills and habits are weaker and workers are less likely to have technical skills that are potentially transferrable to another employer or another occupation.

Where there is a trade-led shock to employment and reemployment and more broadly where structural change is rapid, this can cause severe difficulties in obtaining access to decent and stable employment for many low skilled workers, as well as for those living and working in regions with weak systems for lifelong learning. It also raises the risk of skills obsolescence, even in the absence of a shock to trade. Workers who

are unemployed or are employed in jobs that underutilize their skills miss out on workplace learning while the skills content of the occupations for which they are skilled evolves. Active labour market programmes to reskill workers can be effective in enabling them to regain access to work, but their effectiveness is contingent on the context, while longer programmes and activity-oriented programmes are associated with a higher probability of success (Levy-Yeyati et al. 2019).

Skills strategies to enable inclusive trade

Trade affects both the level and type of skills demanded. Skills strategies can aim to ensure that sufficient and relevant skills are available to enable growth in inclusive trade. As seen earlier, most national trade strategies lack the granularity required to identify detailed skills needs in their analysis and recommendations, while most national skills strategies, to the extent that they focus on skills demand, similarly address skills needs at a high level of aggregation. Mechanisms for skills analysis and governance targeted at sector level (or sometimes at regional level in larger countries) fill the gap left by national strategies in many advanced economies. However, such mechanisms are less mature or even absent in most less developed economies, while they are often weak or absent in subnational regions that are poorly connected to tradable markets even in advanced economies.

Skills strategies developed at sector level can promote fuller participation in trade by proposing actionable measures agreed by stakeholders and driving their implementation. This provides a mechanism to ensure that skills availability does not constrain the ability of firms to implement their existing growth and development strategies, whether in terms of the numbers of skilled workers available or the relevance and quality of their skills. Skills strategies can also aim to stimulate development in these sectors or regions by developing skills that will improve businesses' capabilities, enabling firms to devise and implement new strategies in order to become more productive, better meet customer needs and expectations, add more value, innovate and reach more markets. Skills strategies can cover

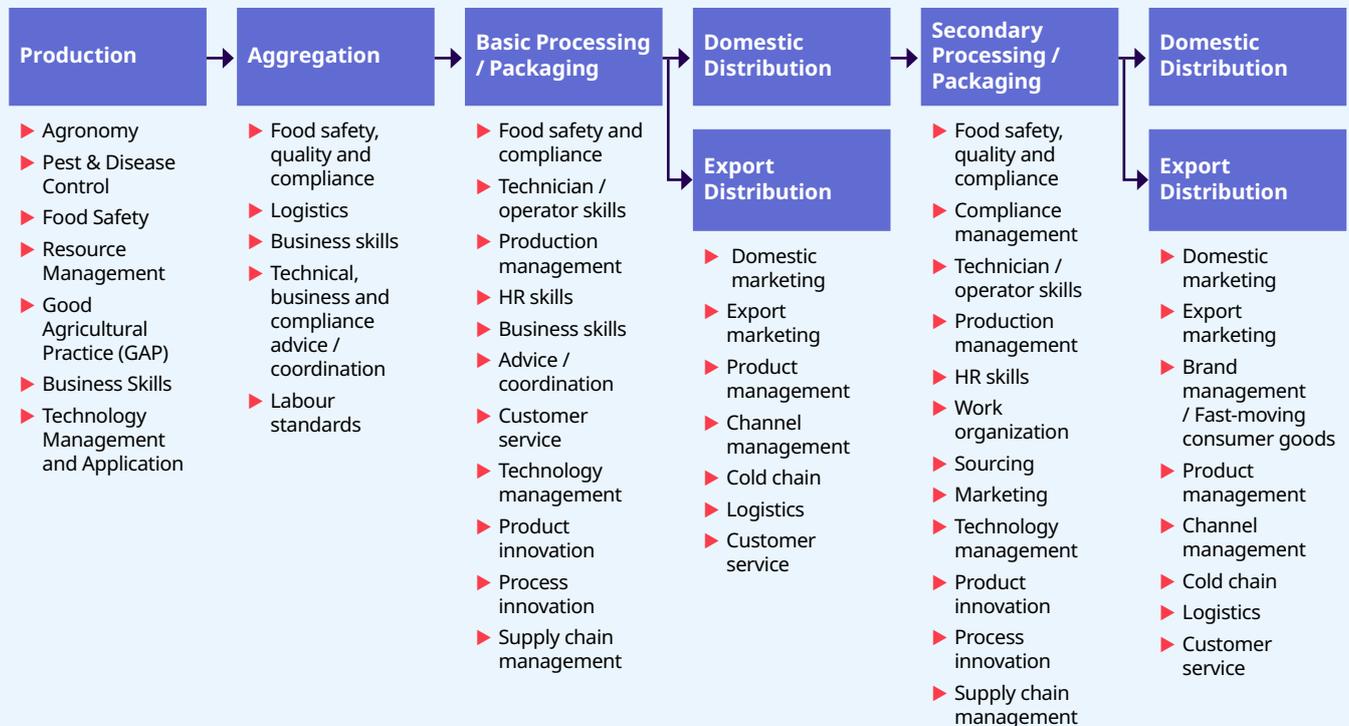
all contexts of skills development, including initial schooling at primary and secondary levels, initial TVET (including apprenticeships), initial university education, workplace learning, continuing education and training through TVET and universities, and informal and non-formal learning.

The evidence collected and analysed from the ILO's STED programme demonstrates similarities in the shortcomings in business capabilities across most tradable sectors, which have gaps in the efficiency and effectiveness of business operations; their ability to comply with standards and regulations consistently and efficiently; marketing, sales and channel management; innovation, product design and product development; and supply chain management and procurement. These issues have been seen in tradable manufacturing, agriculture-based and services sectors.

Many of these tradable sectors are also constrained by weaknesses in the capabilities of the domestic value chains that they rely upon for raw materials and other physical and services inputs. Skills are an important component of business capability in each of these areas. For example, UNCTAD (2018) identifies research and development, marketing, design and services as areas in which there is an imbalance in capabilities between industrialized and developing economies throughout value chains; it therefore argues in favour of establishing policies to strengthen the capabilities of developing and emerging economies in these areas.

Any effective strategy to address these deficiencies in business capability cannot rely only on skills, but skills development will be a necessary and key component of the strategy. The precise skills needed to address these business capability gaps vary between sector and country contexts and the detailed strategies needed to address them vary more, because of both differences in the stock of skills already available and differences between national skills development systems. There is no one-size-fits-all solution. Figure 2 provides an illustration of the skills frequently needed to strengthen developing country agro-food value chains, based on a synthesis of STED-based analyses in ten countries. Each skill is required at a range of occupational levels.

► Figure 2: Areas of skills gaps frequently seen in developing country agro-food value chains



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

Source: ILO STED programme.

Digital technologies, work organization and skills

At the level of the detailed skills required for jobs, the ways in which trade impacts on skills needs are affected strongly and jointly by technology, work organization and the need to assure compliance with requirements. This seems to be universal across all the developing country sectors researched under the STED programme.

Digital technologies have an important enabling role in addressing each of the main common business capability bottlenecks. This is true at all stages of each value chain and in businesses of all sizes, including small farmers who track market and meteorological information, large exporting manufacturing businesses that deploy digital technologies across all functional areas and tourism and other services that

export businesses marketing and deliver customer services online. More automated equipment and better communication and management of information contribute to improving the efficiency and effectiveness of operations. Information technology products and services enable and encapsulate good practices. Digital technologies also play a key role in effective compliance by providing an efficient means of capturing, managing and presenting relevant information on standards and regulations. Modern marketing, sales and channel management rely heavily on digital technologies for market intelligence and analysis; routine communications with intermediaries and end customers; communicating sales and marketing messages; management of information on customer relationships; and carrying out transactions. Digital technologies also play a key role in innovation, product design



and product improvement, as well as a key enabling role in strengthening operations, management, procurement and information throughout value chains. As a consequence, a requirement for digital skills is progressively becoming pervasive across most occupations. Most jobs in advanced economies now require at least basic digital user skills. The requirement for workers in specialized digital occupations such as computer programmer or digital marketer is also increasing. Moreover, an increasingly wide range of occupations now require advanced digital user skills or specialized professional digital skills alongside other skills. The requirement for digital skills in developing economies is less advanced but is on a steep upward trend. Digital skills are especially needed in exporting firms that are more productive than their competitors, partly because they make more use of digital technologies. The extent to which digital technologies are localized for language varies, but in a business context digital skills often require literacy in a major international language – most frequently English. The level of ICT infrastructure available in a given area influences the extent to which digital skills can be acquired and applied. Where the infrastructure is weak, this can act as a barrier to the acquisition of digital skills, which can be a significant constraint in rural areas and in developing countries.

Work organization has a central role in addressing business capability bottlenecks. In developed countries, major changes in the organization of work in both manufacturing and tradable services in recent decades have been key to improvements in productivity, quality and responsiveness to market demands. These changes emphasize the process-focused organization of work and enable high performance and engagement by workers through mechanisms such as teamwork, multiskilling and the involvement of front-line workers in problem-solving. Similar changes are visible in many of the developing-country sectors analysed, but here they are at a much earlier stage and many firms are either struggling to get started or undecided about what new forms of work organization to adopt, if any. Business improvement programmes with titles using key terms such as “lean manufacturing”, “*kaizen*” and “agile” are frequently used to accelerate their deployment. Accelerating the adoption of modern work organization principles and practices offers an opportunity to tackle bottlenecks in business capabilities, especially those related to operations, logistics and process innovation.

Deploying new forms of work organization requires modern professional and management skills in operations management and human resources management, with a strong emphasis on soft people management skills; such skills are often also required in industrial engineering and in the application and deployment of digital technologies. Workers in mid-level occupations, including team leaders and technicians, are required to have people management and process management skills as well as technical skills. Front-line workers are required to have strong core work skills, such as communication, problem-solving and teamwork skills, as well as characteristics such as personal responsibility, and are often required to develop multiskilling for flexibility across different tasks.

The ways in which businesses in tradable markets operate are shaped by the need to assure compliance with internal quality standards across the value chain from producers to end-users, as well as customer requirements, voluntary standards, standards required in the market and regulatory requirements. This requires the development and deployment of systems for compliance, both within firms and along value chains, that are supported by work organization and technology. Compliance requires occupation-specific skills in areas such as operations management, quality assurance, quality inspection, analysis, testing and regulatory management, while some industry sectors require digital skills in deploying and operating compliance management systems or in developing, installing or operating automated inspection systems. Skills and personal characteristics are also required among the wider workforce in areas such as documentation, food safety, consistency, personal responsibility and occupational safety and health (OSH).

In both developed and developing countries, SMEs often lag behind large firms in the same sector in terms of their technology, work organization and compliance capacities. This is partly a matter of scale, which limits resources and access to expertise. It can be alleviated by initiatives that aim to serve multiple businesses,

such as designated industrial zones or cluster-focused policy initiatives.²⁴ Education and training institutions, industry organizations, professional organizations or specially-established “centres of excellence” are frequently used to provide training for workers who are employed in multiple businesses with similar skills needs that do not individually have sufficient scale or resources to provide the training themselves.

Technology-led shifts in work organization through the gig economy, platform economy jobs and temporary employment agencies pose significant challenges for skills development, especially for workers reliant on such jobs over a long period rather than as a stop-gap between jobs with more traditional employment relationships. These jobs exist in both tradable industries and domestically traded sectors. Often managed as a non-core contingent workforce, workers in these jobs frequently have little access to formal learning opportunities to progress their careers. Overall, it means that workers have more responsibility for their own career planning and skills development than they do under traditional employment contracts. They need access to a variety of systems for continuing learning to support them, including informal peer learning, short segments of more formal learning (preferably certified) and access to more substantial courses through professional organizations, TVET or universities.

Case study on skills and recovery from shock to manufacturing employment in the United States

We present a case study on skills needs in the context of recovery from a shock to employment that was driven by a combination of trade and technology change. This provides insights relevant to policy for skills and trade in industrialized countries that suffer employment shocks in tradable sectors. It also serves to corroborate conclusions on tradable industries

²⁴ Development cooperation can also support access to such services. For example, the ILO provides project-based technical assistance on improving production processes and work organization to groups of SMEs in tradable sectors in some developing countries, under the Sustaining Competitive and Responsible Enterprises (SCORE) programme.



in developing countries based on the qualitative evidence presented earlier, since the findings are broadly similar at a high level.

There was a sharp negative shock to manufacturing employment in the United States in the period from 2000 to 2009, when 33 per cent of employment was lost in two main episodes: the economic slowdown of the early 2000s and the global financial crisis. The net loss in employment over that period is attributed to a combination of offshoring and competition from countries with lower labour costs, coupled with a rapid technology-driven increase in labour productivity. Between 2009 and 2018, manufacturing employment recovered modestly for the United States as a whole (up 7 per cent), but a number of its states experienced more dramatic recovery, including Michigan (manufacturing employment up 38 per cent), Florida (14 per cent), Indiana (23 per cent) and Kentucky (18 per cent).²⁵

How has the composition of manufacturing industry's demand for skills changed in these states as the upward trend in employment has been sustained? To what extent does the change in demand for skills in these states, which experienced severe job loss followed by a significant recovery in employment, differ from the experience of the United States as a whole?

Table 6 summarizes the results of the authors' analysis of Burning Glass Technologies (BGT) data on skills advertised by the manufacturing industry as being needed in these four states.²⁶ For each 1-digit International Standard Classification of Occupations (ISCO) occupation, it lists the skills whose incidence of job advertisements increased most²⁷ between a baseline period of 2011–2013 and the more recent period of 2015–2017. Skills

for which the increase in incidence is significantly greater than the increase in incidence for manufacturing industry in the United States as a whole are highlighted in green. Job advertisements mention the skills regarded by the employer as most salient, rather than providing a detailed profile of skills requirements. As such, the skills listed are ones for which there has been the greatest increase in some combination of relative demand and salience. It is well recognized that skills are important to the ability of tradable industries such as manufacturing to trade inclusively and generate new employment. This analysis points towards the priority areas of the skills that are most needed to enable the recovery of the manufacturing industry and should therefore be priorities for policymakers, employers and providers of education, as well as for workers deciding where to invest their own continuing learning efforts.

Several themes are evident in these results, in terms of both increases in the incidence of skills in job advertisements and the fact that they are significantly higher for the four case study states than for manufacturing in the United States as a whole.

Digital skills

Advertisements for jobs at all levels have become more likely to specify a requirement for IT user skills. At higher occupational levels, this appears as an increasing incidence of the requirement for skills in Microsoft Office, while at clerical support worker levels (ISCO 4) it appears as an increasing incidence of the requirement for skills in Microsoft Office, spreadsheets and tasks requiring IT user skills, including invoicing and payroll processing.

25 All numbers based on authors' analysis of United States Bureau of Labor Statistics data on current employment statistics (employment, hours and earnings – state and metro areas), downloaded on 2 July 2019.

26 BGT's database of jobs advertised online, consisting of data scraped from several thousand sources in a range of countries, lists the specific skills advertised as being required in each job where these are specified in the advertisement, while also coding for indicators that are relevant to skills analysis, including occupation, any qualifications requirements specified, minimum experience, industry and location. The database covers a set of industrialized countries. Although these new sources of data, known as "big data" or "online job vacancies", have the potential to provide real-time and detailed information on skills needs in a cost-effective way and also have many other potential advantages, it is important to take into account the limitations in the data, including issues of representativeness or coverage and the omission of implied skills and required versus desired skills.

27 Jobs at higher skill levels and those requiring specialized high-level digital skills are more likely to be advertised online than average, while those requiring lower levels of skill are less likely. The analysis here aims to compensate for this by focusing on changes in the incidence of skills needs stated within occupational groups at roughly similar levels of skill, rather than focusing on absolute incidence or bundling all skill levels together. However, it is not out of the question that selection bias could have affected the results, especially for advertised jobs at lower skill levels for which the numbers are much lower than for higher-skilled jobs.

At mid- to lower levels, it appears as an increasing incidence of the requirement for computer literacy or skills in data entry.

The share of job advertisements requiring skills in the use and application of more specialized IT systems has increased. The need for skills in enterprise resource planning (ERP), which has already been noted above, implies a need for skills in ERP systems and indeed many other manufacturing practices are normally implemented in part through IT systems, as are administrative skills such as customer billing, expense reports and accounting. An increasing demand is evident for professional level (ISCO 2) workers with skills in graphic and visual design software, Siemens Teamcenter software and SolidWorks software.

Among advertisements for jobs at professional level (ISCO 2), the analysis shows a growth in the incidence of requirements for skills in robotics and human-machine Interface. The underlying data shows that the requirement for skills in big data increased steeply in 2017.

Core employability skills and work organization

The incidence of key core employability skills in advertisements has increased among many occupations at various skill levels, in particular communication skills. Customer handling, which is intensive in interpersonal skills, has increased in incidence in advertisements for managers, professionals, clerical support workers, and craft and related trades workers. Core behavioural skills, including “orientation to detail”, “positive disposition” and “energetic” appear for a number of occupational levels.

An increased focus on skills in modern forms of work organization and manufacturing practices is also evident. Several of these appear in advertisements for vacancies of managers, including quality management; ERP; quality assurance and control; advanced product quality planning; lean manufacturing; 5S methodology; and *kaizen*. Several of these appear at other occupational levels, while root cause analysis, preventive maintenance, work area maintenance, troubleshooting and direct store delivery also appear at appropriate

occupational levels. Increasing requirements for skills in manufacturing processes can be interpreted as also reflecting modern approaches to manufacturing that involve workers in process management, troubleshooting and process improvement.

Other transferable skills

Some of the skills highlighted by the analysis are among the set of skills termed generic skills, soft skills or core employability skills. Some are specific technical skills. Some skills relate to knowledge of specific manufacturing industries that are significant across the four states considered. Some skills relate to specific administrative roles that are common across most or all businesses, such as accounting or sales and marketing. However, many of the skills highlighted lie in a middle ground between these categories and are relevant across a range of detailed occupations and manufacturing industries. Examples include managerial skills, organizational skills, customer handling, prioritizing tasks and administrative support.

The skills policy literature advocates developing transferable skills that will enable workers whose jobs are at risk to move between industry sectors and occupations. Transferable skills are relevant to the career resilience of workers in the context of the changing future of work. They have a particularly urgent relevance to workers at risk from shocks to employment driven by structural change, including trade-led employment shocks. The transferable skills principally mentioned in the literature are little different to core employability skills. The “middle ground” skills highlighted at each occupational level of the analysis in table 6 can provide insight into a broader range of skills likely to be transferable and in demand where there is a prospect of some recovery in manufacturing employment following a negative employment shock. Providing the skills needed for recovery will not be sufficient by itself to enable a recovery, but it is likely to be an important component of any strategy for recovery.

Apparently reflecting the significance of engineering industries in manufacturing employment growth in these states, the growing requirements for skills related to mechanical

engineering appear across the full range of occupational categories, even for categories such as clerical support in which this would not necessarily be expected. Even among advertisements for jobs in elementary occupations, there is evidence of relative growth in demand for engineering skills, including machine operation and use of micrometers (presumably for inspection of outputs) for which relative demand has grown above the United States average for these occupations. This is consistent with a rise in the base level of technical skills at which a manufacturing worker can usefully be employed. The relative increase in demand for skills related to mechanical engineering across occupational boundaries may also reflect a more collaborative approach in keeping with the trends in work organization discussed.

Coherence with qualitative evidence from developing countries

The areas of shortcomings in business capabilities identified through qualitative research in developing countries shape the demand for skills in those countries but also appear as skill priorities in an industrialized country context in this case study, when viewed in terms of relative increases in skills demand in the four states in this case study. Many of the operations-oriented skills that are in increasing demand, especially at higher skill levels, are oriented towards delivering and improving upon efficiency, effectiveness and compliance with requirements and standards (or quality). There is increasing relative demand for skills in customer handling at the managerial, professional, clerical and craft levels, pointing towards an increase in market orientation, with a particular emphasis on customer relationships. Skills relevant to innovation and product development appear in a number of areas, including proficiency in advanced product quality planning, graphic and visual design software, SolidWorks software, drafting and engineering design, Production Part Approval Process software and schematic diagramming. The need for skills in ERP, scheduling, advanced product quality planning and direct store delivery points towards sourcing and procurement being a priority.



► **Table 6: Skills significantly increased in job manufacturing industry job advertisements in four case study states in the United States between 2011–2013 and 2015–2017**

Rank	Managers - ISCO 1	Rank	Professionals - ISCO 2	Rank	Technicians and Other Associate Professionals – ISCO 3
1	Microsoft Office	1	Microsoft Office	1	Microsoft Office
2	Communication	2	Communication	2	Communication
3	Teamwork / Collaboration	3	Teamwork / Collaboration	3	Physical Abilities
4	Scheduling	4	Problem Solving	4	Preventive Maintenance
5	Key Performance Indicators (KPIs)	5	Orientation to detail	5	Repair
6	Problem Solving	6	Troubleshooting	6	Orientation to detail
7	Organizational Skills	7	Enterprise Resource Planning (ERP)	7	Organizational Skills
8	Planning	8	Organizational Skills	8	Teamwork / Collaboration
9	Enterprise Resource Planning (ERP)	9	Physical Abilities	9	Troubleshooting
10	Budgeting	10	Planning	10	Forklift Operation
11	Physical Abilities	11	Graphic and Visual Design Software	11	Enterprise Resource Planning
12	Orientation to detail	12	Budgeting	12	Work Area Maintenance
13	Quality Management	13	Root Cause Analysis	13	Machinery
14	Customer handling	14	Scheduling	14	Problem Solving
15	Quality Assurance and Control	15	Manufacturing Processes	15	Welding
16	Cost Control	17	Customer handling	18	5S Methodology
17	Occupational Health and Safety	18	Repair	17	Personal Protective Equipment
19	Writing	19	Quality Assurance and Control	23	Shipping
20	Performance Appraisals	20	Advanced Product Quality Planning	28	Shipping and Receiving
26	Business Management	23	Production Part Approval Process	31	Creativity
28	5S Methodology	25	Robotics	32	Shelving
29	Advanced Product Quality Planning	26	SolidWorks	33	Data Entry
32	Manufacturing Processes	30	Automotive Industry Knowledge	34	Store Management
37	Lean Manufacturing	33	Human Machine Interface (HMI)	35	Quality Management
38	Numeracy	38	Schematic Diagrams	36	Drafting and Engineering Design
41	Production Management	40	Siemens TeamCenter	38	Manufacturing Processes
43	Kaizen			39	Schematic Diagrams

Source: Authors' calculations, BGT database.

Notes: Includes skills whose incidence consistently increased among manufacturing industry job advertisements across four states in the United States in which manufacturing employment recovered significantly between 2011 and 2018 following the steep loss of employment in preceding years, analysed by occupational level. Green highlights indicate skills whose increased incidence in job advertisements was significantly above the United States average, consistent across the four states. Microsoft Office, Siemens Teamcenter and SolidWorks are proprietary software tools: Teamcenter is used to manage information about manufactured products throughout their development and production lifecycle; SolidWorks is computer-aided design software. The incidence of a skill in job advertisements is calculated as the share of manufacturing industry job advertisements in the occupational classification in which the skill is mentioned, excluding advertisements in which no specific skills are mentioned. The increase is calculated as the incidence in 2015–2017 minus the incidence in 2011–2013, with the incidence of vacancies being analysed at state level. Three-year averages are used to smooth volatility in data. Ranking is based on a simple mean of the increases in incidence across the four selected states. Thresholds applied to determine whether the increase in incidence of vacancies for a skill is sufficiently consistent across the four states to be included in the Table are that the coefficient of variation should be less than 1, and that there should be advertisements for the skill-occupation combination in all four states in 2017. The analysis is based on a yearly average of 1,132,112 job advertisements for 2011–2013 (1,317,110 for 2015–2017).

Rank	Clerical Support Workers - ISCO 4	Rank	Craft and Related Trades Workers - ISCO 7	Rank	Plant and Machine Operators and Assemblers - ISCO 8	Rank	Elementary Occupations - ISCO 9
1	Microsoft Office	1	Repair	1	Physical Abilities	1	Physical Abilities
2	Communication	2	Physical Abilities	2	Orientation to detail	2	Forklift Operation
3	Sales and marketing skills	3	Troubleshooting	3	Forklift Operation	3	Orientation to detail
4	Enterprise Resource Planning	4	Orientation to detail	4	Work Area Maintenance	4	Work Area Maintenance
5	Accounting	5	Hand Tools	5	Communication	5	Numeracy
6	Multitasking	6	Auto Repair	6	Hand Tools	6	Packaging
7	Cleaning	7	Organizational Skills	7	Numeracy	7	Machinery
8	Writing	8	Problem Solving	8	Organizational Skills	8	Machine Operation
9	Accounts Payable / Receivable	9	Quality Assurance and Control	9	Computer Literacy	9	Materials Transport
10	Organizational Skills	10	Machinery	10	Materials Transport	10	Quality Assurance and Control
11	Customer handling	11	Customer handling	11	Machinery	11	Lifting Ability
12	Self-Starter	12	Power Tools	12	Quality Assurance and Control	12	Scanners
13	Orientation to detail	13	Auto.Services Industry Knowledge	13	Food Safety	13	Personal Protective Equipment
14	Numeracy	14	Ind.Operations Industry Knowledge	14	Post Trip Inspections	14	Hand Tools
15	Knowledge of Retail Industry	15	Microsoft Office	15	Positive Disposition	15	Product Inspection
17	Research	21	Manufacturing Processes	19	Lifting Ability	16	Data Entry
19	Invoice Processing	23	Quality Management	22	Data Entry	19	Plant Safety
21	Invoicing	24	Motor Vehicle Operation	23	English	22	Ind.Equipment Industry Knowledge
22	Payroll Processing	25	Computer Literacy	25	Direct Store Delivery (DSD)	23	Micrometers
23	Prioritizing Tasks	27	Electrical Work	26	Planning	25	Manual Dexterity
24	Expense Reports	28	Machine Operation	29	Manufacturing Processes	26	Administrative Support
25	Energetic	32	Industrial Machinery Maintenance	34	Administrative Support		
29	Key Performance Indicators	33	Wiring	36	Microscope		
30	Spreadsheets	34	Grinders	38	Material Handling Equipment		
35	Personal Protective Equipment	37	Dollies				
38	Machine Operation	39	Painting				
43	Account Reconciliation	42	Electrical Systems				

Aligning the national skill development system with trade and technology

It is important for skills development systems to be aligned with the skills development and business capability needs of trade. These needs overlap considerably with the skills needs arising from technology change and the increasing digitalization of business; developments in the organization of work; and an increasing requirement for compliance with requirements, including both internal requirements and external standards and regulations. The national trade strategies of developing countries and the advice they are given by international organizations through DTIS reports almost always identify skills as important to trade outcomes, and therefore as an important area for action. There is a wider recognition in the policy literature that getting skills right is one of the keys to successful and inclusive participation in trade.

Most of the national skills strategies reviewed implicitly aim to support trade; even where they do not mention trade explicitly, they prioritize competitiveness. At the level of a national strategy, competitiveness is meaningful mainly relative to international competitors, so that skills strategies to enhance competitiveness are implicitly strategies for trade as well.

The review of national strategies for trade has highlighted that their analysis and recommendations are usually high-level in character and seldom have sufficient granular and actionable recommendations to form the basis for effective action on skills. Although national skills strategies address systemic issues that are important to the capacity of skills development systems to respond to the skills needs of employers and workers, whether driven by trade or other factors, they also focus at a high level and make broad conclusions and recommendations designed to improve the system as a whole rather than focusing on sector-level specifics.

Experience from both advanced and developing economies shows that providing the skills needed to enable inclusive trade is more complex than simply making a decision to do so. At the local level, it requires collaboration on skills governance between employers and providers of education

in planning courses and tailoring course content; providing work placements and internships; exposing teachers to current industry practices for initial education and training; providing training and other lifelong learning opportunities for employees; and often the joint provision of quality apprenticeships and traineeships that combine workplace and classroom learning.

At the national level, collaboration on skills governance is needed between ministries and agencies responsible for trade, industry, labour, science, education and training in order to achieve coherence between trade and skills policies, both at the level of published strategy documents and at the level of practical decision-making and implementation. It is important for industry to have a prominent voice at the national level through the formal involvement of representatives of employers and workers, which can for example be achieved through a mechanism such as a national skills council.

Collaboration is also needed at the subnational level, involving ministries of trade, industry, labour, training and education, as well as employers and representatives of workers and providers of education and training important to the sector or region. Some countries that do this well structure such collaboration by industry sector, others structure it by subnational region and others combine the two approaches. It is important for employers to have a strong voice at this level; one practical solution that the ILO often suggests is to convene multistakeholder employer-led sector skills councils.

In practice, most developing countries and some advanced economies have pieces missing from their skills governance systems, whether at the national level, at sector or regional level, or at local level.

Institutional arrangements for skills governance, such as national, sectoral and regional skills councils, need the support services and authority to influence decision-making and policy in order to be effective. They need a secretariat to support their work on researching and analysing skills needs and to help mobilize, monitor and evaluate the implementation of their recommendations. They need access to a technical resource in skills research and analysis in order to identify and anticipate skills needs, which can for example

be provided through a specialist unit under the responsibility of the parent ministry.

Choices on the scope of skills strategies for inclusive trade should be guided by the skills needs of tradable industries and should not be artificially restricted to particular types of training provision. They should focus on initial education and training in both TVET and university contexts, including apprenticeships where this is relevant to strengthening industry's engagement in inclusive trade. They should also focus on education and training for workers in employment, whether in the workplace or offsite and whether provided by the employer or an external training provider. They should include a future-oriented lifelong learning focus, aiming not just to meet immediate technical skills but also to anticipate future skills needs and to strengthen the resilience of firms and their employees in adapting to market and technology change.

Choices on the scope of skills strategies for inclusive trade should also not be restricted to meeting the needs of particular types of business. They should focus on the skills needs of both major domestically controlled exporters

and FDI- and foreign-influenced contract manufacturers. They should also focus on smaller businesses involved in trade, whether exporting directly or operating as suppliers of raw materials or suppliers of services and intermediate products to exporters. They should also aim to ensure that skills development systems can meet the current and future skills needs of firms engaged in import competition in order to help level the playing field with their competitors, while providing a platform to improve productivity and innovate. In so doing, they should ensure that micro, small and medium-sized enterprises (MSMEs) in these sectors and their employees can share access to appropriate skills development opportunities.

Inclusive lifelong access to skills development makes an important contribution to decent employment and social upgrading by facilitating improvements in productivity, business resilience and adaptability that create space in which increased wages and better working conditions can emerge from the operation of a well-functioning labour market, competitive human resource management practices and collective bargaining.

► Conclusions

Trade, changing skills needs and balanced development

As a consequence of the combination of technological change and the effects of trade, the skills demanded are changing constantly. Projections concerning the future of work, such as that put forward by the Global Commission on the Future of Work (ILO 2019), anticipate that this trend will continue and intensify, as much or more in sectors exposed to trade compared to others. Workers in all sectors and at all levels will have to update their skills and respond to changes in the patterns of demand throughout their working lives.

Unequal geographic distribution of high added value activities along value chains is

a key development problem for developing and emerging economies and for regions of industrialized countries that have suffered persistent impacts from employment shocks or have been left behind economically. The production of commodities and the more routine and undifferentiated activities in international value chains creates employment that on average pays higher wages than alternative labour market opportunities and may be of decent quality, but it is seldom comparable in productivity and wages to that of thriving regions in industrialized countries.

High-value production activities, marketing, services for customers, the design and development of products and services and the underlying technologies and infrastructure required to implement all these offer

opportunities to add more value, improve productivity and create more high-quality employment for less developed countries and regions in industrialized countries that have fallen behind. Applying new technologies and business practices to established activities also offers opportunities to add value.

Getting skills right is not by itself sufficient to redress these issues, but it is a necessary part of any viable strategy to do so. The analysis provided in Chapter 2 indicates that priorities should include digital skills, core work skills and making skills development systems more responsive to the skills needs of businesses, workers, students and trainees.

Countries with responsive skills development systems are more successful in putting skills to use in tradable activities. Each country's skills development policies contribute to strengthening and developing its comparative advantage in existing activities and in higher added value activities, nationally or at the level of subnational regions. Skills development systems that are responsive to the current and anticipated future skills needs of their country also help businesses and workers to exploit and respond to technological change, as well as associated changes in business practices and work organization.

Key policy messages

It is important to make skills development systems more responsive to the requirements of inclusive trade and the related demands of technological change. This is an especially high priority for less developed countries, where systems to ensure that skills development responds to the current and anticipated future needs of business are mostly not yet well developed. However, this should be considered a priority even in advanced economies, especially in regions still affected by previous structural shocks to employment.

Governance mechanisms to make skills development systems more responsive and capable of taking actionable measures at a granular level should be established. This should be done at the local level, at the sector or regional level and at the national level and should involve relevant ministries, employers and

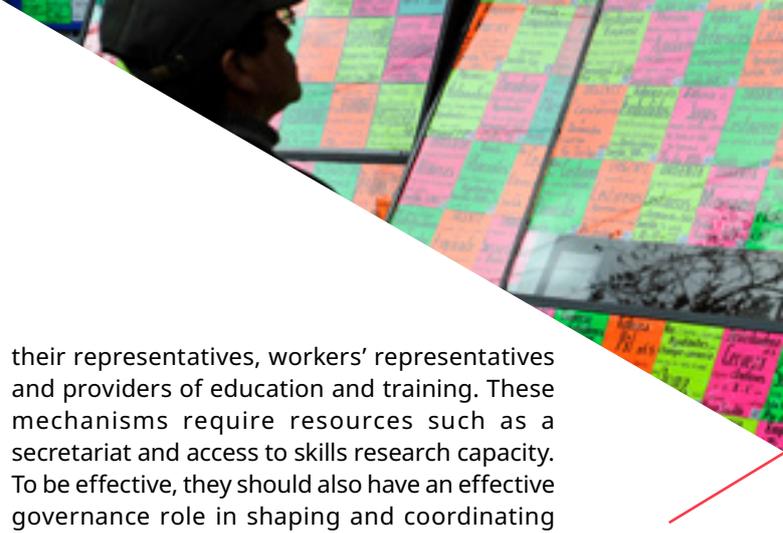
their representatives, workers' representatives and providers of education and training. These mechanisms require resources such as a secretariat and access to skills research capacity. To be effective, they should also have an effective governance role in shaping and coordinating the provision of skills development in initial and continuing education and training at both TVET and university levels and in workplace learning.

National, sectoral and regional policies on skills for inclusive trade should make a special effort to target workers who are at risk of being left behind.

Skills needs are changing rapidly, even in occupations that are nominally low-skilled. The base level of skills that are required for workers to be employable in tradable industries is rising: communications and interpersonal skills, literacy, numeracy and a strong sense of personal responsibility and reliability are increasingly expected as a baseline. There are increasingly demands even for low-skilled workers to have some relatively sophisticated skills. Governments, employers and providers of education and training should make a special effort to provide learning opportunities to the groups that are most at risk of being left behind, including low-skilled workers, employees of MSMEs, women, people with disabilities and migrants. This is especially important for those who are at risk of a structural shock to employment caused by trade or technological change.

National, sectoral and regional policies on skills for inclusive trade should pay special attention to meeting digital skills needs.

Existing skills policies often focus on the upper and lower ends of the digital skills spectrum, that is, on skills for specialized digital occupations such as that of software developer or electronic engineer, as well as basic digital user skills that are useful across the whole population. These continue to be important, but there is an increasingly complex range of digital skills needed at varying levels of sophistication and specialization across most occupations, while the technologies that they develop and apply are important to the competitiveness of tradable industries and the productivity of the wider economy. Understanding and meeting these additional needs should be a priority in strategies for skills and trade and in skills governance systems.



Policies on skills for trade should prioritize core employability skills, skills transferable between occupations, skills for modern forms of work organization and the utilization of available skills. The competitiveness of firms in tradable sectors depends on their productivity and compliance with customer requirements. Productivity improvement and compliance are built on a combination of modern forms of work organization and digital technologies. Modern forms of work organization rely on core employability skills such as communication, problem-solving, teamwork skills and personal responsibility throughout the workforce; they are almost always identified as a high priority for employers in skills research, wherever it is conducted globally. Modern forms of work organization also require specialized skills and strong people management skills for a wide

range of managerial, professional and associate professional jobs. There is scope for initiatives to improve the utilization of skills through firm-level changes to work organization, job design and people management practices, as well as through a closer focus on education and providing training on building the skills that employers seek.

Where jobs are exposed to a risk of an employment shock driven by trade and technological change, as is often the case in tradable sectors, it is important for skills policies to prioritize the development of skills that are transferable between occupations and industry sectors. This includes core employability skills and a range of digital and organizational skills that are increasingly relevant across multiple occupations in multiple economic sectors.

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▶ Chapter 3



The contribution of employment-intensive investment programmes to structural economic transformation for peace and resilience

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► Overview

This chapter addresses the potential of employment-intensive investment programmes (EIIPs) for responding to the adverse effects of global economic transformation by creating employment directly for those who are unable to access employment through the labour market and by promoting employment-oriented investment strategies. It considers the design and impact of EIIPs and the role they can play where employment opportunities are constrained, or where jobs and social protection for the underemployed and unemployed is limited. These approaches include sectoral policies, encouraging labour intensification in the construction sectors and active labour market policies, and are focused on the direct creation of employment by the state to provide a form of income replacement. The

chapter draws on the ILO's long experience of employment creation programmes and the role they can play in meeting the Organization's social protection objectives and those of the SDGs. It outlines the many benefits that such programmes can deliver and their transformational potential for meeting current developmental challenges, including in response to the COVID-19 pandemic and "building back better". As a contribution to the debate on "full employment" and the "universal labour guarantee" envisaged by the Global Commission for the Future of Work, the chapter also identifies and analyses the risks and opportunity costs of such programmes and the mixed results that they have had in delivering these potential outcomes.

► Introduction

Despite the positive employment and income aspects of structural economic transformation outlined in this report, the structure of an increasingly globalized economic system is driving a concentration of wealth and rendering many millions of workers either surplus to the requirements of the labour market because they are unable to compete with workers in other countries, or else engaged in the labour market on terms that leave them unable to earn a decent living wage and trapped in poverty. Globally, job creation has not been able to keep up with the growth of the international labour supply, while many of the new jobs that have been created do not conform to decent work standards, resulting in persistent or even deteriorating levels of working age poverty. The resulting poverty and inequality have exacerbated social and political instability and are contributing to volatility in fragile and conflict-affected contexts, while the overall situation is further exacerbated by climate change since environmental degradation undermines livelihoods and contributes to social unrest, migration and conflict. To which must be added the massive socio-economic

impacts of the ongoing COVID-19 pandemic. Extended lockdowns and confinement have severely impacted many workers and their jobs, while the pandemic has highlighted the levels of inequality that exist when it comes to the luxury of teleworking or access to personal protective equipment, basic services and water.

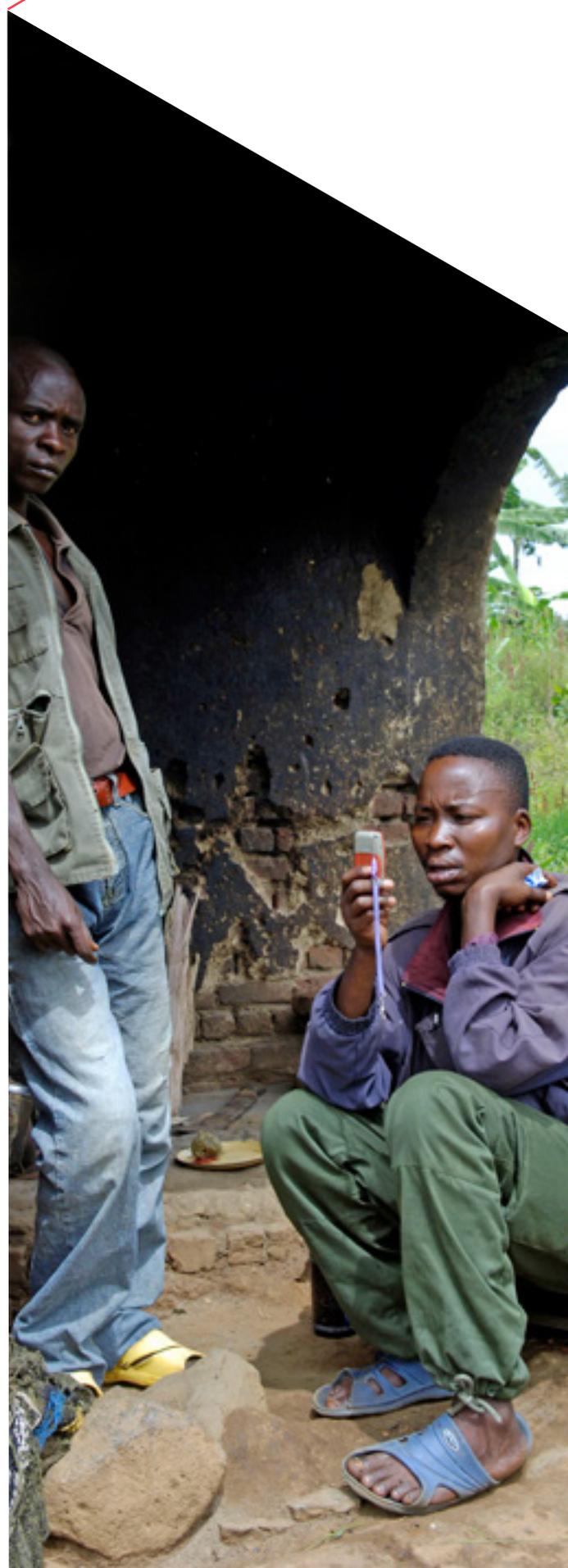
In this context, in response to the shortage of market-based employment opportunities or crises that call for state intervention, employment-intensive investments can either mobilize public and private infrastructure spending to increase aggregate demand by increasing the labour intensity of investments, or they can establish programmes that create employment directly in the form of public employment programmes (PEPs). This EIIP approach builds on a century of ILO experience and ILO-supported programming innovations from around the world. It has the potential to contribute to positive economic, labour market and climate change outcomes in response to the adverse effects of transformation.

Before looking at the potential role of EIIPs and their contributions to peace and resilience,

it may be useful to contextualize the discussion by considering the global labour challenges that we currently face. As well as structural changes in the nature of the global economy and the rise of precarious work – characterized by low remuneration, poor working conditions and uncertain employment duration – established livelihoods are also being undermined by protracted conflicts as well as pervasive and accelerating climate change and environmental degradation. This context may be characterized as one of rising inequality, vulnerability, fragility, violence and climate change-induced hardship.

Prior to the COVID-19 pandemic, more than 2 billion people were already living in fragile and conflict-affected situations, including more than 400 million young people aged 15–29 (ILO 2019a). Many countries are experiencing climate-related disasters, which in the first half of 2019 alone forced 7 million people to flee their homes in Asia and Africa (*Down to Earth* 2019). Poverty is increasingly concentrated in environmentally fragile and conflict-affected contexts (ILO 2019a) and more countries are currently experiencing violent conflict than at any time in the last three decades, with more than 40 active conflicts in the world. Worldwide, 70 million people were displaced as of mid-2019 (UNHCR 2019) and it was estimated that more than 22 million people would be added to that total by the end of 2019 (*Down to Earth* 2019). As a result of the economic crisis created by the COVID-19 pandemic, almost 1.6 billion informal economy workers (the most vulnerable workers in the labour market), out of a worldwide total of 2 billion workers and a global workforce of 3.3 billion workers, have suffered massive damage to their capacity to earn a living (ILO 2020a).

These crises – economic, environmental and/or conflict-related factors – are exacerbating the negative effects of changes in the structure of the global economy, which is driving profound shifts in capital and labour supply and demand and elevated levels of structural unemployment and underemployment, particularly in lower income countries. The current situation may be described as a chronic labour crisis. Underemployment and unemployment remain critical challenges to the reduction of poverty and inequality and the promotion of social, economic and political stability. Despite recent downward trends in global unemployment and working poverty rates



overall, an estimated 172 million people were unemployed globally prior to COVID-19 and more than one quarter of workers in low- and middle-income countries were living in extreme or moderate poverty, while a staggering 700 million workers globally live in poverty despite having employment (ILO 2019b). In low-income countries, the absolute number of unemployed people is projected to increase by 1 million each year because labour force growth is outstripping employment growth, while the absolute number of working poor is also projected to increase (ILO 2019b). However, the pandemic has further

aggravated this situation, creating double casualties.²⁸ An estimated 400 million full-time jobs have been affected overall,²⁹ while 178 million young people employed globally (4 in every 10 young persons) (ILO 2020b) have also been affected.

In this context, it is relevant to look critically at the ILO's long experience with employment creation in order to assess the potential of such approaches for providing a significant response to these negative aspects of the current economic transformation.

► How do employment-intensive investments contribute to social justice?

The ILO has played a key role over the last century in both the analysis of labour market problems and the design of responses. Since the 1970s, it has taken the lead among international agencies in the use of appropriate technologies to promote the labour intensification of PIPS and PEPs. For the last 50 years, the ILO has played a leading role in the technical debate around the efficient design and implementation of such programmes, advocating the adoption of labour-based approaches to stimulate inclusive growth and reduce unemployment and supporting the use of PEPs to promote income security. It has highlighted the potential role of PEPs, not only as large-scale crisis response instruments but also as long-term development instruments (Lal et al. 2010) and as a way to realize the basic income guarantees that form part of the package of universal social protection anticipated in the Social Protection Floors Recommendation, 2012 (No. 202) and to contribute to universal social protection. Many of these programmes are the only way for informal unprotected workers to receive some form of social assistance and have thereby extended their social protection.

Over the years, the ILO has promoted initiatives that increase aggregate employment by increasing the labour intensity of government expenditure and intentionally limiting the use of equipment in programmes that are sometimes referred to as PIPs (see box 2). In this way, infrastructure investment is used to address poverty and inequality. Through PIPs, ILO has supported the construction of infrastructure-related works that use labour-based approaches in building and maintaining assets related to transportation such as roads, bridges and trails; productive assets such as irrigation, water supply and soil conservation schemes; and climate resilience assets such as flood control and forestry schemes. It has worked across different sectors, including agriculture, environment and transport, to increase aggregate demand by optimizing the balance between labour and equipment and increasing the labour-intensity of activities in these areas, especially through asset maintenance. This approach prioritizes the use of labour, while at the same time taking into consideration the appropriate mix of labour and equipment required to ensure the quality and

²⁸ See ILO, "Coping with Double Casualties: How to Support the Working Poor in Low-Income Countries in Response to COVID-19", *DEVINVEST Brief*, 16 April 2020.

²⁹ See ILO, *ILO Monitor: COVID-19 and the World of Work, Fifth Edition: Updated Estimates and Analysis*, 30 June 2020.

cost-effectiveness of the assets produced. This labour-based PIP approach is a key part of ILO's unique experience and expertise and is one of the two dimensions of the ILO's employment intensive investment programming, alongside PEPs (see below and box 2). Providing support to identify the optimal balance of labour and machines in order to secure employment creation alongside cost-effectiveness and quality assurance has been the hallmark of the ILO throughout its history; PIPs comprise the majority of current and pipeline project portfolios, reflecting ongoing demand by Member States. The ILO continues to advocate these approaches, which have the potential to provide increased employment while effectively addressing infrastructure demands that are critical to essential livelihood improvements.

The EIIP team has developed a methodology for identifying sector viability, known as "employment impact assessments (EmpIA)" (ILO 2020c), which allow national stakeholders to assess which sector has the potential for creating the highest number of jobs in that sector. These assessments involve an appraisal of the employment impact of adopting techniques that can simultaneously promote productivity and enhance the quality of outputs, while also identifying the administrative approaches required to support the generalization of such approaches, such as labour clauses in public procurement, as outlined in the Labour Clauses (Public Contracts) Convention, 1949 (No. 94).

► Box 2: PEPs and PIPs: Definitions

PEPs

Public employment programmes (PEPs) entail the creation of additional employment through specialized tax or donor-funded programmes with a high labour content, typically but not exclusively by creating or maintaining physical assets. They seek to optimize the employment content of public expenditures in sectors that are amenable to PIPs. They have the primary objective of creating state-sponsored employment for the working-age poor who are unable to support themselves due to the inadequacy of market-based employment opportunities. PEPs enable governments to respond quickly to political, economic or environmental shocks. They can vary from temporary employment programmes to more permanent employment guarantee schemes and they contribute to social protection by enhancing income security.

PEPs create additional employment, which produces assets or services that create public value and contribute to the public good, but they are outside the normal public service sector. They differ from other forms of public expenditure that create jobs inasmuch as employment creation is their primary purpose. PEPs can take many forms but share the common characteristic of augmenting rather than displacing existing delivery mechanisms for public works or the provision of public services.

PIPs

Public infrastructure programmes (PIPs), in contrast to PEPs, have as their primary objective the delivery of a public asset or service. Although such investment has long been recognized as a source of employment, this can be enhanced by the use of labour-intensive approaches. PIPs aim to promote the labour intensity of state investment and to increase the number of jobs created through sectoral investment programmes (such as in agriculture, care work, social development, environment and transport) when the market demand for labour is insufficient.

The second dimension of employment-intensive investment programming is PEPs (Lieuw-Kie-Song et al. 2010). The term PEP was first adopted by the ILO in the early 2010s to describe a range of interventions, mainly publicly financed, which create “state-sponsored employment for the working-age poor who are unable to support themselves due to the inadequacy of market-based employment opportunities” (McCord 2012) as a form of safety net or social protection provision. PEPs are interventions implemented by governments to create employment directly, as a way to meet their responsibility to ensure that workers have access to adequate income when markets are unable to deliver sufficient employment or income, in line with ILO Recommendation No. 202, SDG target 1.3 and the universal labour guarantee (Global Commission for the Future of Work 2019). PEPs may offer short-term employment in response to temporary labour market disruptions linked to political, economic or environmental shocks, or they may offer longer-term employment as one component of social protection provision in contexts of chronic or cyclical unemployment. PEPs often combine the primary objective of reducing poverty with the secondary goal of the production of an asset or service; they sometimes also include a range of additional objectives, which will be explored in this chapter. They are often implemented alongside complementary interventions in order to achieve this extended set of objectives (ILO 2012).

PEPs and PIPs share a common identity in their objective of increasing employment, either by creating additional non-market based jobs directly (PEP) or by increasing the number of jobs created per unit of spending by promoting the labour intensity of government expenditure (PIPs), thereby optimizing the employment content of public spending. They have been implemented through a range of different modalities, using a variety of institutional and administrative structures and supported by a range of national and international actors. All these programmes work through four main vectors: (1) the wage; (2) work experience and skills development; (3) asset/service creation; and (4) strengthening local institutions. Vectors (1) and (2) function at the level of the individual, while vectors (3) and (4) function at the level of the household, community

or wider economy, while also indirectly benefiting the individual. While the wage vector serves to ensure income and, in the case of PEPs, to potentially provide a form of social protection, the skills and experience vector has the potential to promote labour supply characteristics that may improve labour market performance, depending on the nature of labour demand.

Over many decades, the ILO has played a key role in balancing the trade-offs between increasing labour intensity, economic efficiency and the quality of outputs. This is a key area, in which the choice of appropriate technology for optimizing economic, social and environmental outcomes is critical (ILO 2018a). The fact that employment-intensive investment approaches usually also entail the strengthening of local institutions and the use of local materials and resources in order to promote both sustainability and quality means that such programmes may also contribute to additional economic, social and environmental impacts that may ultimately build more stable and resilient societies. Over the last century, the ILO has promoted EIIPs as countercyclical demand stimulus mechanisms, highlighting their potential to bring macroeconomic as well as social and environmental benefits if implemented on a large scale, with the wage and assets created stimulating demand, consumption and production and resulting in local, regional and even national economic benefits (ILO 2020d).

The question now in 2020 is: What potential do such schemes have and how are they relevant in responding to the developmental challenges of the current economic transformation, as well as the socio-economic impacts of a crisis such as the COVID-19 pandemic? This chapter argues that EIIPs can play a significant role in addressing current global employment challenges and may also contribute to peacebuilding and disaster risk resilience, making them an instrument of significant current relevance. It focuses on the role of PEPs, which have the potential to provide income security for the working-age poor who are excluded from the benefits of economic growth.

Although there has been significant innovation and experimentation around these programmes in recent decades, including much progressive thinking led by the ILO, they remain subject to significant conceptual design and implementation challenges, particularly in less developed and

fragile contexts where public institutions may be weak or weakened and where there is very little fiscal space. This chapter sets out some of the strategic questions that must be considered if

employment-intensive PEPs are to be selected as one of the major instruments for addressing the fundamental challenges of development in the twenty-first century.

► PEPs as contributors to full employment and a universal labour guarantee

PEPs can play a key role in realizing the social contract between the state and its citizens in terms of ensuring adequate income, inasmuch as they entail the creation of state-sponsored employment in recognition of market failure to compensate for the inability of labour markets to absorb sufficient labour at adequate wage rates (ILO 2020d). PEPs can be used to provide an employment guarantee, under which the government takes the role of employer of last resort if alternative employment is not available, as in the case of the ILO-supported *Jefes* programme implemented in Argentina following the economic crisis in 2001–2002 (Mourello and Escudero 2016). In this way, PEPs can contribute to the realization of the universal labour guarantee envisaged by the Global Commission for the Future of Work.³⁰ Past crises have shown that, although households and private sector companies tend to be reluctant to invest while the economic future is uncertain, investing in infrastructure can be among the first set of measures to kick-start economies because governments can directly stimulate demand and job creation.

In providing an “employment guarantee”, governments are attempting to realize the rights-based approach to employment set out in Convention No. 122. This approach also contributes to the income provision of universal social protection (ILO Recommendation No. 202), because PEPs are also one of the main instruments envisaged to deliver basic income security for the working-age poor who are unable to earn sufficient income as part of the social

protection floor. Similarly, PEPs also have the potential to play a key role in the realization of SDG target 1.3, providing one component of the social protection provision that has been identified as the primary mechanism for addressing poverty directly, pending longer-term economic growth and redistribution interventions. PEPs may also have a role to play in relation to the achievement of the SDGs more broadly inasmuch as the attainment of many of them requires significant investment in infrastructure. Underinvestment in infrastructure related to the 2030 Agenda for Sustainable Development was already estimated at US\$ 6.9 trillion per annum (OECD 2017). Recovery packages can help to fill this gap. Where individual countries lack funds, debt relief and restructuring can provide support. One response to these demands would be to establish large-scale PEPs that adopt employment-intensive work methods, supporting sectoral agencies with responsibilities and technical capacity for delivery.

There are fundamental challenges, however, in realizing the extended PEP provision required to provide an employment guarantee in the form of the administrative, technical and financial inputs necessary to create the mass scale of employment that a universal guarantee would require; few programmes globally are able to provide employment guarantees on a universal basis. Most programmes – whether partially funded by multilaterals or nationally funded – are implemented on a limited scale and do not function on a national basis, with the result that they provide employment for only a limited

30 The Global Commission on the Future of Work, in its report *Work for a Brighter Future* (Global Commission for the Future of Work 2019), made the following recommendation: “We call for a Universal Labour Guarantee including fundamental workers’ rights, an ‘adequate living wage’, limits on hours of work and ensuring safe and healthy workplaces.”



proportion of those seeking it. This results in the strict rationing of access, which undermines the ability of such programmes to satisfy a rights-based employment guarantee or provide a universal social protection floor as part of the social contract. Attempts to extend coverage in PEPs that are intended to provide short-term relief and income security have in many cases resulted in trade-offs in both employment quality (in terms of the wage level, extent of skills development, duration of employment, etc.) and the quality of assets created, particularly where capital allocations are capped in order to ensure labour intensity. The experience of most PEPs in Asia and Africa is that they tend to provide employment which is of too short duration, of poor quality and without significant skills upgrading and that results in poor-quality assets with limited sustainability. This is primarily due to poor design, lack of technical supervision and budget caps intended to promote labour intensity that provide inadequate funding for materials and equipment. This may be compared adversely to the performance of PIPs, which generally provide better employment conditions (see box 3) and a much higher quality of work, as a result of in-built quality assurance systems, higher technical inputs during design and work implementation, sound technical standards and a maintenance regime to sustain the effects of investments. Employment conditions are usually better since all jobs in PIPs are subject to mainstream regulations, unlike PEP employment.

Increasing the labour-intensity of activities in PEPs and increasing the number of people employed in order to extend the scale of operation without adequate consideration of the quality of the jobs or the assets being created can have a detrimental outcome and undermine sustainability. The limited availability of administrative, technical and managerial capacity to design and execute PEPs is also a significant challenge that can undermine the quality and value of the assets and services provided. The future growth of PEP activity will require the adoption by governments of minimum standards to ensure that legal obligations relating to adequate social and labour protection are embedded in PEPs, including:

- ▶ regulation of the hours of work;
- ▶ payment of an adequate living wage;
- ▶ protection of workers against sickness, disease and injury arising from employment;

- ▶ protection of children, young persons and women;
- ▶ provision for old age and injury;
- ▶ protection of workers when employed in countries other than their own;
- ▶ recognition of the principle of equal remuneration for work of equal value; and
- ▶ recognition of the principle of freedom of association.

These elements could be incorporated into PEPs; if implemented on a sufficiently large scale, PEPs would have the potential to promote the social contract by setting the standards for decent work through adequate wages, conditions of work and labour practices, while also improving wider labour market conditions, raising the wage floor for casual labourers and promoting wage equalization across the workforce (ILO 2013a).

Yet it should be recognized that in order to achieve decent work standards such as decent wage rates and terms of employment, the management, administrative and financial capacity constraints that adversely affect the performance of many PEPs should be identified and properly addressed. There is also a need to reconcile conceptual design challenges and tensions. For example, for a PEP to function effectively as a component of the social protection floor the design needs to incorporate a “minimum living wage”. However, if the PEP wage is set above

the prevailing wage in any given sector, workers may prefer to leave their regular jobs to join the PEP, causing a misalignment with the “employer of last resort” objective. On the other hand, this can enhance workers’ bargaining power for the benefit of women and formerly disadvantaged social and ethnic groups, as documented in India as a consequence of the implementation of the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGA), which since 2005 has attempted to provide 100 days of guaranteed employment to all rural households who seek work; this may ultimately lead to an increase in the prevailing wage in the agricultural sector and a reduction in gender wage discrepancies, rather than creating a displacement effect.

Other recent innovations to expand the scale of employment created have entailed a widening of the sectors in which PEP employment is created, extending beyond traditional physical infrastructure to social service delivery and health care work; the provision of community services; agriculture; and the environmental sector, addressing the challenges of climate change adaptation and environmental rehabilitation. Collaboration across diverse government departments and with social partners has enabled additional employment to be developed through multisectoral PEPs. This approach can combine employment-intensive investment approaches with the mobilization of PEP workers to perform a range of community, social and environmental services that then bring additional economic, social and environmental benefits.

▶ PEPs: Increasing investment in people’s capabilities

PEPs can have a range of direct and indirect outcomes that enhance the capabilities of participants and their households and are achieved through skills development, labour force participation and social protection provisions, as well as broader political, social and economic benefits.

Many PEPs include training components designed to increase vocational and technical

skills as well as soft (job search and/or life skills) to promote employability. Many also encourage new entrants into the labour force by providing secure work near home, promoting labour market participation by groups who may previously have been excluded from access as a result of distance or social convention based on their identity (such as young people, women, indigenous and tribal populations or disabled persons).

► **Box 3: Nepal: Road maintenance as a vehicle for social inclusion and decent work for women**

The Government of Nepal has established a large infrastructure programme, the Strengthening the National Rural Transport Programme (SNRTP), with financial assistance from the World Bank and the Government and technical support from the ILO. The Government has adopted a series of policies, legal amendments and practical measures to promote gender equality, including a quota for women in the Constitution of 2015. The SNRTP supports these government efforts at a practical level in the road maintenance sector by various means. In terms of promoting women in technical and administrative roles (as opposed to only in low-skilled manual labour), the programme has managed to ensure that 20 per cent of the programme's engineers and 100 per cent of its administrative and finance staff are women.

- For road maintenance workers, the programme helped to develop the technical road maintenance and masonry skills of women, including women from different socio-economic categories, and promoted them to become road maintenance group (RMG) members. For example, 184 or 4 per cent of RMG members are single women, while 41 roads with a total length of 817 km are being maintained exclusively by women RMG members and 70 per cent of the total of 2,879 RMG members employed by the programme are women.
- The programme has achieved full pay equity and provides equal payments to women and men at a rate of 14,092 Nepalese rupees (US\$ 123) per month, which exceeds the national average wage rate of 13,450 Nepalese rupees (US\$ 118) per month.
- The programme has also helped to develop women's negotiation skills and has empowered many to take on new roles. Thanks to confidence-building and skill enhancement in different areas, such as road maintenance and masonry, first aid and savings and credit, a few RMG members were elected in local-level elections to become members of village development committees and wards, despite their initially disadvantaged situation.

PEPs have in recent years addressed the issue of women's participation, which has sometimes been limited by biases with respect to the types of work suitable for women and a lack of consideration for their physical security at worksites. Recently, many PEPs have demonstrated the capacity of women to take on key roles as supervisors as well as construction workers, contributing to overall gender empowerment (ILO 2019c). Good PEP design can also ensure that provisions for addressing maternity protection, pay inequities and harassment and violence at worksites are addressed. As well as ensuring that PEP employment is gender-sensitive, the outputs in terms of the assets created should also be gender-responsive in their response to a gender-based analysis of needs, contributing positively across the wider community through the infrastructure or services created (World Bank 2015).

PEPs can have an important social protection function if they can provide short-term income during temporary crises or ongoing income on a regular basis for the working-age population in response to labour market disruptions or seasonal income shortages. Receipt of a regular PEP income can enable participants to smooth consumption and avoid drawing down on their assets when income-earning opportunities are scarce. It has also been found to improve consumption of food and basic goods, as well as health and education service utilization, and has contributed in some cases to increased job search activity and livelihood diversification.

The introduction of digital payment modalities has improved the regularity and reliability of payments, reduced corruption and leakages and also reduced the physical safety and access challenges associated with cash-based payments,

while reducing the financial and temporal opportunity costs of accessing payments. In addition, for workers with limited literacy and

numeracy, biometric payments can facilitate secure payment modalities that allow the extension of payments into rural areas.

► **Box 4: Use of biometrics and digital attendance to address leakages**

Corruption and leakages are major challenges in the field of construction, which have recently been addressed through innovations in the use of biometric and digital technologies in PEP implementation. Biometric payment systems and digital attendance reporting were introduced in the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) scheme as of 2010, enabling digital cards and payment systems to be used to make payments directly to workers themselves, rather than through a contractor.

Geographic information systems were introduced to track project implementation and as of 2013 pilots were introduced to link the PEP payment system to the Aadhaar national unique ID system in order to ensure reliable payments through biometric-based time attendance systems and to reduce false claims and registrations. Despite some outstanding challenges concerning the link to the Aadhaar system, with the introduction of the Aadhaar card most MGNREGA workers have also opened a bank account.

Source: Bharat Bhatti, "Aadhaar-Enabled Payments for NREGA Workers", *Economic and Political Weekly*, Vol. 47, No. 49 (2012):16–19.

Digital technologies have also increased the potential for workers to be paid using identity cards and bank or mobile payments. The main benefits of biometric and digital systems are that they:

- offer and automate an identity to informal workers;
- do not require literacy;
- eliminate false claims and registrations;
- provide accurate attendance recording; and
- mitigate payment fraud.

However, it is important to note that alongside these benefits there can also be significant disadvantages associated with these payment systems in practice, relating to exclusions and lack of timeliness, which have not yet been adequately resolved (see Dreze et al. 2017).

Achieving this range of direct and indirect outcomes – incorporating social protection provision, labour participation, improved employment performance as a result of workplace experience and training, and improvement in terms of employment – is not assured when PEPs are implemented, however, and is contingent

on a number of factors which, if not met, may compromise their performance.

Improvement in employment outcomes as a result of investment in supply-side factors is predicated on the successful transfer of appropriate and relevant skills that are in demand in the local labour market. This can be assisted by support from public employment services in order to ensure skills matching and the provision of a set of complementary interventions, such as access to credit or adequate national certification. Active labour market policies may have a supporting role but are often geared primarily to formal employment.

In many instances, either the quality or relevance of the training or the lack of market demand undermine these anticipated positive labour market outcomes. At the same time, national skills certification should appropriately reflect the qualifications of labour-based approaches and offer portability so that individuals can transition into more formal jobs, while employment services should identify transitioning opportunities. Portability is especially important when workers are refugees or migrant workers who are working along with host communities but may one day return to their country of origin.



If implemented on a large and sustained scale, PEPs also have the potential to stimulate local economic development by promoting demand and regularly injecting cash into the local market, as illustrated by the experience of the MGNREGA scheme in India, and the *Jefes* programme in Argentina (see for example Dhawan and Kumar 2017; and Kostzer 2008). Similarly, provision of large-scale PEPs is required if programmes are to improve conditions in the wider labour market; they will only provide effective social protection as part of a national floor if employment is available upon demand and for as long as necessary in order to provide the stability and assurance required. The scale of implementation is therefore a key consideration in achieving the wider set of objectives that are often associated with PEPs in terms of indirect impacts on local economic development, labour practices and conditions

of work, and the meaningful extension of social protection.

Therefore, in addition to their basic economic and social protection functions offered through employment creation, PEPs can also have a series of other indirect but significant social impacts, including by creating a wage floor; setting the standards for decent work by introducing good labour practices and conditions of work; increasing representation by involving beneficiaries in collective plans and projects; reducing the exploitation of unprotected workers in the informal labour market; offering alternatives to rural urban labour migration; providing linkages to other interventions such as in the areas of education, health or vocational training; and building a new social contract between the state and the poor.

► PEPs and the promotion of resilience through the provision of sustainable assets

PEPs have the potential to achieve more than just employment, social protection-related benefits and the promotion of livelihoods. They also have the potential to improve resilience in the context of significant environmental challenges through the assets and services that they provide. The sustainable livelihoods and local economic development benefits that the provision of infrastructure and sustainable assets can promote may also increase household and community resilience in response to chronic environmental and climate change-related threats, mitigating the impacts of shocks such as flooding, water shortages or wildfires. The key challenge here is to identify the assets that have the potential to safeguard communities and correctly specify and construct them using adequate engineering standards.

Successfully creating sustainable assets requires significant technical and managerial inputs, as well as meaningful community and local government engagement to ensure that assets are fully integrated into local environmental and infrastructure development plans in order

to promote the ownership necessary to ensure sustainability of impacts. Unfortunately, there can be tensions between the objectives of quality asset production and employment targets and the associated trade-offs may hinder positive resilience impacts. The scarcity of technical and managerial skills at the point of construction often forms a barrier to the creation of quality assets that can contribute meaningfully to resilience, as does the short-term nature of many PEPs. In some countries, inadequate funding for materials in labour-intensive programmes due to capped capital budgets further exacerbates this challenge, resulting in inadequate resourcing of engineering inputs and substandard construction outcomes, often because of the use of inappropriate technologies, which can render them less effective than PIPs that are implemented by governments and specialized technical agencies. In addition, the focus of some short-term PEPs – such as cash-for-work interventions implemented during humanitarian operations – on the provision of immediate cash incomes may result in limited longer-term

resilience outcomes because inadequate attention has been paid to the construction of sustainable quality assets that address environmental risks (ILO 2019d).

EIIPs have supported innovations in programme design to address the technical constraints that

are key inhibitors of quality asset production. The “barefoot technician” initiative within the MGNREGA scheme offers an example of an ILO-supported approach to compensating for local skills deficits.

► **Box 5: India’s barefoot technicians**

The “barefoot technician” initiative is a successful example of addressing the asset quality challenges that arise from capacity constraints at the local level. It had been noted in the MGNREGA scheme in India that local-level skills deficits were adversely affecting the quality of assets created under the programme, partly due to inadequate numbers of qualified engineers because of high levels of emigration among that group of professionals. To address this challenge, the ILO provided support to the Ministry of Rural Development to develop training material for “barefoot technicians” to support the quality of the infrastructure created through the MGNREGA scheme, as well as for contractors and field engineers working under the Pradhan Mantri Gram Sadak Yojana programme, a PIP that is part of a poverty reduction strategy to connect the unconnected.

ILO advice on the selection of appropriate technologies can also play a role in ensuring that labour-intensive approaches are correctly specified to ensure both the quality and cost-effectiveness of asset production, based on a body of research that goes back many decades.

As with some other large-scale nationally funded PEPs, the MGNREGA scheme has also been successful in linking PEPs to national environmental and water management initiatives. This approach ensures that the assets created form part of a wider strategic intervention, rather than being selected on an ad hoc basis that takes only local rather than broader regional or state-level natural resource management into account. Linking PEP asset selection into strategic government processes in this way enables a programme to contribute to broader government objectives and may increase incentives for successful implementation. This level of intragovernmental integration is currently unusual, however, even in large PEPs, and is an area where the ILO is promoting increased engagement. Other programmes that are contributing to environmental objectives are the Ethiopian productive safety net programme and the South African expanded public works programme.

Eco-based PEP approaches to adaptation and disaster risk resilience have the potential to

offer long-term and sustainable responses that ensure the protection of biodiversity and natural resource regeneration and the promotion of climate resilient outcomes. The achievement of biodiversity outcomes from this type of approach, which are known as “nature-based solutions”, requires time (such as for the growth of mangroves and forests) and such programmes have the potential to create significant numbers of jobs. Nature-based solutions with an employment-intensive focus may provide a sustainable approach to addressing ecosystem challenges. Although the medium-term planning time frame that they require may not currently be consistent with the programming or budgeting cycles of many of the development partners that finance PEPs, they have significant potential for creating job opportunities if properly designed. The ILO is promoting engagement with the idea of incorporating such interventions into PEPs since they have the potential to create multiple long-term wins and a sustainable approach to large-scale employment creation.

In addition to addressing environmental resilience, PEPs also have the potential to promote the social aspects of resilience. This can be achieved by providing employment that addresses issues such as exclusion, violence and crime. The community works programme in South Africa, for example, uses PEP employees to provide services for otherwise excluded groups in the form of early childhood care facilities and

health services support for the sick and disabled; security for women and travellers such as by clearing grassy areas to provide safe pathways; and employment for delinquent youth in crime hot spots as an alternative to violent crime. Through such design innovations, PEPs have the potential to address some of the factors exacerbating social instability and poverty.

► PEPs as an instrument for peacebuilding

It is well known that fragility, unemployment and decent work deficits can be triggers for conflict. Protracted conflicts can halt and even reverse economic growth and development gains. As a result, poverty accumulates in fragile settings. The critical role of employment creation for the promotion of stability was highlighted in the United Nations Policy for Post-Conflict Employment Creation, Income Generation and Reintegration (United Nations 2009) and the *World Development Report 2011* (World Bank 2011). The policy emphasizes the role of unemployment as a major driver of social, political and economic instability, given that the unemployment-driven reduction of domestic demand contributes to the retardation of macroeconomic growth. There is also a need to address the issue of “adverse incorporation” into the labour market, such as through informal survivalist microenterprise activities that can also exacerbate instability (Holmes et al. 2013).

The most recent reports of the World Bank suggest that by 2030, two thirds of extreme poverty globally will be concentrated in fragile settings; following the emergence of the COVID-10 crisis, it is estimated that an additional 10 million people in fragile and conflict-affected settings will be pushed into extreme poverty in 2020.³¹ The World Bank Group Strategy for Fragility, Conflict and Violence 2020–2025 highlights that “Job creation is among the most pressing challenges

in FCV ... and improvements in earnings can contribute to peacebuilding through their impact on social cohesion and dignity”.³²

PEPs may play a role in fragile contexts, which are most often characterized by a weak state with limited organizational and institutional capacity, limited fiscal resources or a heavy dependence on donor funding, along with a high degree of social instability, experiencing protracted crisis or the challenges associated with post-conflict reconstruction. However, in such contexts, more coordinated donor funding, more efficient use of public sector investments and better coordination with the private sector may address some of the structural challenges that countries face when addressing the lack of fiscal space. The Ethiopian productive safety net programme is one such programme that was built out of coordinated donor funds in response to a multidonor-financed response to a food crises.

PEPs may be used as a mechanism for contributing to stabilization and peace-building by providing income, skills development and assets as well as a local demand stimulus. Here the challenge is how to balance short-term priorities, which may include demobilization, reintegration and basic social protection provision, with longer-term goals such as promoting reconstruction and recovery by reconstructing key assets and strengthening local institutions. In the reintegration phase, one

³¹ Franck Bousquet, “How is the World Bank Tackling COVID-19 in Fragile and Conflict-Affected Settings?”, *World Bank Blogs*, 28 May 2019.

³² World Bank, *World Bank Group Strategy for Fragility, Conflict and Violence 2020–2025* (2019), para. 121.

key solution for breaking this cycle is to provide ex-combatants and affected populations with decent employment and appropriate skilling opportunities to uproot themselves from the conflict. Efforts can then focus on reconstruction and recovery and on strengthening local institutions for the development of an inclusive economy that will have positive multipliers. The ILO supports governments in addressing some of the root causes of conflict through economic, social and environmental transformative actions based on jobs, inclusivity and productivity. This includes actions promoting the reintegration of children associated with armed forces and groups, eliminating unacceptable forms of child exploitation and preventing child recruitment.

The role of the ILO in such contexts is set out in the Employment and Decent Work for Peace and Resilience Recommendation, 2017 (No. 205), which provides a normative framework for engagement in contemporary crisis situations arising from both conflicts and disasters. The Recommendation widens the focus of the standard on reconstruction and recovery in order to include prevention and preparedness. The Jobs for Peace and Resilience flagship programme³³ was launched to operationalize ILO Recommendation No. 205 by implementing programmes that generate employment and decent work in order to promote peace and social cohesion, thereby preventing crises, enabling recovery and building resilience, including those in response to the COVID-19 pandemic. The programme calls for a multi-track approach to implement coherent and comprehensive strategies for responding to the socio-economic impact of the crisis, enabling recovery and building resilience for adapting to future shocks.

The Jobs for Peace and Resilience flagship programme establishes an ILO narrative with outcomes and indicators that combine employment-intensive investments with a package of technical, vocational and entrepreneurial skills training, employment services, and private sector and local economic development approaches. The programme builds

on ILO's decades-long experience and added value in promoting employment, decent work and structural transformation. It combines demand- and supply-side measures within the framework of the Decent Work Agenda, with the aim of providing direct job creation and income security, enhancing skills for employability, supporting self-employment and bridging labour supply and demand.

ILO Recommendation No. 205 suggests a multi-track approach and confirms the need to work simultaneously on providing peace dividends while investing in medium-to-long-term local and institutional development in the world of work. This approach has characterized the ILO's employment-intensive investment activities and has been adopted by the international community working in the humanitarian-development-peace triple nexus. However, in humanitarian and (post)-conflict settings, the immediate focus is often the provision of emergency employment to ensure that those who have been affected the most are able to regain their livelihoods. Where relevant national institutions have been weakened or are no longer operational and national funding is not readily available, funding for these programmes usually comes from development partners. However, if these funds are not managed in a way that results in programmes designed for the longer term, the end result can be short-term cash for work programmes that ends when the funding sources run dry.

PEPs are key instruments for the realization of quick wins under the Jobs for Peace and Resilience flagship programme's provision for peace dividends in situations of fragility, creating job opportunities that provide immediate benefits. At the same time, PEPs invest resources in the capacity of people and institutions and rebuilding the assets and services required to pave the way for more sustainable employment interventions for peacebuilding. PEPs also have a key role in post-conflict contexts by encouraging the adoption of employment-intensive approaches in large-scale reconstruction activity.

33 See ILO, "Introduction to the ILO's Programme on Jobs for Peace and Resilience".

► The role of PEPs in addressing climate change: Adaptation and resilience

The 2030 Agenda and the Paris Agreement on Climate Change are significant landmark agreements; in order to “leave no one behind” it is critical to ensure the role of PEPs in relation to disaster risk reduction, climate change adaptation, environmental degradation and a “just transition” for all towards an environmentally sustainable economy.

Adaptation has two subcomponents: coping capacity and adaptive capacity. Coping capacity is the capacity to withstand and recover after a climate shock as discussed above; while adaptive capacity is the ability to adjust to potential damage, take advantage of opportunities and respond to consequences (Beazley et al. 2016). Vulnerability to climate change is socially differentiated and those identified as most vulnerable to climate risk are already economically and socially vulnerable. A “just transition” should be well managed and contribute to the goals of decent work for all, social inclusion and the eradication of poverty. It is not only about the transition of the workforce from traditional to more efficient energy sources; it is also about supporting developing countries and the most vulnerable populations, such as the rural poor, indigenous populations and others, to adapt to change and crisis.

This approach has implications for PEPs as climate change also implies new employment challenges, with new needs and chronic threats to existing livelihoods as well as acute impacts through the climate shocks discussed above. It is predicted that increases in heat stress will bring a productivity loss of some 80 million full-time jobs globally by 2030 (ILO 2019e). The agriculture and construction sectors, which already face decent work deficits, will be impacted the most, along with the environment sector. All three of these sectors are amenable to the adoption of labour-based approaches, at least in part. PEPs may be called for if the necessary quality designs and work can be achieved, as well as PIPs implemented by the mandated government technical agencies, both of which can promote the

adoption of the “decent labour practices [that] can enable low-skilled workers to earn an income and reduce their risk of heat stress by working only at adequate temperatures” (ILO 2019e).

PEPs are policy tools that can address economic, social and environmental objectives simultaneously in support of adaptation to, and mitigation of, environmental degradation and climate change (ILO 2018b). They have the potential to contribute to climate resilience by enhancing the capacity of social protection systems to cope with hazardous events, responding in ways that maintain the essential function, identity and structure of climate resilience, while also maintaining the capacity for adaptation.

The potential for the creation of new jobs that respond to global warming challenges by creating a greener economy was identified in the ILO’s *World Employment and Social Outlook 2018: Greening with Jobs*. The *Outlook* suggested that a managed response to the global warming crisis, entailing critical action to limit global warming by adopting sustainable practices in the energy sector and ecosystem services (including air and water purification, soil renewal and fertilization, pest control, pollination and protection against extreme weather conditions), could protect existing jobs in farming, fishing, forestry and tourism, while also creating 24 million additional jobs (ILO 2018b). PEPs can play a role in that regard and the ILO has developed experience in mitigation measures through its Green Works activities, which include afforestation and reforestation, carbon sequestration and soil management. These programmes can at the same time assist with adaptation by promoting climate resilience through flood control and erosion reduction measures. Given their local nature, adaptation can also be integrated into projects that enhance community resilience.

Infrastructure investment through PIPs or PEPs can also play a significant role in adaptation

strategies by altering exposure, reducing sensitivity and enhancing adaptive capacities (Harsdorff et al. 2011). Planting trees and building dikes and other flood defences will reduce exposure to rising sea levels and floods, for example. Raising road embankments, climate-proofing buildings, upgrading slums and building structures to reduce soil erosion or develop

irrigation schemes in drought prone areas have the potential to mitigate the impact of flooding and heavy rains. Investments in irrigation to improve water management and stimulate local development in general will also contribute by enhancing productive capacity and promoting economic diversification.

► Conclusions: The role of PEPs in the future of work

This chapter has explored the role of employment creation using employment-intensive investment approaches, as promoted by the ILO over many decades, focusing mainly on the role of PEPs. In addition, both PEPs and PIPs have responded to the challenges of economic transformation and the chapter has also illustrated the potential of such programmes for contributing to the ILO's institutional commitment to the establishment of a social protection floor (ILO Recommendation No. 202), the creation of an employment floor (Convention No. 122) and advocating for decent work for peace and resilience (ILO Recommendation No. 205), as well as supporting the multiple goals of the 2030 Agenda addressing poverty, gender, decent work, infrastructure, inequality, climate change and peacebuilding.

The chapter has illustrated how employment creation initiatives have been used to address several of the major challenges of our time, including the economic and labour market dynamics driving chronic unemployment, underemployment and poverty, as well as the challenges relating to protracted conflict and crisis, environmental degradation and climate change that are undermining existing livelihoods and causing increasing impoverishment, poverty, inequality, migration, rising social and political instability and economic slowdown. Given the massive ongoing socio-economic impacts of the COVID pandemic, it is all the more important to consider such initiatives in order to ensure that there is better coordination and use of donor funding to supplement national needs.

The ILO's experience over many decades has shown that job creation initiatives using employment-intensive approaches, both PEPs and PIPs, have the potential to respond to this wide range of economic, environmental and social concerns. There has already been significant success in multiple programmes around the globe that have been implemented with support from the ILO. This chapter has outlined the potential that such programmes have for addressing global employment challenges and at the same time contributing to promoting decent work, peacebuilding and resilience, making them an instrument of significant current relevance and interest.

However, while the ILO has supported much innovation and learned many lessons in this area, few programmes are currently being implemented at the scale required to generate a significant response to the negative labour market impacts of the current economic transformation. Many programmes continue to be adversely affected by insufficient fiscal space, design shortcomings and technical and administrative capacity constraints at the point of implementation. Therefore, in some instances PIPs may be an important complement or alternative to PEPs in responding to these development challenges, with the ILO continuing to provide support to the sectoral agencies with responsibility for sustainable infrastructure provision and technical capacity until such constraints can be addressed.

These are the challenges to be addressed if employment creation is to play a meaningful

role in addressing the adverse impacts of the ongoing economic transformation and the additional economic crisis induced by the COVID-19 pandemic. It will be important to create policies that offer job opportunities, particularly to those who are unable to access employment through the labour market; to ensure that these employment-oriented investment strategies are inclusive and productive; and to be mindful of the need to promote social cohesion and climate resilience, using PEPs and PIPs to contribute to a global Green New Deal and the urgent mandate of the United Nations Framework Convention on Climate Change (UNFCCC).

It is becoming clear that markets alone cannot deliver responses to these challenges. The social contract can only be realized with the support of state intervention and/or the targeting of public funds and investments to increase employment intensity through different sectoral activities.³⁴ Integrated and coherent policies are required. At the same time, climate change adaptation and reducing environmental degradation is

essential and there is a need to reinforce the case for adopting inclusive policies that will create the required fiscal space and address employment challenges through employment-intensive productive schemes, Green Works and nature-based solutions³⁵ as a potential means of addressing these urgent transformational challenges.

The ILO Centenary Declaration on the Future of Work called for intensified engagement and cooperation within the multilateral system to strengthening policy coherence, recognizing that decent work is key to sustainable development, income equality and ending poverty. The operational experience of EIIPs in recent decades suggests that if the fiscal space can be found, the continued promotion of PIPs and implementation of multisectoral national PEPs and may be a way of addressing the economic, social and environmental challenges and deficits we are facing today and building a more resilient and peaceful society.

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▶ Chapter 4



National employment policies and environmental sustainability: Forging stronger ties

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► Introduction

Climate change and environmental degradation are affecting the entire world, although some countries, localities and population groups are more vulnerable to their effects. Mitigation and adaptation measures are under way, but there is a common and growing understanding that the gap between what is actually being done and what needs to be done is still enormous (UNEP 2018). Meanwhile, civil society is increasingly striving for a shift towards a more sustainable pattern of development, as the current Fridays For Future³⁶ and Extinction Rebellion³⁷ movements demonstrate.

A *green economy* emphasizes production and consumption patterns that are environmentally sustainable and that result in improved human well-being and social equity³⁸ (UNEP 2011). Drawing on the cooperation between stakeholders (governments; employers' and workers' organizations; non-governmental organizations; communities; academia; investment banks; etc.), a shift towards a green economy implies a structural transformation of production systems. This can be achieved by expanding green products and markets, promoting technological transitions and

increasing reliance on low-carbon energy supply (under the UNFCCC, in particular the Kyoto Protocol), while reducing the anthropogenic depletion of natural resources and impacts on ecosystems (UNCTAD 2011; OECD 2017).

The green transition has profound implications for the labour market (ILO 2018a; Cedefop and OECD 2015; ILO 2019a) that may include job losses and shifts in labour skills demand. Therefore, greening the economy is sustainable only when it is not only environmentally but also socially sustainable, in other words when it represents a *just transition*.³⁹ A just transition towards environmentally sustainable economies and societies is a concept and framework that was developed by the trade union movement in the 1990s to encompass a range of social interventions that are needed to secure workers' jobs and livelihoods when economies are shifting to sustainable production (ILO 2015a; ILO 2018b).

The transition to a green economy has become a political imperative debated in various global and regional forums and instruments, such as UNFCCC,⁴⁰ G20, the EU, the Asia-Pacific Economic Cooperation, Rio+20⁴¹ and the 2030 Agenda and SDGs.⁴² However, combining social and

36 Fridays For Future is a world youth climate movement that was launched in August 2018, after a 15-year-old Swedish student sat in front of the parliament every schoolday for three weeks to protest against the lack of action on the climate crisis (Fridays For Future, n.d.).

37 As reported on their website (rebellion.global), Extinction Rebellion is an international movement that uses non-violent civil disobedience in an attempt to halt mass extinction and minimize the risk of social collapse.

38 "A green economy is defined as low carbon, resource efficient and socially inclusive. In a green economy, growth in employment and income are driven by public and private investment into such economic activities, infrastructure and assets that allow reduced carbon emissions and pollution, enhanced energy and resource efficiency, and prevention of the loss of biodiversity and ecosystem services." See UNEP, "[Green Economy](#)". Although this UNEP definition is one of the most widely used, there is still no internationally agreed definition of *green economy*.

39 The *just transition* framework has been endorsed internationally by governments in different arenas, including the ILO, which adopted conclusions on this matter in 2013 and also developed guidelines on the issue (ILO 2015a).

40 Since 1995, UNFCCC conferences of parties (COPs) to the Convention have become key international forums on climate change mitigations and adaptation actions. In the Paris Agreement on Climate Change adopted at COP 21 in December 2015, consensus was reached on keeping global temperature rise below 2 degrees Celsius above pre-industrial levels and pursuing efforts to limit temperature increase even further to 1.5 degrees.

41 The United Nations Conference on Sustainable Development (Rio+20) was held in Rio de Janeiro on 20–22 June 2012. It resulted in a political outcome document containing clear and practical measures for implementing sustainable development that yields win-win outcomes for the environment and economy.

42 The SDGs have already seen deep commitments from all parties, including from the private sector with respect to high-polluting activities, such as the oil and gas industry (IPIECA, IFC and UNDP 2017). According to the ILO (2018b), SDGs that promote environmental sustainability (such as SDGs 13,14 and 15 on climate action) are compatible with SDGs that promote social welfare (such as SDG 2 on food security and SDG 8 on decent work for all) or structural transformation (such as SDG 7 on clean energy) .

employment goals with environmental goals is not automatic and should be supported by conducive policies and transversal actions. The good news is that some countries have succeeded in improving their labour market outcomes while at the same time decoupling growth from carbon emissions (ILO 2018a). Alliances such as the Green Economy Coalition⁴³ are committed to accelerating the transition to green and fair economies and concrete steps in this direction have been taken at national level, where there is today greater political will to mainstream environmental issues into national development agendas, including in NEPs.

Indeed, NEPs may play a key role in strengthening the ties between employment generation and environmental sustainability, as elaborated below. In particular, the first part of the chapter examines the interdependencies and transmission channels between the environmental, social and economic spheres, while introducing the green jobs concept that is central to a green transition. The second part of the chapter considers NEPs and other policy frameworks and measures for promoting employment, while addressing the effects of climate change. The chapter concludes by outlining a number of policy implications and orientations for the future of work.

► Labour market implications of environmental sustainability

Links between the environment, the economy and the labour market

It has been maintained that current economic and development paradigms rely on the unsustainable use of limited natural resources. Increased consumption is resulting in a rise in demand for energy, land and water use in an unprecedented way, leading to the acceleration of natural disasters and a decline in biodiversity (WWF 2018). Poverty and the lack of decent employment opportunities can exacerbate pressure on natural resources (such as through deforestation and over-fishing), nourishing the vicious circle in which poor people are trapped. The negative environmental externalities of societal or corporate behaviours can affect production chains and labour markets in many ways, across regions and countries. For example, a changing

climate may allow new agricultural activities and job absorption in one part of the world (such as vineyards in northern Europe) or destroy production in other regions (such as coffee fields in Uganda), due to the rise of temperature, inundations or desertification. It may also lead to migration – internal or international, voluntary or involuntary, time-bound or permanent – while the most vulnerable populations may not even be able to move (IOM 2014).

Many economists and developmentalists have written about the trade-offs between economic development and environmental conservation and the need to balance environmental goals with economic goals (see, for example, *The Limits to Growth*⁴⁴ and *Our Common Future*,⁴⁵ also known as the Brundtland Report). In recent decades, this has led to new development strategies centred on the green economy (see introduction to this chapter), the green growth concept of the OECD⁴⁶

43 The Green Economy Coalition is an alliance aimed at accelerating the green transition by facilitating and promoting dialogue between business, civil society and governments; for more information, see “[The Green Economy Coalition](#)”.

44 Meadows et al. (1972).

45 WCED 1987.

46 The OECD, among others, has proposed a green growth strategy, whose aim is to effectively combine economic growth and development with environmental goals such as the conservation of natural resources and biodiversity (OECD 2011b).



and the commitment of the SDGs “to promote prosperity while protecting the planet” (United Nations 2019).

As stated in the ILO’s *World Employment and Social Outlook 2018*, “... there need be no tension or contradiction between economic growth and jobs on the one hand, and environmental sustainability on the other... achieving environmental sustainability can create jobs. The green economy will be a major source of job growth in the future of work” (ILO 2018a). A thorough understanding of the interdependencies between the environmental, social and economic spheres is essential for developing integrated and coherent policies that are intended to produce win-win-win situations for people, business and the environment – or at least to limit or mitigate, as far as possible, the potential negative trade-offs. Employment and labour market policies that are combined with other policies such as educational and industrial policies can help to achieve a smooth transition of workers (in terms of both functional and geographical mobility) from declining “brown sectors” towards environmentally friendly sectors.

Employment dimensions of the green transition

The analysis of the labour market effects of greener economic models has received increasing attention in the literature. In addition to quantitative shifts, the green transition also has important implications for occupations and required skills, as well as for the quality of

employment. Moreover, due consideration must also be given to the fact that certain categories of workers are more exposed than others to shifts in labour demand in response to climate change.

The green transition is associated with changes in investment policies, regulations, technologies, innovation and production processes; it also requires infrastructure adaptation measures. The labour market effects of such changes may include: (1) job creation in existing and new occupations within environmentally friendly sectors such as renewable energies; (2) loss of jobs within non-environmentally friendly sectors such as certain extractive activities; (3) substitution of some traditional occupations with more modern ones, such as architects specialized in sustainable construction; and (4) job transformation in terms of increasing demand for renewed job profiles (such as managers acquainted with green processes) transversal to all economic sectors (UNEP et al. 2008).

Structural transition to a green economy is expected to increase net overall employment (UNEP et al. 2008; ILO 2018a). This is due to the higher labour intensity of green sectors and activities on a worldwide scale, such as labour-intensive renewable energy sources⁴⁷ like biomass in comparison with capital-intensive fossil energy production, as well as other activities such as those related to conservation and organic agriculture in comparison with conventional agriculture, energy and resource efficiency or the provision of environmental services. A relevant country case is illustrated in box 6.

► Box 6: British Columbia: Fiscal reform and its employment impact

An interesting example relates to the introduction of a carbon tax in British Columbia, Canada, in July 2008, which was levied on the carbon emissions of all industries and residents. In addition to reducing carbon emissions by 10 per cent and fuel consumption of 19 per cent, it created 10,000 jobs per year over 6 years, causing an overall net 4.5 per cent rise in employment. “Brown” sectors, such as metal- and chemical manufacturing or fossil energy sectors, experienced a decline in employment, whereas an increase was observed in “green” sectors such as health care (16 per cent over four years) (OECD 2017).

47 A recent study (IRENA 2019) estimated that the global renewable energy sector employed 11 million people globally in 2018, compared with 10.3 million in 2017. Women represented 32 per cent of the renewable energy workforce.

According to ILO global projections of a scenario of sustainable energy production and energy efficiency (ILO 2018a), job creation would more than offset job destruction, with about 6 million jobs lost and about 24 million jobs created before 2030. Only 14 sectors would lose more than 10,000 jobs and only 2 sectors (petroleum refinery and extraction of crude petroleum) would lose 1 million or more jobs.

These global projections indicate that, although the net overall impact on employment is likely to be positive, there would be winners and losers, in particular during the transition period. One illustrative study⁴⁸ looked at the net employment impacts of the transformation of the EU energy sector, including spillover effects, over the period 1995–2009, when the EU's energy structure experienced a significant shift away from more carbon-intensive sources towards gas and renewables. The study estimated the net employment generated from this structural change at 530,000 jobs in the EU (0.24 per cent of total employment in 2009), one third of which were generated by transboundary effects within the EU (that is jobs generated in one country due to changes in another). Within the EU, the main gainers were Poland, Germany, Hungary, Italy and Spain, while the main losers were Ireland, Lithuania, France and Czechia.

Therefore, it is essential to understand beforehand the potential effects of structural change and alternative investment choices on employment, so that forecasting activities⁴⁹ may guide policymaking in a way that minimizes job losses through transitions (Ten Brink et al. 2012).

The ILO has applied dynamic social accounting modelling based on the input–output tables of national economies.⁵⁰ In undertaking national green jobs assessments in recent years, the ILO has also supported the emergence of the Green Jobs Assessments Institutions Network (GAIN),⁵¹ a growing network of professionals engaged in green jobs analysis.

The transition to a green economy is also not neutral in terms of its effects on job quality since this may vary between countries and sectors and within value chains. For example, whereas the upstream activities of renewable energies are generally associated with good quality jobs, related jobs in down-stream activities (such as agricultural production in bioenergy) can suffer from poor working conditions. The same applies to recycling activities. Although the upstream activities of recycling or upcycling of used products are in general formal jobs, many informal workers work in developing countries as waste pickers, without social protection, representation or recognized labour rights. Ways should be found to integrate and regularize informal activities within the overall formal waste system (Gunsilius et al. 2011).

In the same way, the notion of *green jobs*⁵² is central to green transitions. Green jobs can be defined as jobs that reduce the consumption of energy and raw materials; limit greenhouse gas emissions; minimize waste and pollution; protect and restore ecosystems; and enable enterprises and communities to adapt to climate change. They can be found in any economic sector or enterprise, including the environmental goods

48 Anil Markandya et al., “Towards a Green Energy Economy? Tracking the Employment Effects of Low-Carbon Technologies in the European Union”, *Applied Energy* 179 (2016): 1342–1350.

49 For example, a recent OECD study using the OECD's ENV-Linkages model predicts decreased employment decline in sectors such as gas, coal and other fossil fuels, as well as rice production, livestock and mining, but increased employment in renewable energies, in particular solar and wind, as well as hydropower, nuclear and geothermal electricity, waste management and transport services, due to a shift towards a green growth strategy (OECD 2013).

50 See ILO, “<https://www.ilo.org/global/topics/green-jobs/publications/assessments/lang--en/index.htm>”.

51 See ILO, “The Green Jobs Assessments Institutions Network”.

52 In a reduced definition, a “green job” is a decent job (according to the decent work criteria of the ILO) that contributes to preserving or restoring the natural environment (ILO 2016).

and services sector. In addition, green jobs must be decent⁵³ because the decent work dimension⁵⁴ is what allows environmentally sound occupations to be defined as green jobs.

The cost of managing the transition in ways that does not excessively burden the most vulnerable

and seizes opportunities to create green jobs is surmountable. However, sound public policies, institutions and regulations, accompanied by a coherent set of practical interventions, will be required.

► Employment policies and the environment: Lessons from policy and programme reviews

Pursuing employment and environmental goals

In this second part of Chapter 4, we consider the role of NEPs and their components in simultaneously achieving employment and environmental goals, in particular through the promotion of green jobs. Attention is also given to countries that have succeeded in creating decent jobs in the green economy in the absence of an NEP.

Three categories of countries may be identified: (1) countries with an environmentally friendly NEP; (2) countries without an environmentally friendly NEP that have generated green job opportunities through other strategies; and (3) countries in which green jobs have been promoted not within an environmentally friendly NEP but within a broader development framework or specific sectoral policies.

Environmentally friendly NEPs

With regard to category (1), NEPs can indeed be of critical importance to help ensure that the transition towards environmental sustainability is fair and inclusive. According to an ILO policy

review (Van der Ree 2017), 11 of 57 countries studied have in recent years adopted an NEP with a clear environmental dimension. The review noted that these countries have assigned different degrees of priority to addressing environmental sustainability. In most cases, the NEP refers only to the potential for new jobs in the green economy and green enterprises, while a few of the countries covered have been looking at the possible negative implications of the transition to greener economies.

Different strategies have been proposed in the NEPs to meet green jobs targets. As an indicator of achievement, Mongolia's 2016 NEP expects "the share of green jobs in total employment to increase from 6.1 per cent in 2015 to 10 per cent in 2020 and 30 per cent in 2025"; the increase would be supported by a set of macroeconomic and sectoral policies to favour, among other things, export-oriented and high-tech industries.

Mauritius's NEP relies on several sectors (green building, renewable energy, organic agriculture, ecotourism, and energy and water efficiency in the textile sector), while envisaging appropriate legislative measures; the inclusion of the green jobs concept in educational and training programmes; providing support for the

⁵³ UNEP, *Green Jobs: Towards Decent Work in a Sustainable, Low-Carbon World* (2008).

⁵⁴ In ILO terms, "Decent work sums up the aspirations of people in their working lives. It involves opportunities for work that is productive and delivers a fair income, security in the workplace and social protection for families, better prospects for personal development and social integration, freedom for people to express their concerns, organize and participate in the decisions that affect their lives and equality of opportunity and treatment for all women and men." For more details on ILO decent works indicators, see ILO, *Decent Work Indicators: Guidelines for Producers and Users of Statistical and Legal Framework Indicators: ILO Manual: Second Version* (2013).

Employment Service and the Careers Guidance Unit with regard to career paths; and providing the necessary incentives to green enterprises. In Mauritius, occupations affected by the transition to a green economy would include photovoltaic installers, energy auditors, ecotourism operators, eco-guides, eco-entrepreneurs and public officers dealing with green issues.

In Morocco, green jobs are considered as a means of overcoming territorial differences. The Moroccan NEP for 2015–2025 encourages local sustainable development initiatives that focus on resource conservation and the expansion of the circular economy. The NEP is comprehensive in offering demand-side and supply-side measures, as well as mechanisms for strengthening labour

market governance. Macroeconomic and sectoral policies (such as fiscal reform, flexible exchange rate policies and pro-growth sector strategies) are the key instruments used by the Government to achieve these objectives.

Policies and programmes that promote green jobs outside an existing NEP framework

Category (2) includes countries with NEPs that do not explicitly refer to environmental sustainability. In this category, some countries like Rwanda (see box 7) have, however, promoted green initiatives such as green jobs through alternative channels.

► Box 7: Socially but not environmentally sustainable NEPs: Case of Rwanda

In Rwanda, employment issues were addressed under an NEP launched in 2014. Environmental issues, however, although addressed at the same time, were addressed apart from the NEP.

Skills mismatch, low labour productivity, constraints on employment generation and underemployment, particularly for poor young people and women in the traditional agriculture sector, are among the key hindrances to economic growth and poverty reduction in Rwanda (Sweden 2017).

Rwanda's NEP is based on the development of a job-creation strategy that involves identifying strategic labour-intensive economic sectors and activities and promoting job creation and upgrading as a "strategic priority of development policy and planning at macro and sectoral levels" (Rwanda 2014). The EmPol Gateway database maintained by the ILO and a governmental NEP report (Rwanda 2014) indicate that the five-year Rwandan NEP has the objective of developing technical and vocational training centres; improving access to finance for businesses, cooperatives and professional bodies; building suitable infrastructure; and cutting unnecessary regulation, in particular for sensitive sectors such as rural agriculture. The NEP has contributed to the creation of more than 1,704,000 million off-farm jobs, reduced poverty and extreme poverty rates and an increased literacy rate (Nimusima et al. 2018).

Although it refers to a "more inclusive pattern of economic growth and sustainable development", Rwanda's NEP does not include measures for mainstreaming green jobs. However, in order to coordinate and monitor the implementation of environmental actions in different sectors, Rwanda has set up different bodies and operationalized institutional arrangements that operate on a sector-wide approach and work closely with development partners, civil society, academia and the private sector. For example, the Rwanda Green Fund (FONERWA), an environment and climate change investment fund that promotes green growth in Rwanda, has generated 137,562 green jobs since its foundation in 2013 (Rwanda 2019).

Other policy frameworks combining environmental action and job creation

Finally, category (3) includes countries in which alternative strategies have been adopted in the absence of an NEP that simultaneously addresses employment and environmental challenges in the context of structural transformation and the just transition to a greener economy. Viet Nam, for example, has a national action plan to respond to climate change and a green growth strategy, both of which have a positive impact on green

jobs creation and green skills development (ILO 2019a). In such cases, the challenge consists in aligning and integrating employment promotion measures within national sustainable development strategies.

Some strategies rely on ad hoc arrangements at the subnational level, such as the Green Employment Agency in the Santa Fe province, Argentina (see box 8); others are broader in scope and underpinned by more complex institutional arrangements that involve several parties and serve as hubs for networking and cooperation.

► Box 8: Green Employment Agency in the province of Santa Fe, Argentina

In Argentina, the province of Santa Fe is leading progress towards mainstreaming green jobs into provincial policies. Indeed, the 2017–2020 Decent Work Agenda pays specific attention to continuous skill training adaptation and green jobs generation, which represent objective 5 of the Agenda (Argentina and ILO 2017). In this framework, in 2018 the province created the Green Employment Agency with the aim of identifying opportunities and policies necessary for these jobs to be part of the reality of the territory in the future. The main objectives of the programme include (Argentina 2019):

- increasing information and knowledge through identifying green activities and estimating green jobs;
- promoting green jobs creation;
- certifying green labour competencies, analysing and developing occupational standards, promoting training and requalifying brown jobs, in order to enhance employability and greening some sectors; and
- promoting good environmental practices in firms and corporate social responsibility actions.

Source: Argentina, Provincia de Santa Fe, “Empleos verdes”.

An interesting example of transversal action concerns the bioeconomy, which covers all sectors and subsectors that rely on natural resources as material inputs (EU 2018), with the intention of replacing increasingly fossil-based production (OECD 2018). The bioeconomy is normally based on the strong competitive advantage of countries that are rich in natural resources. By adding economic value through processing (bioenergy, bio-pharmacy, bio-plastics, etc.),

these countries can benefit from multiplier effects on employment from low-skilled agriculture jobs to highly skilled biotechnology jobs, as well as positive effects on the environment from restoring biodiversity, reducing CO₂ emissions and so on. In some economies such as Argentina and Malaysia, the bioeconomy is becoming an engine for simultaneously achieving economic, environmental and social goals (see box 9).

► **Box 9: The bioeconomy as a strategic transversal action towards economic, environmental and social outcomes: The cases of Argentina and Malaysia**

By including and interlinking numerous value chains from different branches of the economy (food processing, pharmaceuticals, etc.), the bioeconomy represents a cross-cutting and interdisciplinary emerging framework that has a high structural transformation potential. The Governments of Argentina and Malaysia were the first movers in promoting it.

Argentina is the most advanced country in South America in the area of bioeconomy (CEPAL 2018a). In 2015, total employment in Argentina in the biotechnological industry alone (excluding the rest of the bioeconomy) reached 27,000 jobs (Argentina 2015). The role of the Government and a favourable institutional framework were key drivers in the development of the bioeconomy initiative (CIECTI 2018), which culminated in 2018 with the creation of the National Bioeconomy Council, a permanent interministerial body involving five ministries, including the Ministry of Production and Labour.¹ The key strategic role of the Council was to provide a common platform for progress towards a national bioeconomy policy.

In Malaysia, more than 7.3 per cent of GDP and 11.5 per cent of all workers² are agriculture-based. Given the abundance of natural resources and building on an already well installed agricultural sector, the Government promoted a national biomass strategy as a strategic national framework for sustainable development to produce value-added products while catalysing productivity and innovation, attracting capital and promoting sustainable companies and more and higher-skilled workers (Malaysia 2013). By 2020, the strategy (version 2.0) is expected to lead to a further growth in gross national income of US\$10 billion, the creation of 66,000 new jobs and the generation of US\$8 billion in investment opportunities, while reducing CO₂ emissions by 12 per cent (Malaysia 2013).

Within this framework, Malaysia promoted a bioeconomy action plan as of 2005. The Malaysian Biotechnology Corporation (BiotechCorp) has been operating since then as the focal institution for the promotion of the national bioeconomy, reporting directly to the prime ministerial cabinet and to the Ministry of Science, Technology and Innovation. BiotechCorp catalyses commercial spin-offs to the private sector and offers tax deduction and exemption schemes, research grants and access to research and development centres, as well as access to the Biotechnology Commercialization Fund for all Malaysian biotechnology companies that meet the BioNexus requirements.³ The BiotechCorp also created the Public-Private Research Network, an entity created by the Ministry of Higher Education, the Malaysian Technology Development Corporation and the Malaysian SMEs Corporation, which interconnects universities and SMEs with the objective of promoting research and development (CEPAL 2018b).

Source: authors.

1 The other four were the Ministry of Education, Culture, Science and Technology; the Ministry of Transportation; the Ministry of Environment and Sustainable Development; and the Ministry of Internal Affairs (chair).

2 Of whom almost 50 per cent have decent jobs and 122,000 have green jobs (ILO 2014).

3 BioNexus status is awarded to qualified companies that participate in and undertake value-added biotechnology activities, based on meeting a number of criteria such as research capabilities in focus areas and employment of a significant percentage of knowledge workers.

Transversal actions require policy coherence and concerted inputs, which are considered below.



How to mainstream green jobs in NEPs

Working along the policy cycle

As for any other policy, the NEP process can be described as a series of sequential phases that progress from situational analysis to ex post evaluation.⁵⁵ The creation of green jobs is pursued during all phases of the policy cycle and through the national dialogue that underpins it.

At the preparation stage, it is important to take stock of existing policy instruments in the economic, social and environmental fields as well as of all relevant national stakeholders; all actors should be invited to actively participate in the policy dialogue, so that the policy vision emerging from a broad-based consultation will ideally reflect their respective priorities. In reviewing the socio-economic and labour market situations, the identification stage should then describe the priority needs to be addressed, such as insufficient financial incentives for environmental activities or unavailability of the skills required by green industries. Group-specific labour market challenges should be assessed at this stage and climate change and/or environmental sustainability may be included in the problem statement. This phase would also benefit from age-disaggregated studies on the current and potential employment effects of climate change and responsive policies across economic sectors. Employment projection models are a useful tool⁵⁶ for anticipating the likely losses and gains in employment if a given increase in sectoral demand occurs, such as when stimulated through targeted investments.

⁵⁵ See ILO, *Guide for the Formulation of National Employment Policies*, 2012.

⁵⁶ See ILO, *Employment Impact Assessments: A Review of Methodologies*, 2017; and ILO, "Green Jobs Assessment Reports".

At the formulation stage, an appropriate mix of policy measures will be proposed, which may be relevant for example to financing options for green investment, the provision of skills for green jobs or support for entrepreneurship and SMEs in selected branches of the green economy.

The measures with the best combination of environmental, economic and employment benefits should be prioritized. Ghana offers an interesting example of how the promotion of green jobs has been reflected in policy identification and formulation (see box 10).

► **Box 10: Green jobs as part of Ghana's NEP, 2015**

Employment opportunities in the green economy are mentioned early on in Ghana's NEP. The preface and situational analysis state the need to reconcile employment growth with environmental protection, based on ILO estimates of the untapped potential for green jobs. The analysis concludes that additional proactive policy initiatives are needed, as well as private investments. The Government should take advantage of green technologies and approaches to create jobs for the unemployed, while protecting the environment in a sustainable manner for future generations.

Good quality economic growth, which should be sustainable, environmentally friendly and inclusive, is put forward as an engine for decent work. Two of the four policy objectives include a strategic action related to green jobs or the green economy:

1. to promote and support initiatives for the creation of green jobs in energy and industrial efficiency, energy supply, transportation, biodiversity, conservation and ecosystem restoration, soil and land management, and waste management;
2. to expand social protection mechanisms for workers exposed to external shocks (fire, flood, retrenchment, structural changes to green economy, etc.), and develop new learning strategies to help them cope with these socio-economic shocks before they are reintegrated into the labour market.

The cross-cutting reflection of environmental sustainability is also signalled by the inclusion of the Environmental Protection Agency Act 1999 (Act 490) in the policy and legal context, which provides guidance for the regulation of employment, working conditions and labour relations. In addition, the national environment policy and national climate change policy are mentioned, among others, as referral policies that should be developed in synergy with the NEP.

Moving forward in the policy process, planning and detailed budgeting require the consideration of the available human and financial resources, as well as possible operational synergies and cost-sharing arrangements across relevant ministries (economy, labour, environment, industry and others) and development partners. All actors should be sensitized in favour of employment-friendly measures. It is crucial to include two key dimensions at this stage – the local or territorial dimension (since ecosystems diverge from area to area and across administrative borders) and the social dimension. With regard to the latter, a participatory planning process is needed and desirable in order to include all members of society who are affected by climate change and related policy measures.

Coming to policy implementation, this may entail the execution of pilot projects, including through links with national educational and training institutions, climate change and green economy networks, as well as other existing development interventions. A communication campaign for the promotion of green jobs can enhance visibility and attract further support for policy implementation, including through behavioural changes in consumption. Monitoring and evaluation are critical functions that may be hampered if a clear model of change and a related intervention model are absent from the policy design, which is often the case. Potential beneficiaries of programmes at the local level should be actively engaged in the monitoring and evaluation process. Appropriate indicators, including to reflect social, environmental and economic dimensions, should be selected and applied to demonstrate the achievement of the desired policy outcomes.

A detailed analysis of four country experiences (Barbados, China, Namibia and the Philippines) (Van der Ree 2017) identified a number of common elements that have contributed to successfully embed environmental sustainability in NEPs, including:

- ▶ an assessment of the anticipated employment effects of climate change and/or related policies;
- ▶ involvement of the social partners in dialogue and joint planning throughout the policy process;⁵⁷
- ▶ articulation of a clear business perspective⁵⁸ as well as a dimension of job creation/security;
- ▶ sustained, customized capacity-building on the concepts, strategies and tools for green jobs policies; and
- ▶ committed support and direction from high-level political leadership.

Given that these four country initiatives are recent, it is too early to draw conclusions on their approaches and results and in any case their policy measures remain to be fully implemented.

The need for tailored policy packages

It is also important to stress that NEP frameworks encompass a large spectrum of policy measures for the creation of decent jobs in the green economy. The previously mentioned ILO policy review (Van der Ree 2017) found a wide variety in the number and type of such measures adopted in the countries examined. Demand-side measures included tax reform to promote greening the economy (such as the carbon tax introduced in British Columbia, Canada) or offset its adverse effects through redistribution (such as in China); the provision of adequate financing to support catalytic investments for green sectors and enterprises (such as South Africa's green fund); or sectoral policies offering green jobs opportunities (such as the strategic plans on sustainable tourism and green jobs in Indonesia and on sustainable housing in Zambia). Among supply-side measures, the focus was primarily on training and skills development, including reskilling under

⁵⁷ In the Philippines, for example, the ILO has more recently reported that the Climate Change Council brought together the private sector, workers and employers' organizations, other development partners and the public sector to discuss and design fiscal incentives for companies to green their production processes (ILO 2020).

⁵⁸ China, through its National Resources Defence Council, has worked closely with companies to clean their products and services, as well as their operations, in particular in the chemical and paper industries, two of the most polluting sectors (NRDC 2020).

active labour market policies. The promotion and protection of workers' rights were generally given less attention in the surveyed countries, while none of the NEPs explicitly addressed gender equality issues in the transition to a green economy. In fact, climate change and the shift to a green economy may widen existing gender gaps since women are often more exposed to socio-economic and environmental vulnerabilities. Therefore, addressing this issue in the framework of greening strategies may make a significant contribution to both environmental protection and gender equality (ILO 2017a). Among other disadvantaged groups, indigenous people are also particularly exposed to the effects of climate change. As a recent ILO policy brief (ILO 2017b) states, indigenous people should be supported to switch from being victims to being change agents through decent work, since their traditional knowledge of the local eco-system is essential for its conservation and to enhance its resilience.

At the regional level, a useful reference for greening with jobs is provided by the EU's Green Employment Initiative (see box 11), which is aligned with the ILO Guidelines for a just transition towards environmentally sustainable economies and societies.⁵⁹ Both the EU and the ILO frameworks recognize the importance of a strong social consensus on the goal and pathways towards sustainability. Moreover, coherent policies across the economic, environmental, social, education/training and labour portfolios are required to provide an enabling environment for enterprises, workers, investors and consumers to embrace and drive the transition towards environmentally sustainable and inclusive economies and societies. However, policies and programmes will need to be tailored to the specific conditions of countries, including their stage of development, prevailing economic sectors and the type and size of their enterprises. In this respect, it appears that the EU's Green Employment Initiative has received inappropriate follow-through at the national level.

59 The ILO Guidelines for a just transition to environmentally sustainable economies and societies put forward specific recommendations across nine policy areas, as agreed by a tripartite group of experts, to analyse and address the challenges of the green transition. The aim of the guidelines is to help governments and social partners to shape and implement effective policies that ensure decent work opportunities for all in the transition. See ILO (2015a).



► **Box 11: An integrated policy framework for green employment: Example of the European Union**

In 2014, the European Commission developed an integrated framework for employment policies in the transition to a green economy, which sets out targeted policy responses and tools to help make labour market and skills development policies conducive to job creation in the green economy. Suggested measures include:

1. On the supply side – Bridging skills gaps:

- ▶ fostering skills development, meeting skills demands in growing eco-industries, upskilling across all sectors and reskilling in vulnerable sectors;
- ▶ aligning sectoral training standards in vocational education and training with labour market needs, including through close involvement of the social partners to design and review training programmes, qualifications and accreditation systems;
- ▶ improving forecasting of skills needs across sectors and industries.

2. On the demand-side – Supporting job creation:

- ▶ improving access to and use of existing funding opportunities;
- ▶ shifting taxes away from labour towards polluting economic activities;
- ▶ promoting green public procurement, assisted by regulations on certification and life-cycle costing approaches, and supported by capacity-building for public sector managers and private sector enterprises;
- ▶ promoting entrepreneurship and social enterprises in expanding green sectors, accompanied by a dedicated Green Action Plan for SMEs with green skills upgrading of the workforce.

3. Securing transition:

- ▶ anticipating change and managing restructuring, building on sectoral initiatives;
- ▶ adapting labour market institutions through public employment services that focus on green employment strategies and programmes;
- ▶ promoting occupational mobility, as well as mobility of jobseekers, including through competence-based job matching.

4. On both sides – Improving data collection and quality:

- ▶ harmonizing statistics for more evidence-based policymaking and monitoring;
- ▶ anticipating employment implications and transitional adjustments, including changing skills needs.

5. Promoting social dialogue:

- ▶ encouraging social partners to develop joint activities at cross-industry and sectoral levels;
- ▶ ensuring workers' participation in environmental management, more efficient use of energy and resources, and the identification of new risks at the workplace;
- ▶ enhancing workers' rights to information and consultation, including for the development of sector-wide resource-efficiency road maps.

Source: EU, "Green Employment Initiative", 2014.

The role of skills development and employment services

Among the measures embedded in an NEP, skills development (including the anticipation of skills needs) is essential for grasping the opportunities offered within the green economy and smoothening social adjustment processes. As already noted, structural transformation processes lead to the emergence of new occupations and the decline or transformation of others, so that new green competencies will be required. As a result, countries may suffer from a green skill shortage if they do not have adequate instruments to provide the necessary training, professional reorientation and job-matching services and therefore do not fully benefit from the new green opportunities that may arise.

The 2009 Australian “home insulation programme” is an example of green policy failure. The programme was introduced to generate green jobs for lower-skilled workers in the housing and construction industries (Kortt and Dollery 2012; World Bank 2012). It was terminated due to safety concerns and the deaths of four young installation workers. Afterwards, inspections showed that 30 per cent of installations had some level of deficiency due to poor training and management (Australia 2010). On the other hand, proper investment in skills for green jobs can unlock transversal development opportunities, generating positive social, environmental and economic outcomes. For example, the Burkina Faso national biodigesters programme has contributed to installing more than 8,500 biodigesters in its national territory by training

professionals who were subsequently absorbed by the private industry (ILO 2019a).

Some workers will have to be accompanied in the process of change through relevant training programmes in order to reskill or reorient them towards new professions. There is a range of options, from on-the-job training to short or longer training courses, depending on the degree of skill change required. Although in the short term training and skill development programmes are important to allow workers to shift from declining to emerging sectors, in the long term structural changes in the education system should be addressed (OECD 2017). A recent ILO report⁶⁰ considers the forward-looking skills strategies that are necessary to train young people and reskill the current workforce to meet the skills needs of the new jobs generated in the transition process in expanding green sectors. Awareness-raising on green issues also plays an important role; for example, in Guyana activities involve students at all school levels in order to encourage behavioural change with regard to climate change and the green economy (ILO 2019a).

In India, the Government has established the Sector Skills Council for Green Jobs, whose aim is to tackle the shortage of skills workers in the renewable energies sector. Among other things, the Council is entrusted to accredit training organizations in the solar energy sector, provide training certification and train trainers, as well as to come up with a comprehensive skills development plan for the sector. Similar initiatives have been carried out in Bangladesh (see box 12), where important results were obtained, especially for women.

60 See ILO (2019). The report draws on 32 national studies and was produced in partnership with the European Centre for the Development of Vocational Training. It provides insights into likely occupational skill effects in declining and growing industries by 2030, based on two global quantitative scenarios. Evidence of good practices collected in the surveyed countries demonstrates how skills development can underpin the green transition.

► **Box 12: Skills for solar home systems in Bangladesh**

The experience of Bangladesh, which has the largest and fastest growing off-grid rural electrification programme in the world, indicates the tremendous potential inherent in providing energy access and generating associated employment. Under the aegis of the government-owned Infrastructure Development Company (IDCOL), installations of solar-powered heating systems have grown rapidly, reaching 4 million units in May 2016. The target for 2017 is 6 million units. IDCOL channels donor funding into small-scale finance, sets technical specifications for solar home systems, certifies products and components and selects partner organizations, mainly NGOs and microfinance institutions.

Employment has grown along with the expanding number of installed solar home systems and was estimated at more than 100,000 jobs in 2014 (both direct and indirect jobs through the supply chain). This implies that one job in the supply chain may serve the energy needs of 174–182 people (or about 34–36 households, assuming an average of five people per household).

To achieve this success, important efforts have been made on training and to scale up and standardize skills acquisition among solar technicians and entrepreneurs, including through adapting the national technical and vocational qualification framework. By 2013, more than 15,000 field staff and managers of partner organizations, as well as local technicians, had received training in the configuration and positioning of solar-powered heating systems, installation procedures, maintenance and troubleshooting. Most of the trainees have been women. Grameen Shakti has established 46 technology centres, where locals are trained as technicians to service and repair solar equipment in their own villages.

Source: ILO (2013).

Recognizing and certifying new green skills and providing training in these skills is pivotal for ensuring a smooth structural transformation towards a sustainable and just economy. To that end, comprehensive cooperation among national institutions, private sector and civil society, aimed at anticipating the expansion of new occupational

profiles and related skills,⁶¹ is essential. Actions undertaken in Uruguay as a result of inter-institutional cooperation represent an example of the adaptation of the national skills certification system to a changing and greener labour market in the absence of an NEP (see box 13).

61 See ILO, *Anticipating Skill Needs for Green Jobs: A Practical Guide*, 2015.

► Box 13: Green skills certification in Uruguay

In recent years, Uruguay has made increasing efforts to support a green structural transition. In this framework, the Ministry of Housing, Land Use Planning and Environment, the Ministry of Industry, Energy and Mining and the Ministry of Labour and Social Security (MTSS) have undertaken several programmes on environmental management, climate change mitigation, energy transition and environmental policy. Extensive cooperation with external and non-public actors, such as United Nations agencies, the Inter-American Development Bank and social actors, has also been pivotal in supporting green transition. Numerous goals have been achieved as a result of this cooperation, such as the implementation of a national environmental system; a national policy on climate change; the first green jobs assessment in Uruguay in 2015, which identified 44,108 direct green jobs in the economy; and more recently, the association of Uruguay with the United Nations Partnership for Action on Green Economy (PAGE).

Indeed, although employment is not a central part of the overall climate change national policy actions, green jobs have been incorporated into MTSS strategic planning. Cooperation between the MTSS and the ILO's Inter-American Centre for Knowledge Development in Vocational Training is oriented towards the generation of knowledge on green jobs and pays particular attention to green labour competencies. National efforts include the design and implementation of a national programme on professional training and skills certification, with a particular focus on green competencies.

For example, through an inter-institutional working group for inclusive and green economy, the National Institute for Employment and Professional Training (INEFOP), together with the National Directorate of Employment of the MTSS and the Uruguayan Tire Dealers Centre, have developed the first training schemes for operators in the tires industry (ILO and Uruguay 2017a). Tire disposal is a prominent health and environmental concern, since the improper disposal of tires can contribute to ecosystem degradation and facilitate the spread of pests such as mosquitoes carrying the dengue and Zika viruses. Similarly, the MTSS together with INEFOP and the Uruguayan Labour University, are developing new profiles for workers in green sectors. To date, this has resulted in the creation of the first new profiles for chainsaw operators and public park wardens, one linked to the wood-processing industry and the other to the ecotourism sector, with relevant environmental implications (ILO and Uruguay 2017b).



In addition to labour market training, other active labour market policies can play a key role in ensuring that workers and firms can adapt quickly to structural changes (OECD 2006). The role of public employment services is instrumental in this respect (Van der Ree 2017). The combination of passive and active labour market measures can yield positive results. Moreover, poor people who are negatively affected by the greening process (such as due to a reduction of fuel subsidies) should be compensated through social protection measures.⁶² Policies that extend social transfers (such as unemployment benefits, cash transfers and social protection in general, PEPs and payment for ecosystem services), may support green investment and be conducive to higher growth, employment creation and fairer income distribution (OECD 2017; ILO 2015b). In Barbados, for example, the national employment bureau has created a fund to provide reskilling opportunities to active jobseekers, including on green practices in electrical installation, plumbing, masonry and construction. In some other countries, workers in declining sectors that rely heavily on natural resources such as agriculture and forestry⁶³ have benefited from income support combined with active measures in the transition period until obtaining a new job (Sanchez and Poschen 2009).

Social protection also plays a critical role in buffering the negative impact caused by climate change hazards (UNDP 2013). People affected by climate calamities may receive financial support, whether or not combined with public employment, to restore infrastructure and improve resilience. PEPs are effective tools for creating employment, providing income support and developing skills among vulnerable groups (ILO 2019b). PEPs may vary from short-term emergency public works programmes (such as temporary responses to specific shocks and crises, including extreme climate events; see, for example, box 14), to longer-term actions, such as employment guarantee programmes (such as India's MGNREGA scheme). All these programmes improve people's access to infrastructure assets and economic and social services.

⁶² For a critical discussion of this issue with reference to the case of Indonesia, see Perdana (2014).

⁶³ More information may be consulted in fact sheets of the ILO Social Protection Department on reforestation or conservation programmes in China and Brazil (with the support of Bolsa Verde), which combine income support with PEPs; see ILO (2016) and ILO (2015).

► **Box 14: Emergency public works programmes in Haiti during 2004 tropical storm recovery**

Small island states are among the most vulnerable to the effects of climate change, although they have contributed the least to global warming (UNFCCC 2019a). Haiti is one of the world's poorest countries and it is physically exposed to extreme weather events such as cyclones, hurricanes, earthquake, floods and tropical storms. The combination of socioeconomic and physical characteristics makes this island one of the most vulnerable countries on earth to the effects of climate change (Rubinstein 2019).¹

Following the 2004 tropical storm in the northeast region of Haiti, the United Nations Development Programme and the World Food Programme, with the technical assistance of the ILO, supported the Government in implementing a job creation, environmental restoration and resilience-building programme in the area of Gonaïves. The aim was to develop increased environmental resilience through employment-intensive approaches (ILO 2019c). Key objectives of the programme included quickly restoring the catchment slopes of Gonaïves; improving the basis for an economic recovery; and limiting the effects of high demographic pressure on the environment (Haiti et al. 2019).

The programme was implemented between 2006 and 2007 and supported environmental protection and economic recovery, preserving livelihoods and water and soil conservation for productive land use, while also generating green jobs. Social organization capacity-building was enhanced, as local professional associations and federations were created and workers trained. Disaster risk reduction was also advanced through watershed management and erosion control, while afforestation activities were also implemented. An average of about 900 people were employed daily over a 20-month period and wages amounting to US\$ 681, 743, together with work-for-food payments equivalent to US\$ 679,690, were created (Haiti et al. 2019).

The experience demonstrated that in post-disaster areas, objectives such as income generation, environmental restoration and protection, economic reactivation, infrastructural reconstruction and development, as well as skills training, can be combined and simultaneously implemented, provided that local community organizations are correctly supported and integrated into the process.

¹ For example, on 12 January 2010, a magnitude 7.0 earthquake struck Haiti, one of the world's poorest countries. It affected 3 million people, caused the death of about 250,000 people and injured more than 300,000, destroying infrastructure and facilities and displacing millions of citizens. The crisis was further exacerbated by a cholera outbreak and several droughts because of El Niño conditions (Worldvision 2019).

Towards policy coherence

Governments face numerous and different challenges in coordinating environmental and labour policies. Developing countries that have managed to implement coherent and well-integrated policies that are capable of promoting “win-win-win” situations for people, the economy and the environment, may also face constraints during structural transformation cycles (Poverty-Environment Partnership 2012; ILO 2011). This stresses the need for an “ecosystem” (OECD

2018) of coherent and well-coordinated policies. – in particular financial, industrial, employment/labour market, and education, training and skills development policies – to promote green jobs and a greener economy. Box 15 lists a number of key policy measures among which synergies can be sought for greening with jobs. Some of these measures were examined in the previous section of this chapter given their strict relevance to NEP frameworks, while others belong to different policy realms.

► **Box 15: Key policy measures for greening with jobs**

Drawing on key literature on the topic (OECD 2017; ILO 2015c) (OECD 2013), the following measures can be instrumental for greening with jobs:

- **Macroeconomic and growth policies:** integrate sustainable development and a just transition into macroeconomic and growth policies; align economic growth with social and environmental objectives; and adopt appropriate regulations and instruments. Policy choices should be informed by ex ante and ex post impact assessment.
- **Industrial and sectoral policies:** sectoral policies (such as low barriers to trade and investment to promote international transfer of technology, investment and investment promotion) that establish incentives and regulations to stimulate demand, particularly in socially sensitive sectors (such as recycling) and in activities with high green potential (such as energy), public support for breakthrough technologies, measures leading to a reduction of unsustainable production (such as elimination of fossil fuel subsidies and limiting further waste production).
- **Environmental policies:** policies to limit the depletion of natural resources and biodiversity.
- **Enterprise policies:** including fiscal and tax reforms, adequate financing mechanisms (such as microcredits) and incentives for research and development, paying special attention to MSMEs; these and other public policy measures can steer and boost private initiatives, such as the green industrial park in Bangladesh.¹
- **Infrastructure policies, transport policies and urban planning.**
- **Supply-side policies:** such as skills needs assessments and development and active labour market policies to minimize the adjustment costs of greening and facilitate a smooth reintegration of jobseekers into employment.
- **Consumption policies:** should orientate consumers to more sustainable consumption habits (such as higher taxes on cars with high fossil-fuel consumption).
- **Social protection:** such as income support, unemployment insurance, in-work benefit, and adaptive social protection² to ensure that the transition is not achieved at the cost of excessive insecurity or inequality for workers.
- **Occupational safety and health:** such as creating awareness of OSH standards for technologies and increasing regulations of environmental and health-unfriendly hazardous substances and processes.
- **Institutional capacity-building:** in particular in fragile states, in order to manage the shift towards a green economy.
- **Social dialogue, tripartism and regional support policies:** regional action may be required to facilitate the greening of national economies in a given region.
- **International cooperation:** international initiatives can help spur national policies through partnerships, South–South or triangular cooperation, etc.

1 In Bangladesh, with the support of the Bangladesh Investment Development Authority, a green industrial park for garment and textile has been promoted, which applies environmentally friendly techniques and procedures (such as reduced energy use, water use and carbon footprint) in the production process and also creates new green industries, empowers local authorities and has a positive multiplier effect on employment (Bangladesh 2020).

2 This term refers to a series of measures that aim to build the resilience of the poorest and most vulnerable people to climate change by combining elements of social protection, disaster risk reduction and climate change adaptation in programmes and projects (Arnall et al. 2010).

There may be trade-offs and conflicts in selecting among the policy options listed above, such as in cases where unemployment is high in regions with environmentally harmful industries, or where the choice is between nurturing a home-grown SME sector for renewable energy expansion versus unconditional openness in the trade of photovoltaic panels.

It is also important to highlight that, irrespective of their magnitude, meeting the sustainable development potential of individual policies or policy packages (NEPs or other policies) will depend on various institutional and operational factors, including people's attitudes and capabilities, institutional capacity and technological competitiveness, among other things (ILO 2011). Cooperation and coordination between employment authorities and their counterparts in various fields are required (ILO 2015c) in order to ensure the participation of relevant stakeholders at the different levels. The consistency, timing and sequencing of different measures are also essential for supporting an effective transition to a greener and inclusive economy. Another important dimension is the territory, in particular the urban or rural context. Environmental challenges change from one locality to another and local planning can inform tailored, integrated solutions to such challenges.

A starting point for policy coherence, in many instances, is the commitment of governments to reduce greenhouse gas emissions following the 2015 Paris Agreement on Climate Change. Ministries of labour and the social partners can use the follow-up and implementation process of the Paris Agreement as an opportunity to argue for responsive employment policies that ensure a just transition. A background document to a meeting of the UNFCCC Task Force for a Just Transition for the Workforce held in 2016 recommends the following actions when designing implementation measures to follow up a national commitment to reduce emissions (or when adopting green growth-oriented policies more generally). These recommendations should contribute to creating more coherence among green jobs policies and reinforcing them:

- ▶ integrate provisions for a just transition into the design of green growth policy and low-carbon development strategies;
- ▶ involve the ministry in charge of employment in the agenda of the green growth policy design;



- ▶ promote close collaboration, both during the design phase and throughout the implementation phase, between relevant national ministries, including ministries of economic planning and finance, with a view to finding the best solutions for workers affected;
- ▶ establish and strengthen the institutional and technical capacity of subnational authorities at the regional and local levels in order to guide the transition of the workforce, while addressing the necessary changes in regional economies; and
- ▶ establish or strengthen availability of and access to basic labour market data.

Several countries have adopted a holistic approach to policymaking, including in the context of PAGE.⁶⁴ In Senegal, for instance, PAGE helped to formulate a national strategy for the promotion of green jobs, 2015–2020, which was subsequently integrated into the NEP to ensure synergy among actors in the environmental sphere and the world of work. In this sense, the strategy serves as a unifying framework of actions meant to strengthen legislative, institutional and regulatory mechanisms, build human capacities and develop appropriate financing solutions and monitoring for sustainability. The strategy is partly implemented through a support programme for the creation of green jobs opportunities. As of June 2019, the strategy has created 2,000 jobs through activities (recycling, aquaculture, forestry) that generate a positive return on investment. Among the weaknesses of this strategy is the lack of an established support fund to finance young entrepreneurs, which hampers a larger success.

In Peru, an ongoing review of the NEP includes a focus on green jobs and young people. A national plan for green jobs is envisaged to reinforce the policy, with concrete measures to be proposed in distinct areas, while a series of capacity-building activities for government staff have significantly enhanced the understanding of ways to promote

green jobs, including through regional youth employment initiatives.

Strong coherence is also needed between NEPs and local implementation agencies, bearing in mind that low-carbon development strategies are often shaped at the local level. Robust operational linkages should be built, for example, among local employment agencies, vocational training institutions and enterprise promotion centres. Sectoral strategies also have a strong geographical dimension, such as those related to extractive industries, tourism or municipal waste management. The articulation of the employment and social dimensions in such strategies and action plans is critical, as demonstrated in the example on bioeconomy (see box 9). Coordination mechanisms for NEPs should therefore include representatives of local government institutions.

However, in spite of this realization and the growing body of knowledge on the intricate links between the environment and jobs, many governments have yet to embark on deeper reflection and shape policies that address the environmental and social challenges simultaneously and effectively. Admittedly, this is a complicated issue that adds to the already demanding mandate and pressing challenges of ministries in charge of employment or environment policies. In other words, "... because the processes that force climate change are built into the foundations of the world economy and of geopolitics, measures to check climate change have to be similarly wide-ranging and all-encompassing. To decarbonise an economy is not a simple subtraction; it requires a near-complete overhaul."⁶⁵

The shift towards a green economy with social justice implies radical socio-economic changes that in turn will require a strong buy-in and commitment at all levels of society. India, for example, created a multi-stakeholder task force in 2009 with the objective of creating awareness of the green economy and green jobs, as well as to support dialogue among various institutions

64 PAGE is a global initiative of five United Nations agencies to accelerate the transition to a green economy through national policy reform, sector strategies and capacity-building. With the support of a multidonor trust fund, it provides technical assistance to a growing number of countries. See www.UN-PAGE.org

65 *The Economist*, "The Climate Issue", 21–27 September 2019, p. 11.

and policy coherence and coordination. Another example is the national committee on climate change created in South Africa in 1994, which is composed of representatives of the public sector (local, regional, national level), trade unions and employers' organizations, civil society and academia. The committee's mission is to provide advice to the Government on topics related to climate change and to promote the understanding and support of all groups of society for actions to combat climate change. One of its major

outcomes was the design of long-term mitigation scenarios, including an impact evaluation of their employment and income distribution effects and a green paper for the implementation of related measures supported by a consultative process. The resulting national climate change policy includes measures to mitigate job losses in sectors with high carbon intensity and to promote sectors in green sectors with high employment potential, as well as investment in related human and productive resources (ILO 2012).

► Possible directions for future work

The pace of policy response to contemporary challenges appears to be too slow and the resources engaged in sustainable solutions insufficient. The analysis presented in this chapter indicates that enhanced efforts are required to forge stronger ties between employment and other policies to enhance sustainability.

Among other lines of intervention, it is crucial to invest further as follows:

- 1. Policy-oriented research.** This is needed to assess the impact of environmentally friendly technologies and patterns of production and consumption on employment and social equity in order to inform and facilitate decision-making processes. An ex ante impact assessment can suggest the investment options expected to minimize trade-offs between environmental, employment and economic outcomes in order to create "win-win-win" situations. Policy-oriented research can also help to prevent potential employment losses and design mitigating measures (rigorous monitoring is also instrumental to that end). To do so, it is essential to collect economic, labour and employment data at the level of new green subsectors, which mostly do not exist. The worldwide implementation of the System of Environmental-Economic Accounting is an interesting initiative in this direction.

- 2. Capacity development.** It is essential to enhance the knowledge and capacity of national stakeholders, in particular ministries

of labour as well as other relevant government institutions, social partners and civil society actors. These entities should become more aware of environment-employment links. They should be better equipped to jointly design and implement policies in favour of employment and to address the negative consequences for jobs of environmental degradation and the transition to a greener economy, given that some people may lose their jobs or suffer from reduced income during and after the transition period.

- 3. Broad participation in social dialogue.** The paradigm shift and the structural transformation towards a green economy should be far-reaching and rapid in order to be effective, which will need the full support and commitment of all parts of the society. Broad participation in social dialogue has proven to be an effective way to create consensus on how to implement an inclusive green economy strategy, nurturing a shared national vision towards just transition and the political will to ensure its implementation. Inclusive decision-making, implementation and monitoring processes are required to make this happen.

- 4. Adopting a territorial perspective.** Many countries face different social and environmental issues (such as desertification in one area and flooding in another) that can only be dealt at the territorial level on the basis of local social and labour market

realities. The differences between rural and urban areas must also be factored in. A bottom-up approach at the local level may complement and be integrated into the broader NEP framework. Different experiments (such as the case of Morocco) provide insights into ways to refine and move forward with decentralized approaches.

5. **Industrial policies.** New measures are needed to translate international and national commitments into concrete results, including through fiscal reforms in favour of the green economy and green jobs and changing unsustainable methods of production and consumption, as well as support and investment in sustainable enterprises, especially in smaller companies that are less aware of climate challenges and less equipped for change. That implies the establishment of industrial policies to encourage sectors with a strong economic and employment generation potential, such as the bioeconomy, the circular economy and sustainable tourism. On another front, polluting sectors such as the chemical industry (such as plastics), the steel industry and car manufacturing should be guided to change their methods of production.
6. **Active and passive labour market policies.** Combined with industrial and territorial policies and possibly with social protection, active and passive labour market policies are needed to limit social adjustment costs and to ensure that the whole population benefits from change. Skills development in new green professions is as important as employment services, PEPs (green works) or professional reorientation programmes for workers who lose their jobs during the transition period.

7. **Broadening the space for policy coherence and coordination.** NEPs may play an important role in guaranteeing a coordinated public strategy in favour of a green and inclusive economy, focusing on the creation of green jobs. The combination of environmental and employment goals with economic objectives is a very promising way of ensuring committed coordination and coherence and thus effective results within the transformation process on the part of various key actors, enterprises, workers, the public sector and the whole society. The Paris Agreement's nationally determined contributions and the SDG monitoring framework may contribute to foster collaboration among national stakeholders. Increasingly, the SDGs are informing the design of national strategic frameworks, taking into account the nationally determined contributions to reduced greenhouse gas emissions in line with the Paris Agreement. This constitutes an important reference point for aligning separate policies, such as those on employment.

Sustainable development requires strong vision, policy dialogue and urgent and well-coordinated actions by stakeholders at various levels from the local to the global. There are many windows of opportunity and examples of good practice to rely on for future decisions. Above all, a sense of collective responsibility must prevail over narrow interests in order to scale up action and advance action towards greener and more inclusive economies. Any barricade or form of resistance will jeopardize more meaningful and timely solutions. Can societies still afford that?

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▶ Chapter 5



Pathways to formality: Comparing policy approaches in Africa, Asia and Latin America

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► Introduction

The term “informal sector” was first used in the early 1970s (Hart 1970; ILO 1972),⁶⁶ when a number of studies found that “poor people managed to make a living with small scale activities, which were not illegal, but were often not being recognized, recorded, protected and/or regulated” (ILO 1972).⁶⁷ Since then, there have been continuous and intense debates about the concept and definition of informality, its causes and the policies required to address it.

In the first decades of the concept’s existence, the discussion emphasized analysis and documentation. In more recent decades, the emphasis has shifted to actions and solutions.⁶⁸ Increasingly, governments and social partners have started to prioritize the transition from the informal to the formal economy in their policies. In this process, they use different approaches or emphases and even their terminology differs. Some countries use the terms “informality” or “informal employment”, while others use the terms “undeclared work”, “unregistered employment”, “unorganized sector”, “non-regular employment” and so on. The choice of terminology reveals an implicit perception of the problem and to a large extent influences the policy choice.

ILO Recommendation No. 204 provides an international consensus on policies for the transition to formality. It recognizes the vast heterogeneity of the informal economy, so that not all workers in informal employment are in that

situation for the same reason and an integrated approach to facilitate the transition to formality is therefore needed in order to take all situations into account. The most direct policy implication of acknowledging the vast heterogeneity of informality is that there is not a “silver bullet” solution for the transition to formality and an integrated approach that includes multiple and coordinated interventions is needed. Although for some workers or economic units informality may be a rational decision, ILO Recommendation No. 204 recalls that the majority of workers in the informal economy are not there by choice but because of the lack of opportunities in the formal economy.

This chapter discusses policy approaches or pathways to formality from a regional perspective. It briefly revisits some key facts concerning informality, including its magnitude and heterogeneity at the global and regional levels, highlighting the role of formal job creation and institutional policies. Policy approaches are explored and compared in different regions in the world, in particular in Africa, Asia and Latin America, paying attention to how these policy choices depend heavily on the structure of labour markets or economies, the nature of informality, institutional settings and so on.⁶⁹ The chapter concludes with a discussion of new developments or transformations and proposes some ideas on the way forward for the future policy agenda of the transition to formality.

66 For a description of the evolution of the ILO approach to informality, see for example Infante and Martinez (2020) and Bangasser (2000); the latter highlights the fact that the ILO’s 1972 report on the informal sector acknowledges the previous work of the Institute of Development Studies of the University of Nairobi, which “may help explain why the concept was rather slow to be accepted in the high levels of the Development Set but quickly embraced by the Third World itself”.

67 ILO Recommendation No. 204 emphasizes that “the term ‘informal economy’ ... does not cover illicit activities, in particular the provision of services or the production, sale, possession or use of goods forbidden by law, including the illicit production and trafficking of drugs, the illicit manufacturing of and trafficking in firearms, trafficking in persons, and money laundering, as defined in the relevant international treaties” (Para. 2).

68 Bangasser (2000) tracks the origin of this shift to the 1980s, although at first informal sector activities were “largely ignored, rarely supported, often regulated and sometimes actively discouraged” by governments. When actions were taken, solutions focused more on “the visible consequences of working in the informal sector, rather than its much less visible causes”.

69 The statistical section benefited from the kind collaboration of Florence Bonnet (ILO) and also draws on Jessen and Kluge (2019). The regional discussions draw on papers by Kiaga and Leung (2020) for Africa; Mehrotra (2019) for Asia; and Salazar-Xirinachs and Chacaltana (2018) for Latin America.

► Informality revisited: Magnitude and heterogeneity⁷⁰

In this section, we revisit the most notable characteristics of informality, using the recent ILO harmonized data on “informal employment” from more than 110 countries around the world (ILO 2018a).

First of all, informality remains a problem of great magnitude. In 2016, about 61 per cent of all workers in the world were in informal employment (table 7) or about 2 billion workers worldwide, 1.3 billion of them in Asia, 360 million in Africa and 150 million in Latin America and the Caribbean.

Secondly, informality is highly heterogeneous and has multiple manifestations. Informality rates disproportionately affect own-account workers: 86 per cent of them are in informal employment, as are 100 per cent of contributing family members by definition. The informality rate is 40 per cent for employees. Domestic employment, in which women are the majority, shows also very high rates of informality, regardless of geographical region. Figure 3 shows that although informality rates for own-account workers are always high in the regions analysed (above 70 per cent), what really makes a difference across regions is the share of each category in the total employment composition. For example, employees make up 54 per cent of employment worldwide but only 31 per cent in Africa. By contrast, own-account workers make up 32 per cent and contributing family workers 10.1 per cent of employment worldwide⁷¹ but as much as 45 per cent and 21 per cent, respectively, in Africa. These proportions change dramatically by country income level. According to ILOSTAT, in high-income countries the share of employees is 87 per cent, the share of own-account workers is 10 per cent and the share of (unpaid) contributing

family workers is less than 1 per cent; while in low-income countries the share of employees is 18 per cent, the share of own-account workers is 51 per cent and the share of (unpaid) contributing family workers is almost 30 per cent.

Figure 4 shows similar conclusions by firm size, indicating a negative correlation with informality. In all the regions analysed and the world, informality rates for economic units of 1 worker are always about 90 per cent, while for firms with 2–9 workers they are about 70 per cent. For firms with more than 50 workers, informality rates are below 35 per cent. However, what really differentiates regions is the structure of the labour market by firm size. Establishments with less than 10 workers account for about 55 per cent of total employment but this figure increases to 82 per cent in Africa, 60 per cent in Latin America and the Caribbean and 57 per cent in Asia. Moreover, the proportion of employment in firms with more than 50 workers, which globally stands at 31 per cent, falls to 11 per cent in Africa, 28 per cent in Latin America and the Caribbean and 31 per cent in Asia. The proportion of employment in firms with more than 50 workers is greater in advanced countries, standing for example at 44 per cent in Europe.

Therefore, a first policy implication here is that the labour market composition is a key determinant of the overall informality rate in a country or region. It would be very difficult to reduce informality levels in a sustained way without changing labour market structures. That situation is more related to the levels and patterns of development than to individual choice.

Another important fact is that some specific demographic groups show higher informal employment rates. Table 7 shows that while

70 Operational and statistical definitions of informality have also evolved over time. The original concept of “informal sector”, which referred to the existence of economic units with low levels of productivity but concentrating an important share of employment, led to the indicator “employment in the informal sector”, which is the enterprise-based definition of the informal sector that was adopted by the Fifteenth International Conference of Labour Statisticians (ICLS) in 1993. Subsequently, the Seventeenth ICLS endorsed the new and broadened concept of informal employment in 2003 and recognized that employment with informal characteristics also exists in the formal sector, which led to the current concept of “informal employment” that is divided into three categories: informal employment in the informal sector; informal employment in the formal sector; and informal employment in households. Both “informal sector” and “informal employment” make up the “informal economy”. See ILO (2018a) for a more detailed explanation.

71 Bonnet, forthcoming.

global informality rates are 63.0 per cent for men and 58.1 per cent for women, women are more exposed to informal employment in sub-Saharan Africa (90 per cent), South Asia (89 per cent) and Latin American countries (75 per cent), especially in low-income and lower-middle income countries. In 55 per cent of the countries surveyed, the incidence of informality is higher for women (ILO 2018a). According to Chen (2007), although informal employment is composed of different kinds of employment status, including employers, employees, own-account operators, casual wage workers and industrial outworkers/homeworkers, women are overrepresented in lower-income segments.

With respect to age, informality shows a U-shape profiled: the share is high at younger ages (under 25) and also at older ages (over 55).⁷² In 2016 there were about 362 million young people in informal employment in the world, more than half of them living in sub-Saharan Africa or Southern Asia. Recent ILO research (O’Higgins 2017) shows that obtaining a first job that is vulnerable (self-employed or unpaid family worker) increases by about 3 per cent the probability that an individual will have a job at some time in the future but also reduces by 6 about per cent the probability that that job will be formal. In other words, accepting vulnerable jobs at the beginning of the work career entails the risk of condemning the incumbent to long-term informality.

There is also an inverse relationship with education. The majority of workers with no education (93.8 per cent) are in informal

employment and this share of informal employment decreases to 23.8 per cent for those with tertiary education. Globally, half of the workers in informal employment have either no education or a primary level of education at best; this proportion reaches more than 80 per cent in developing countries. In contrast, just above 7 per cent of workers in informal employment have a tertiary-level education (ILO 2018a).

Recent empirical research has revealed some other interesting characteristics of informality, such as its multidimensionality and high dynamics in the status of informality, meaning that there is not only one but many pathways to formality and that both informality and formality are not necessarily permanent.⁷³ There is also a small but increasing number of studies that attempt to assess the impact of specific interventions (figure 7).⁷⁴ The policy implications of these findings will be considered below.

With regard to policy approaches, there has also been an intense debate on the causes of informality and many theories have been elaborated.⁷⁵ Some of them highlight the role of economic factors, while others emphasize the role of institutional factors.⁷⁶ ILO Recommendation No. 204 suggests a policy framework with three major objectives for the transition to formality: (a) formal business and employment generation, (b) policies to facilitate the transition from the informal to the formal economy and (c) policies for preventing the “informalization” of formal jobs.

72 Chacaltana et al. (2019) argue that for this reason a lifecycle approach to the transition to formality is needed.

73 See for example Maurizio and Vásquez (2019) and Diaz et al. (2018).

74 See Jessen and Kluge (2019) for a systematic review of impact studies on interventions to formalize labour or economic units.

75 For an overview of the main theories, see Martha Alter Chen, “[The Informal Economy: Definitions, Theories and Policies](#)” (WIEGO, 2012).

76 For example, according to a recent study (OECD and ILO 2019), “... there is a strong correlation between the extent to which regulations are fairly and effectively implemented and enforced (...) and the level of informality across countries ...”.



► Formal job creation: the role of growth and the economic structure

The process of job creation – formal or informal – involves analysing the linkages between the labour market and the evolution of the economy.⁷⁷

Examining a cross-section of countries (ILO 2018a) reveals a negative correlation between informal employment and the level of GDP per capita and a high dispersion in middle-income countries. Countries with high GDP per capita (above US\$20,000 per year) have low informality rates (most of them less than 40 per cent), whereas countries with low GDP per capita (less than US\$5,000 per year) tend to have high informality rates (more than 70 per cent). Here we have found the same pattern by geographical regions, showing that most African countries are concentrated in the lowest level of GDP per capita and at the same time, the highest level of informality. Countries in Latin America and the Caribbean are more concentrated in the middle-income level of GDP per capita and show a high dispersion of informality. This dispersion is even larger in Asian countries, in which, unlike in Latin America and the Caribbean, we find high-income countries as well. A high dispersion implies that GDP alone is not sufficient to reduce informality.

The relationship between changes in informality and changes in GDP is less clear. There has been a long discussion over whether informality is pro-cyclical or countercyclical, which is influenced by the intrinsic heterogeneity of the

informal economy and its interrelations with the formal economy.⁷⁸ The evidence shows that the relationship between GDP growth and employment growth is stronger than with formal employment growth.⁷⁹ Jütting and de Laiglesia (2009) and Kucera and Xenogiani (2009), analysing data by region from 1975 to 2007, find almost no relationship between GDP growth and informal employment for any of the major regions in the world: Latin America, South and East Asia, sub-Saharan Africa and North Africa. Cuba et al. (unpublished) found that in Latin America during 2000–2012, for every 1 per cent increase of GDP the share of informal employment decreased by 0.14 per cent.

Some theories state that when the linkage between growth and formal employment is weak, institutional barriers – in particular labour market institutions – are the “common suspects”, although there is no ex post evidence to support this. In any case, such theories underscore the fact that growth tends to be uneven (Ray 2010) and that countries with the same level of GDP per capita may have very different economic structures.⁸⁰

Unequal productive structures have been linked to the differential ways that technology spreads within the economic structure.⁸¹ In this context, the economic structure is divided into several productive sectors. At one end there is

77 See Kapsos (2005) for a detailed discussion on the employment intensity of growth.

78 This heterogeneity may even allow for both pro-cyclical and counter cyclical tendencies to occur at the same time (Bromley and Wilson 2018). See Tokman (1978) and OECD and ILO (2019) for a detailed discussion on the interrelations between the informal and formal sectors.

79 Kapsos (2005) finds a global total employment elasticity of 0.3 per cent for the period 1999–2003, which means that for each percentage point of GDP growth, total employment grows by 0.3 per cent. The total elasticities were 0.23 per cent for North America, 0.42 per cent for Western Europe, 0.42 per cent for South East Asia and the Pacific, 0.45 per cent for Latin America and 0.53 per cent for sub-Saharan Africa.

80 The link between economic structure and informality goes back to the dualist theories (Lewis 1954; Harris and Todaro 1970) that focused on the shift of unskilled workers from the subsistence sector (rural), characterized by unlimited supplies of labour, to the capitalist sector (urban). The capitalist sector is unable to absorb the excess of labour and this allows the emergence of disguised unemployment.

81 For example, Hart (2001) mentions that “... in two centuries, the differential rate of application of machines to production has been the single greatest indicator of uneven development in the global economy”. And “... there are people in the world that still work with their hands. Productivity, a function of the machines supporting human labour, is the most direct guide to the growing gap between haves and have-nots in the world today”.

a high-productivity sector, mainly composed of economic units that are relatively efficient, characterized by increasing productivity and high levels of technology per worker. At the other end, there is a sector made up of economic units that work with a very low level of productivity, using almost no mechanization, negligible capital density and very old or even no technology. Between these two sectors, there is an intermediate sector in terms of technical progress and productivity. Sometimes, the high-productivity sector is called “modern” and the low-productivity sector is called “traditional” sector, in a clear reference to the use of modern or traditional technologies.

One common approach to characterizing the economic structure is to analyse productive differentials across economic sectors. In figure 5, the vertical axis shows relative productivity levels, considering agriculture as the “numeraire” (equal to 1) and the horizontal axis shows the cumulative share of employment in each sector. The multiplicative product of both axes is total GDP or value added per sector. We observe that even in this three-sector case, the differences are large since productivity in industry is four times more than that in agriculture at the global level. This characterization of productivity based on differentials by economic sectors may be complemented by a characterization based on firm size, which is particularly relevant for explaining the functioning of developing economies because it allows the analysis to include the coexistence of firms with very

heterogeneous levels of productivity in each sector.⁸² Unfortunately, information on GDP by firm size is rather scarce and only available in a small number of countries.

In any case, whether based on economic sector or firm size, these productivity differentials are considered to be the nucleus from which inequality is expanded to both the labour market and society at large, because they tend to generate different “productivity” groups in the labour market according to their different access to technology and markets.⁸³ An unequal economic structure limits productivity growth since most economic growth (as well as investment, technical progress, etc.) tends to concentrate in the most productive sectors, while the ability of the economic system to generate employment is heavily dependent on the performance of this sector, especially when it has few interlinkages with the rest of the economy.⁸⁴

Productivity differentials are an important characteristic of economies with informality. Recent data has made it possible to better assess such differentials directly. Recent estimates of informal GDP (IMF 2019) – including discussion of methodologies – indicate that informal GDP in sub-Saharan Africa was about 34 per cent of total GDP in the period 2010–2017. Yet the ILO estimates that informal employment in sub-Saharan Africa was 89.2 per cent in about 2016. If both estimates are correct, then almost 90 per cent of workers (those in informality) produce 34 per cent of GDP, while the other 10 per cent of workers (those in formality) produce 66 per cent of

82 Infante (2018) adds that the “economic sector” approach attributes a primary role to the manufacturing sector in the economic dynamics and growth processes, because the manufacturing sector has traditionally been the nucleus for the creation of capacities, knowledge and learning processes. Although it is debatable whether this sector has retained the relative importance it had in the past, in developing countries the role of the large firm is significant because of its increasing horizontal and vertical integration. Within each sector, large firms are the leaders of the process of modernization, technological improvements and so on, but small firms with lower productivity usually provide most employment. Firms with very different productivity levels in a given sector may not necessarily compete in the same product market segments, because there are also differences in the demand for final goods and such differentiation is usually seen in the quality dimension of the goods produced.

83 Chacaltana and Bonnet (forthcoming) attempt to formally analyse the relationship between informality and the sectoral composition of GDP, using an econometric approach to show that the pattern of growth is non-neutral for the reduction of informality, in particular for formal job creation. In the following sections, we show the same result, using cases from different regions in the world.

84 The importance of the economic structure, in particular of “inclusive structural transformation”, has been confirmed by recent literature. De Vries et al. (2015) find that in Africa “since 1990 resources are shifted towards services sectors that have sluggish performance and are increasingly falling behind world productivity frontiers in 10 of 11 African economies analyzed”. Therefore, “a new technology gap has opened up in both manufacturing and services, as productivity has dropped to about 10 per cent of the levels found in the United States in 2010”. For Latin America, Infante (2018) finds that the formalization episode in the period 2005–2015 was associated with the movement of workers from low-productivity sectors (mainly small businesses) to higher-productivity sectors (mainly large firms).



GDP in this region. The informal economy would therefore show a relative productivity differential of 17 times with respect to the formal economy. At the global level, informal employment represents 61 per cent of total employment (ILO 2018a). Estimates of the proportion of GDP produced by the informal economy fluctuate between 22.5 per cent and 34.5 per cent (La Porta and Shleifer 2008).

These figures show the enormous productive divide in economies with pronounced informality, which may transform into other forms of

inequality and a lack of social cohesion. At the same time, it shows the multidimensional nature of informality. In other words, employment is only one dimension – probably the most visible dimension – in which informality manifests. However, there are other important dimensions that characterize the informal economy, such as the share of informal GDP in total GDP and the share of informal businesses in all businesses. The policy implication is that the transition to formality requires interventions in all these dimensions of the informal economy.

► Policy frameworks for transition to formality

A recent emerging trend in policymaking for the transition to formality is the development of policy frameworks.

In addition to ILO Recommendation No. 204, which summarizes the global consensus on the topic, some regional organizations have started to advance regional cooperation and strategies for facilitating the transition to formality. The African Union adopted the proposal for the Decent Work for the Transformation of the Informal Economy programme in 2019. The overall development objective of this African Union Commission–ILO joint programme is the reduction of decent work deficits in the informal economy in Africa through progressive transition to formality.⁸⁵ ASEAN adopted the Vientiane Declaration on Transition from Informal Employment to Formal Employment towards Decent Work Promotion in ASEAN in 2016 and subsequently developed the Regional Action Plan in 2018.⁸⁶ Recent ILO regional meetings have found the transition to formality at the top of the list of priorities. Key outcomes of these regional strategies include measures to improve knowledge and data

collection to support policymaking and to enhance Member States' capacity to develop policies and strengthened policies and programmes for the transition to formality.

At the country level, governments are also including the transition to formality in their strategic planning documents. Most countries include provisions on the transition to formality in their NEPs. However, more recently, in particular following the adoption of ILO Recommendation No. 204, countries have started to develop a specific policy framework – the formalization strategy and plan (FSP) – that focuses solely on the transition to formality. In some countries, the second or even the third generation of such FSPs are being developed.

Leung (2020) analyses 38 NEPs adopted at the national level⁸⁷ in 32 countries and 13 FSPs in 8 countries to see how the objective of transition to formality has been formulated and translated into policy measures in different countries and regions. The analysis of these policy frameworks is based on the information extracted according to a template with predefined criteria.⁸⁸ The fact that

⁸⁵ See ILO, "AU adopts the proposal for a Decent Work for the Transformation of the Informal Economy programme (AUC-ILO)".

⁸⁶ ASEAN, *Vientiane Declaration on Transition from Informal Employment to Formal Employment towards Decent Work Promotion in ASEAN*, 2018.

⁸⁷ ILO, "Global Knowledge Base on National Employment Policies (EmPOL)".

⁸⁸ Including document title; year of approval; process; time frame; target (expected outcome); priority groups, policy areas; and monitoring and evaluation and implementation.



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some countries are at the stage of implementing the second or even the third generation of these policy frameworks allowed the evolution of policy choice and mix to be analysed as well.

Although the adoption of ILO Recommendation No. 204 in 2015 demonstrated the consensus of ILO Member States on policy guidance for the transition to formality, more and more FSPs have been developed since 2015 and a number of countries continue to give important attention to this topic in the second generation of the NEPs formulated after 2015 (figure 6).

With respect to the focus of NEPs and FSPs on different priority groups, informal enterprises, especially microenterprises and SMEs, are the most common priority group. Those who are especially vulnerable to the most serious decent work deficits in the informal economy are not adequately taken into consideration, especially in FSPs. Although women are considered as a priority group in many NEPs, that emphasis is not well reflected and mainstreamed in policy measures and interventions.

With respect to policy choice and mix (figure 6), policy frameworks that propose an appropriate legislative and regulatory framework should include policy measures on labour inspection in order to ensure enforcement and compliance. When policy frameworks target enterprise formalization, a series of policy interventions is proposed, including to ensure a conducive business and investment environment, the promotion of entrepreneurship and access to finance and business services. Some policy frameworks also adopt a more balanced policy mix in order to bridge the gap and ensure that the formalization of enterprises will result in the formalization of employment by extending social security coverage, skills development and effective labour inspections. It is also proposed that technologies should be used to bridge the gap of institutional coordination.

To demonstrate commitment to the transition to formality, almost all FSPs include formalization targets; however, less than half of them include quantitative targets that are specific, measurable, time-bound and relevant. Although 24 NEPs consider the transition to formality as either an objective or policy pillar, only 6 of them include formalization targets.

Concerning the evolution of the transition to formality in different generations of policy frameworks, one observation from the experience of Peru and Turkey is that policy areas and measures are consistent between different generations of FSPs. In most cases, the transition to formality has been gaining ground from one generation of NEPs to the next.

Another observation is that there is limited commitment to evaluation and a lack of involvement of informal actors in monitoring and evaluation and implementation. Monitoring and evaluation are important processes for tracking progress and assessing the impact of policies. However, in most FSPs, there is no mention of evaluation and in addition, only one NEP considers informal actors as a participant in implementation.

This observation applies not only apply to formalization strategies but also to all interventions or policies on informality. A recent global systematic review by Jessen and Kluge (2019) finds that despite the multitude of interventions related to the transition to formality, there are only 32 studies that empirically evaluate the impact of such interventions, 23 of them in Latin America. Although they find that the type of intervention is not a strong determinant for the effectiveness of formalization interventions, their results suggest that interventions at scale are more observed on average than singular “programmes”, which is consistent with ILO Recommendation No. 204.



► Regional policy approaches

In this section, we review different policy approaches or emphases on the transition to formality, focusing on the cases of Africa, Asia and Latin America, where informality affects more than half of total employment. There is a risk of simplification since all regions show important dispersions. However, the purpose is to provide a global comparison across regions using the policy framework of ILO Recommendation No. 204. In particular, we focus on the specific characteristics of informality, the political-economic context, the main policy drivers and the evidence of impact (if any). We also pay attention to the attitude of policymakers towards informality as a key determinant of policy emphasis.⁸⁹

Africa

Informality as a key concern and low economic development as its main cause

The transition to formality occupies an important space on the policy agenda in Africa. Informal employment is the main source of employment, accounting for 85.8 per cent of total employment, the highest share in the world. By subregions, informality is 89.2 per cent in sub-Saharan Africa and 67.3 per cent in North Africa. Within sub-Saharan Africa, Southern Africa shows the lowest rate at 40.2 per cent, half that of Central Africa (91.0 per cent), Eastern Africa (91.6 per cent) and Western Africa (92.4 per cent). Although most countries have an approximately 90 per cent level of informality, South Africa (34 per cent) and Cabo Verde (46.5 per cent) have the lowest levels (table 7 and ILO 2018a).

⁸⁹ As Bangasser (2000) notes, at first the attitudes of national authorities and the international development community included "sometimes open hostility, sometimes benign indifference, but virtually never positive encouragement, and certainly not assistance. It was axiomatic that, as 'take off' was achieved and the development process gained momentum, the 'modern sector' would gradually absorb them. So the 'problem' was only temporary. ... But the temporary problem didn't go away".

The conceptualization of informality and its causes is largely influenced by the characteristics of informality, as well as its historical development and socio-economic and political contexts.⁹⁰ Kiaga and Leung (2020) identify the following specific characteristics of informality in Africa:

- ▶ Most countries are low-income and lower-middle income, with low productivity.
- ▶ Africa is probably the only continent in which population will continue to grow at high rates in the coming decades. Therefore, the challenge for policymakers is how to ensure the absorption of its increasing population in the labour market since the population of young people in Africa is projected to increase by 105 million by 2030, 94 million of them in sub-Saharan Africa (ILO 2017a).
- ▶ The agricultural sector is and will remain the dominant economic activity in most African countries, especially in sub-Saharan Africa, because of the demand for food security in view of the increasing population. Therefore, increasing the productivity of this sector and/or modernizing it may be a solution for the transition to formality.
- ▶ There is a larger concentration of informality in MSMEs in Africa than in other continents. As we will see, this influences the fact that most interventions focus on the formalization of MSMEs, such as reducing the costs of registration and so on. The next challenge will be how to translate the formalization of enterprises into the formalization of employment.
- ▶ Jenkins (2001) reports that in Africa, “informality often draws on norms and institutions derived from indigenous or pre-colonial socio-cultural orders. The basis for social relations may be based more on kinship and community of that the individual or nuclear family. The basis for

economic relations may be based on principles of social redistribution or reciprocity than utilitarian exchange”. This is a key characteristic that influences the way policies to address informality are designed and implemented.

- ▶ In the specialized literature in Africa, many references link the level and nature of informality in Africa to the particular characteristics of the colonial period and the post-independence period, which calls for a more holistic interpretation of informality and its influence in various spheres of life (Kiaga 2012).

With respect to the evolution of informality over time, some studies have found that it increased sharply in the 1980s. Charmes (2016) indicates that informality increased from about 60 per cent in the 1970s to more than 70 per cent in the late 1990s in all countries in Africa. Subsequently, a reduction was observed between 2010 and 2014, especially in North Africa.⁹¹

Most studies identify the low level of economic development in Africa as the main cause of informality. Productivity is not only low but is not converging with advanced countries and on the contrary seems to be diverging (De Vries et al. 2015). According to the ILO (2019a), the current growth model in Africa, especially in sub-Saharan Africa, continues to rely mostly on traditional low-productivity sectors, the export of commodities and public expenditure, with private investment remaining low compared with other regions of the world at a similar stage of economic development. The ILO highlights that there are few signs of structural transition towards sectors with a higher added value, which could help to reduce not only informality but also broader decent work deficits in sub-Saharan Africa.

On the other hand, agriculture still accounts for more than half of the African working population (50.9 per cent), especially in sub-Saharan Africa

⁹⁰ During the 1960s, the African economies showed modest growth of agricultural production based on traditional cultivation, while the manufacturing industry was heavily reliant on import substitution. Investment was largely public since private capital was derived from foreign countries. By one estimate, by 1990, 37 per cent of Africa’s wealth was outside the continent (Mkandawire and Soludo 1999). Foreign capital was concentrated in extractive industries. The economic crisis of the 1980s fuelled the expansion of the informal sector, which also expanded to include skilled workers (Kiaga and Leung, 2020).

⁹¹ Kiaga and Leung (2020) indicate that between 1990 and 2014, Cameroon, Chad, the Democratic Republic of the Congo, Mali, Nigeria, South Africa and the United Republic of Tanzania experienced reductions of informal employment. Egypt and Tunisia experienced a reduction in the periods 1995–1999 and 2000–2004. National data in South Africa also shows an impressive reduction between 2001 and 2015. However, the scarcity of time series on informality in Africa makes it difficult to assess whether these are formalization episodes or instead reflect statistical fluctuations or changes of indicators.

(55 per cent in 2018). Although this share has been declining slowly but steadily over the past few decades, in absolute terms agriculture accounted for almost half of all the jobs created between 2000 and 2018. Over the same period, only 6 per cent of all jobs created between 2000 and 2018 were in the industry sector, which accounts for a mere 13.1 per cent of total employment in Africa and 11.1 per cent of total employment in sub-Saharan Africa (ILO, 2019a). There is some evidence of job growth in services, but it is concentrated in activities that are characterized by low productivity, a high informality rate and poor working conditions. In Africa, informality in services remains relatively high (70 per cent on average) compared to other regions.

Sporadic formalization episodes with strong economic growth

In reviewing policies for the transition to formality, Kiaga and Leung (2020) analyse some cases of reduction of informality in Africa and find that most of them occurred during periods of economic growth that exceeded average regional levels.⁹² However, in most of these cases, they observe not only growth but also some patterns of structural change (movement of workers from low- to higher-productivity sectors). In addition, their broad review of policies in Africa finds that:

- ▶ Instead of putting the emphasis on formalization, policies tend to promote a gradual transition from the informal to the formal economy. The magnitude of the informal economy is so important that it is considered to be a key element for generating employment and income for the urban poor.
- ▶ In a number of cases, policy design includes some specific particularities or even practices taken from the informal economy, such as informal apprenticeship systems (ILO 2012; Hofmann and Okolo 2013), a remarkable

instance of rules in the informal economy forming the basis of public policy.

- ▶ Extending social protection to informal workers (including self-employed workers, domestic workers and seasonal workers) through special social security regimes and simplified contribution systems is a common policy approach in Africa. This may take the form of extending social protection to informal workers within an informal sector fund (Ghana).
- ▶ There are cases of specific programmes being implemented to promote the employment of young people and their transition to formality (South Africa, Cameroon and Algeria).
- ▶ Consistent with the fact that the majority of informal employment is in the informal sector, especially in MSMEs, most policies support the development of MSMEs and increasing their registration by reducing costs (South Africa and Cameroon). Some focus on formulating specific strategies for enterprise formalization and improving the regulatory environment (South Africa, Cameroon and Egypt) and some also aim to promote the formalization of enterprises and their workers (ILO 2018b; Van Doorn and Tall 2017).
- ▶ Another special emphasis is the decentralization of policy measures. A number of formalization policies have been implemented at the local government level, where informal economy operators have their first entry into the formal economy.⁹³
- ▶ Policies and strategies to promote the urban informal sector are seen as a means of redressing the unequal access to income and limited means of production that were prevalent during the colonial period (Van Dijk 1997), when for example indigenous populations were not allowed access to selected productive sectors.

92 Including Cameroon, Chad, Côte d'Ivoire, the Democratic Republic of the Congo, Ghana, Mali, Mauritius, the Niger and South Africa in sub-Saharan Africa; and Algeria, Egypt, Morocco and Tunisia in North Africa.

93 For example, in Nairobi, Kenya, the local government supports the Muthurwa Market as one of the common approaches to constructing markets as a solution for the hawkers "problem". In Bamako, Mali, the implementation of the delegated management of markets approach in the communes led to increased tax collection and established a dynamic and fruitful partnership between informal traders and the municipality. Another example of the decentralization of economic governance is the transformation of informal street vendors into formal local business investors in Rwanda. In South Africa, the South African Local Government Association has developed guidelines to adopt a more developmental approach towards the informal economy. Finally, in Arusha, United Republic of Tanzania, the city council assists informal economy actors and is trying to strengthen its relations with informal business operators by providing them with loans and helping them to find alternative business premises (Kiaga and Leung 2020).

Further analysis of policy frameworks (Leung 2020) shows that most countries that have a policy framework have chosen to integrate the issue of the transition to formality as an objective or a pillar in their NEPs (Cameroon, Liberia, Mali, Mozambique, Namibia, Senegal, Seychelles, Uganda and the United Republic of Tanzania). Several of those countries (Cameroon, Mozambique and Senegal) have continuously considered the transition to formality in different generations of their NEPs. Within these policy frameworks, most countries focus on the formalization of enterprises through a series of specific strategies, including the promotion of entrepreneurship and a conducive business and investment environment; access to business and financial services and so on; and improving the regulatory environment through adopting specific laws on promoting SMEs and microfinance and related taxation issues (South Africa, Cameroon and Mozambique). Other strategies include simplified implementation of regulations through simplified business registration procedures and fiscal declarations (Cameroon, Liberia, Mozambique, Namibia and South Africa). Some countries emphasize the needs of specific groups, such as by extending social protection to informal workers (Cameroon, Liberia, Mali, Mozambique, Namibia and the United Republic of Tanzania); by including domestic workers in the unemployment insurance fund (South Africa); and by establishing specific programmes for promoting the employment of young people (Mali, Namibia and Uganda) and women (Mozambique, Namibia and Uganda) and their transition to formality. A number of countries (Cameroon, Liberia, Mali, Mozambique, Namibia, South Africa and the United Republic of Tanzania) emphasize the importance of organization and representation of employers and workers in promoting social dialogue for the transition to formality.

Cameroon and South Africa have developed an FSP and South Africa has brought such frameworks from the national to the local level.

A combination of policy measures is more effective

How effective are these interventions? The few existing impact evaluations of formalization policies show that their effectiveness is based on an appropriate combination of measures. Benhassine et al. (2016) and Campos et al. (2015) find that a combination of measures, such as in-person visits to explain business and tax registration and benefits, is more effective than just disseminating information on business and tax registration. Also, business registration will not automatically improve financial inclusion and access to credits unless other formalization assistance, such as training programmes and bank information sessions, is provided.

Studies of employment formalization in South Africa (David et al. 2012) and Algeria (Souag and Assaad 2017) focus on evaluating trade policies, active labour market programmes and fiscal incentives. It is important to note that the formal and informal linkage is often overlooked when policy measures focus only on the informal economy. David et al. (2012) find that measures that focus on the formal sector, such as trade liberalization, wage subsidies and unconditional cash transfers, may affect formality and informality in different ways. In South Africa, trade liberalization reduces national employment but increases formal employment and hurts informal producers. Wage subsidies for low-skilled formal workers increases national employment but hurts informal producers by increasing competition in domestic product markets. Unconditional cash transfers also stimulate the demand for informally produced products, thereby increasing informal employment without undermining formal producers.

Souag and Assaad (2017) evaluate the action plan for promoting employment and combating unemployment in Algeria, which proved to effectively reduce informality. The action plan

promotes youth employment by supporting the development of entrepreneurship through active labour market programmes and social inclusion programmes, as well as providing incentives for firms to create formal jobs by reducing social security contributions and reducing the income tax and taxes on corporate profits. The study shows that fiscal incentives for business registration are more effective for enterprises with at least more than ten workers.

Djomo et al. (2016) show that employment and tax policies can be a powerful tool for reducing informality and poverty if they are applied in the right way. The simulation results in Cote d'Ivoire show that an increase in skilled employment in the formal sector generates a decline in economic activity in the informal sector. This results in improved growth of GDP at market prices and a significant reduction of poverty. By contrast, fiscal policies do not have strongly differentiated effects between the formal and informal sectors. In addition, the taxation of products in the informal sector amplifies poverty.

The inclusion of informal workers in policy implementation is proven to result in greater impacts. Heintz and Valodia (2008) found that operating individually, the informal self-employed cannot take advantage of potential collective benefits. The municipal government of Durban/eThekweni in South Africa – in cooperation with organizations of informal sector workers – has established buy-back centres in the city to purchase recyclable materials such as cardboard from self-employed waste collectors. By consolidating the purchase and sale of recyclables by establishing such marketing centres, self-employed individuals can improve access to markets, raise productivity and improve their earnings. Cooperation between municipal government bodies and organizations of the informal self-employed was necessary to realize these collective benefits.

94 This group is characterized by very high trade-to-GDP ratios (Malaysia 132 per cent; the Philippines 76 per cent; Thailand 123 per cent; Viet Nam 188 per cent). In other words, they are highly integrated into the global economy and much more dependent upon FDI flowing into them for their growth. The fact that they are part of global production networks is integral to the persistence of informality in their workforces.

95 As in all other regions, the largest share of informal employment is in the informal sector and a very high share of employers are informal. With respect to employees, 64 per cent of them are informal in South Asia and 53.6 per cent in South-East Asia and the Pacific. There does not appear to be any significant trend in favour of formality among young people given that 95.5 per cent of the young people in the workforce in South Asia and 75 per cent in South-East Asia are in informal employment. As in other regions, lower levels of education correlate with informal work, while 85 per cent of the total rural workforce in Asia is informal.

Asia

A wide variation in informality within the region

Asia is the region with the fastest GDP growth rate in recent times. Yet 68 per cent of total employment is informal, representing some 1.3 billion workers (ILO 2018a). With regard to informality, Asia may be divided into three groups: East Asia, where growth and increasing per capita income has resulted in very high levels of formal employment; South Asia, at the other extreme, which has very high levels of informality (87.8 per cent) and the lowest levels of per capita income; and South-East Asia in the middle,⁹⁴ with both low-middle-income countries that have high levels of informality and upper-middle-income countries that also have high and persistent levels of informality (75.2 per cent) despite their high income levels. If China is excluded, East Asia's level of informality falls to 26.6 per cent, which is hardly surprising since the other countries in the region are either high-income countries or have very small populations (Mehrotra 2019).⁹⁵

Structural change, specific institutional policies and e-formality driving the reduction of informality

Compared to Africa and Latin America and the Caribbean, Asia is also the only region in which we have observed economic development processes characterized by rapid growth in the last half century. Although the "Asian tigers" economic development process is widely known, there are other cases of more recent rapid growth, most of them in South-East Asia (Thailand, Viet Nam, Indonesia, etc.). The economic transformation

of China, the largest economy in the region, is also widely discussed.

However, while there have been many studies and debates on the causes and nature of economic growth and its prospects in such countries, their labour market transformations have been less extensively discussed, in particular the evolution of informality in their economies. Yet there have been important transformations. In the Republic of Korea for example, Schauer (2018) reports that the share of non-salaried workers declined significantly from 41 per cent in 1989 to 25 per cent in 2016. In Taiwan, China, the share of employees in the private sector doubled from 21.3 per cent in 1956 to 51.8 per cent in 1979 (Fields 1985). More recently, according to ILOSTAT modelled estimates, the proportion of wage employment (employees) over the period 2000–2019 increased from 34 to 46 per cent in Asia and the Pacific and from 34 to 50 per cent in South-East Asia. In those cases, reductions in the levels of self-employment and in particular unpaid family work were observed.

These labour market transformations in Asia have refuelled discussions of the relationship between economic growth and informality. If growth was the only (or the principal) determinant of informality, then there should be much lower levels of informality in the Asian region than in other regions. But this is not the case. Indeed, Asian countries have even witnessed the growth of various forms of dispatched, agency, subcontracted or outsourced work over the past decades, while the proportion of non-standard employment in Asia in general is high relative to many other parts of the world (ILO 2016).

This is the approach taken by Mehrotra (2019), who argues that the Asian case shows that the pattern of growth and its labour intensity are more closely linked to the extent of informality than to GDP growth per se. To make this point, he compares the cases of China and India, countries that have both experienced rapid economic growth recently but in which the evolution of informality is very different.

In the case of China, he draws on data from Majid (2015) to show that regular employment (the Chinese equivalent of formal employment)⁹⁶ stood

⁹⁶ Regular employment in China consists of the workforce employed in three different types of enterprises: traditional formal enterprises; emerging formal enterprises; and individual businesses and small enterprises.



at 39.5 per cent in 1990; rose consistently and rapidly to 48.9 per cent by 1995; stagnated all the way to 2005, when it stood at 48.7 per cent; and then slowly rose to 63.9 per cent in 2011. Mehrotra (2019) suggests that, apart from high GDP growth rates, this great employment transformation in China was the result of a well conceptualized strategy of industrialization, based on a deliberate sequencing of policies in a planning framework that was divided into three stages.

First, the household responsibility system in agriculture was launched at the beginning of the 1980s, so that the agricultural transformation came first, as it did in the other East Asian miracle economies that underwent a similar agricultural transformation in the first decade of their development (Republic of Korea and Taiwan, China). The second stage involved the rural industrialization strategy that was characterized by the growth in township and village enterprises (TVEs) in the 1980s. The third stage brought growth in the modern industrial sectors (Majid 2015), with key drivers such as the support of FDI in special export zones in the late 1980s and the industrial restructuring of state enterprises in the 1990s, as well as the conversion of TVEs from collective/state entities managed by local governments into genuine privately owned and managed enterprises.

The effects on the labour market were rapidly observed. There was a rapid movement of labour out of agriculture into non-agriculture in rural areas as well as a demographic shift to urban areas, which is the most important characteristic of the structural transformation in China. Regular employment in rural areas represented 24.6 per cent of total rural employment in 1990, increased sharply to 40.1 per cent by 2000 and increased further to 53 per cent by 2011. TVE employment represented 19.5 per cent of total rural employment in 1990 and doubled to 40 per cent by 2011. In urban areas, there was a sharp turnaround in the composition of regular

employment. By 2011, the contribution of formal emerging enterprises to total regular employment had grown from just 1 per cent to 30 per cent over two decades, while that of individual businesses and small enterprises had grown from less than 5 per cent to 40 per cent. The remaining 30 per cent was still accounted for by traditional formal employment (which had formerly accounted for 95 per cent).

In the case of India, although not exactly comparable in their levels and duration, high growth rates have also been observed although informality has been more persistent. While India has a definition of informality based on firm size (the unorganized sector is defined as firms with less than ten workers) that has changed little over time, other indicators of formality have grown. For example, the share of regular wage work in rural areas increased from 7.1 per cent in 2004–2005 to 13.1 per cent in 2017–2018, while over the same period the share of self-employed workers decreased from 60.2 per cent to 57.8 per cent and the share of casual wage workers decreased from 32.8 per cent to 29.1 per cent. In urban areas, the share of self-employed workers decreased from 45.3 per cent to 38.3 per cent, while the share of regular wage workers increased from 39.5 to 47 per cent and the share of casual wage workers decreased slightly from 15 to 14.7 per cent.

Mehrotra (2019) argues that rapid GDP growth is the main driver of this process, which was particularly strong in the period between 2003–2004 and 2011–2012, reaching some 8.4 per cent per year.⁹⁷ However, there has also been a positive structural shift in India's employment structure. For the first time in India's post-independence economic history, in the period 2005–2012 as many as 35 million agricultural workers abandoned agriculture and non-agricultural employment grew by 52 million. The share of agriculture in total employment fell from 60 per cent in 1999–2000 to 47 per cent in 2015–2016.

97 India's annual GDP growth rate over the first three decades after independence was a mere 3.5 per cent, while the population growth rate over the same period was about 2.5 per cent, leaving per capita annual GDP to grow at the rate of only 1 per cent for 30 years. The annual GDP growth rate then increased to 5.4 per cent in the 1980s, just as population growth trended downwards (Mehrotra 2016). After 1991, the annual GDP growth rate increased to 6.4 per cent and increased even further to 8 per cent in the period 2003–2004 to 2013–2014.

The opposite had been occurring in the period 1993–1994 to 2004–2005.⁹⁸

Another interesting case in Asia is Viet Nam. According to the ILO's latest ILO harmonized series data, Viet Nam managed to reduce the share of informal employment by 8.6 percentage points within a decade, from 81.9 per cent in 2007 to 73.3 per cent in 2017. If agriculture is excluded, the result is even more robust, with a reduction by 9.5 percentage points, from 65.6 per cent in 2007 to 56.1 per cent in 2017.⁹⁹ Several studies link this evolution to Viet Nam's employment-driven economic growth model. Since the launch of the pro-market (*Doi Moi*) reforms in the late 1980s, strong economic growth was observed, with average annual GDP growth of 5.5 per cent and a tripling of real per capita GDP growth between 1990 and 2014. Viet Nam also experienced comprehensive structural transformation. The shift out of agriculture has been dramatic, with the sector's share in GDP falling from more than 40 per cent in the late 1980s to less than 20 per cent of GDP today. The sectoral trends in GDP have been broadly matched by those in employment. These transformations have fuelled the creation of some 20 million new jobs, half of them in service sectors and 5 million of them in manufacturing. In addition, productivity increased in most sectors, including agriculture, with an annual average growth rate of 4.2 per cent from 2000 to 2011. As a result, there was an increased shift to wage employment, resulting in the reduction of informality. Wage employment increased from 32 per cent of total employment in 2007 to 38 per cent of employment in 2014. Formal sector wage employment increased from 18 per cent of total employment in 2007 to 23 per cent in 2015 (World Bank 2016).

Several studies agree that these changes were deliberate and supported by specific policies, including an institutional transformation from a planned to a market approach; a structural transformation from agriculture to manufacturing and services; a spatial transformation from rural

to urban; and a transformation from a large closed economy to an open export-driven and globally integrated economy (World Bank 2016). Contributing factors to the comprehensive structural transformation included trade liberalization, in particular accession to the WTO in 2007; greater integration into the international economy (Hoai et al. 2016); strong net inflows of FDI (Tarp 2017); and the adoption of an enterprise law that eased business registration in 2000.

All these cases show that what works for reducing informality and improving conditions of work is a specific type of growth that is accompanied by sound institutional policies. Implemented policies involved business entry reforms (Bangladesh, Indonesia, Sri Lanka and Viet Nam); simplified tax and contributions assessment and payment regimes (Pakistan and Viet Nam); access to public procurement (India); access to inclusive financial services (India); access to entrepreneurship training, skills development and tailored business development services (India); access to social security coverage (India and Thailand) and e-formality (Bangladesh, Indonesia, India, the Philippines and Sri Lanka).

Indeed, the emphasis on the use of technologies for the transition to formality seems to be more marked in the Asian case. It can probably be explained by the fact that some Asian countries have become producers of technology and have a comparatively higher penetration of new technologies (ICTs or even artificial intelligence and robotics) than Latin America and the Caribbean and Africa. A review by Bhattarai (2018) of emerging practices finds that governments are using technologies for the registration of businesses, enterprises or companies and for the registration, filing and payment of taxes. These are the two areas in which the integration of technology in service delivery is most prevalent among countries in Asia and the Pacific. Other innovative e-formality trends include quick response code standardization (Singapore and Thailand), tax incentives and lottery schemes

98 Mehrotra (2019) thinks that the resilience of informality in India seems to be more related to specific economic policy decisions, especially those resulting in perverse incentives for business to remain small. For that reason, he sees potential in a recent tax reform, the Goods and Services Tax (GST) introduced in 2017, which includes a provision for an input tax credit. To support his view, he notes that by December 2017, the GST had increased the number of unique indirect taxpayers by more than 50 per cent or about 3.4 million, while between January and June 2017, registrations jumped by 10 million because of the GST registrations of informal firms.

99 ILOSTAT database.



for digital payments (India) and digital currency introduction (Marshall Islands). Another approach is public-private partnership to bring informal workers into a social protection net (Indonesia) through easy registration of employment insurance with technology-based platform.

Concerning the strategy for addressing the transition to formality in policy frameworks, Leung (2020) finds two countries in the region that establish it either as a policy objective (Cambodia) or a policy pillar (Sri Lanka) in their NEPs. These two NEPs focus on enterprise formalization through the promotion of entrepreneurship, including interventions to support subsidized credit facilities and business development services. Cambodia takes this one step further by simplifying the registration process and Sri Lanka by eliminating legal impediments to enterprise expansion. Sri Lanka also emphasizes employment formalization by extending existing social protection schemes to informal workers and improving the employability of informal workers by supporting informal educational schemes such as evening schools, distance learning and apprenticeships and subsidized vocational training. Another important policy measure suggested in Sri Lanka is the development of a wage policy with a national minimum wage for the private sector to provide a wage benchmark for the informal sector.¹⁰⁰

Better results if policies focus on formalization of larger economic units

In terms of the effectiveness of formalization policies in the region, the focus should be on the formalization of enterprises. Instead of trying to formalize all informal enterprises, governments would do better to focus their attention on larger units. To encourage firms to register, governments should provide them with substantial monetary compensation, in addition to covering the direct costs of registration. Moreover, “sticks” work as a

¹⁰⁰ Some countries choose to adopt laws that cover informal employment and promote the transition to formality. In China, the Employment Promotion Law adopted in 2018 provides a legal basis for implementing an active employment policy and ensures improvements in China’s labour and social security system (ILO 2011). In Viet Nam, the regulatory scope of the labour code recognizes informal employment as a form of employment (Hanoi National Economics University, 2011).

trigger for formalizing informal firms and tax farming as a stick works for raising tax revenues. The popular measure of one-stop-shop business registration had no effects on firms' informality rates and also did not reduce the probability that workers were informally employed (Mehrotra 2019).

Latin America and the Caribbean

Vast heterogeneity of forms of informality and economic structure

The Latin America and the Caribbean region is considered to be the most unequal region in the world. In the last 50 years, the average GDP growth rate has been 2.5 per cent, which together with an increasing population has resulted in very low productivity growth. In addition, GDP growth is very volatile and heavily based on extractive activities.

For a region in which most countries are middle-income countries, the rate of informality is high, estimated at 53 per cent. The informality rate is very high (84 per cent) for own-account workers, who represent 27.7 per cent of total employment. The informality rate is 37 per cent for employees, whose share in total employment is 63.3 per cent (ILO 2018a; ILOSTAT). The largest share of employment work is represented by microenterprises (2–9 workers), whose informality rate reaches 70 per cent. About 13 per cent of workers are in small firms (10–49 workers), whose informality rate is 29 per cent, while 27 per cent are in medium-sized and large firms (50 and more workers), whose informality rate is about 15 per cent (Bonnet, forthcoming).

This structure of the labour market has been primarily linked to the highly heterogeneous

economic structure, reflecting the fact that productive units have historically absorbed technical progress unevenly (Pinto Santa Cruz 1965; ECLAC 2010). The relative productivity of industry is more than three times that of agriculture but represents only about 21 per cent of total employment. The bulk of employment is in the service sector, whose relative productivity is 2.5 times that of agriculture. Other studies using different classifications find even wider gaps.

Given the coexistence of widely different productive structures that reflect the varying levels and speeds at which technological progress from the industrialized countries is absorbed, informality can be linked to the fact that technical progress in most Latin American economies has not been a generalized process but has spread with significant yet varying levels of intensity throughout countries' sectors and branches of economic activity. Technical assimilation has tended to be concentrated in certain strata, while important segments of the economy have remained on the sidelines of this modernization process (ECLAC 2010). The kind of development engendered by this economic structure influences income distribution and employment patterns.¹⁰¹

Robust formalization results through increasing productivity, improving regulations, providing incentives and extending social protection

With respect to the evolution of informality, in the period 2005–2015 this region experienced a formalization episode when informal employment was reduced from 52 per cent to 47 per cent. In absolute terms, the region managed to generate 32 million formal jobs of the total 51 million generated during this period.

Some studies have highlighted that a number of factors converged to produce this result,

¹⁰¹ Using a stratification into three sectors, Infante (2018) finds that the modern or high-productivity stratum (workers and employers in large enterprises in the public and private sectors and own-account professionals and technicians) generates some 66.9 per cent of GDP but just 19.8 per cent of total employment. The low-productivity stratum (workers in enterprises with up to 5 workers, unqualified own-account workers, contributing family workers and domestic workers) accounts for some 50.2 per cent of employment but contributes just 10.6 per cent of GDP. Between these two strata, the middle stratum (SMEs) generates about 22.5 per cent of GDP and accounts for 30 per cent of total employment. Therefore, productivity in the high-productivity sector is 16.3 times that of the low-productivity sector, while productivity in the intermediate sector is 3.7 times that of the low-productivity sector.

including high growth rates associated with the international commodity price boom, an increase in resources deriving from remittances and an increased foreign cash flow. However, the economic structure was also transformed. Infante (2018) explains that in the period 2005–2012 the regional economy grew at an annual rate of about 4 per cent, while employment grew at an annual rate of 2 per cent, leading to increased productivity. During this period, productivity in the low-productivity sector grew more than productivity in the higher-productivity sector, leading to a reduction in productivity differentials. In addition, the structure of employment was transformed as employment in small business decreased from 48.6 per cent to 43.1 per cent and as the share of employees in total employment grew, with a direct impact on formalization. This type of growth led an unprecedented change in the structure of employment because it reduced the proportion of employed persons in the low-productivity sector (the informal sector). Even though this process did not narrow the enormous productive gaps, the fact that it generated dynamism in the low-productivity sector that can be considered as a step towards structural transformation (Infante 2018).¹⁰²

Maurizio and Vásquez (2019) evaluate this process taking into account the inflows to formal salaried jobs. They conclude that in some countries in Latin America and the Caribbean (Argentina, Brazil, Ecuador, Paraguay and Peru) in the period under analysis, sustained job-generating growth enhanced labour market predictability, thereby favouring long-term contracts (an increase in the share of employees in the labour market) and facilitating the formalization process. However, they add that it was the interaction of this process with specific policies that ultimately determined policy effectiveness and the tangible results observed in terms of labour registration. In other words, the success of policies depends on the overall labour market and economic context but the context does not work alone. Analysing the dynamics of this process, they find that in all the countries studied (except Peru), a significant source of formalization derives from being

formalized in the same job or situation (between 30 per cent and 40 per cent), rather than from changing to formal jobs, and they highlight the important role of institutional policies in the process. However, the rhythm of this process was not homogenous because it favoured certain groups – those in their prime working years, men, those with higher skills, those working full time and those working in larger companies and with higher tenure. This tended to widen the initial formality gap observed between individuals defined according to these categories.

Salazar and Chacaltana (2018) add that an important characteristic is that in Latin America and the Caribbean, in addition to these “productive policies”, most countries also implement explicit and deliberate institutional formalization policies that are related to the improvement of norms, incentives and enforcement. Using policy data from the ILO Programme for the Promotion of Formalization in Latin America and the Caribbean, they find that the countries in the region have explored a variety of strategies to influence formalization that can be classified into four different areas. First, while it is not necessarily the most frequently used channel, the promotion of productivity is probably the path that poses the greatest challenges. Some countries have been working in this direction with productive development policies, although reducing informality has not always been their main purpose.

Second, the discussion has heavily focused on the issue of regulation. In various countries, recurrent and heated debates have taken place on the relationship between regulation and formality, in particular the costs that certain regulations impose or incur for those who wish to formalize their activity. There have been many initiatives for improving or expanding on the information disseminated on the rights and obligations of employers, workers and the general public (in Colombia, Argentina and Peru, for example) in order to reduce the informality associated with a lack of knowledge. Another common path to formalization is the simplification of regulations and procedures; some countries have even

¹⁰² Infante (2018) adds that this was not a spontaneous process and countries in the region implemented a diverse array of policies linked to productive development, although it is difficult to identify a unique process or “recipe” in all cases since productive orientation differs among countries.

explored the “flexibilization” of labour schemes. Although there is much *ex ante* theoretical discussion, the scarce *ex post* evidence on impact is not conclusive, as we will see later.

Third, formalization incentives constitute another frequently used path to formalization. These cover mechanisms associated with taxation, primarily of small economic units and sometimes own-account workers. Various countries have simplified schemes for accountability, tax declarations and payments. According to the ILO (2014), at least 15 countries in the region have developed a simplified tax system. Other countries have linked tax incentives to social security contributions, bringing together several types of contributions under a single fee. In Uruguay and Argentina – and more recently in Colombia – these systems have been known as “single tax” regimes (*monotributo*) and they involve a reduction of the taxes owing for small-scale contributors, as well as special access to social security. In Brazil, the SIMPLES system brings together various federal taxes with social security payments for micro and small enterprises. There is a specific mechanism for own-account workers called SIMEI: on the payment of a small sum (5 per cent of the minimum wage), taxpayers gain the right to register and be granted a tax certificate to access the markets and financial system, the right to an old-age pension, health care if they fall ill and maternity leave. More recently, in 2014 the Government of Mexico approved the *Crezcamos Juntos* federal programme for micro and small enterprises with the aim of facilitating the transition to the formal economy, offering recognition for formalization, eliminating requirements to overcome barriers to formalization and disseminating information on the programme and the benefits of formalization.

Another type of incentive is the extension of social protection to groups that are difficult to cover (own-account workers, workers in microenterprises, rural workers and domestic workers, among others). Some unconventional mechanisms have been used in these cases, such as the collective insurance agreements set up in Argentina and Costa Rica. Many countries have created subsidized programmes to expand social protection coverage. In the area of pensions, some countries (Argentina, Peru and Uruguay) have created non-contributory programmes that

offer more limited benefits to elderly adults in a situation of poverty. Non-conventional affiliation methods are more frequently applied to groups that are difficult to cover, although more evidence is required to assess the magnitude of their end-impact on formalization. It is important to note that the measures implemented to promote formalization through the assignment of benefits to specific groups must take into account the point at which this gradual change to the general system will take place, as well as the scope of the regulation. Discrimination in legislation against a group of citizens and the weakening of employment relations through lower standards are phenomena that should be avoided at all times. The timing applied should seek to ensure that conditions improve gradually up to the point when the decision to formalize is a natural result of the process. These systems should not be seen primarily as vehicles to increase income; rather, they should be regarded as mechanisms to promote the inclusion or incorporation into the formal economy of a broad sector of workers who perform their economic activities in the informal economy and, at times, in the subsistence economy.

Finally, various governments have implemented actions designed to increase state capacity to guarantee that standards are respected: improvements to the information available on the obligations and employment rights of the general population; the strengthening of structures, quality and processes within the institutions responsible for labour inspection and social security services; the application of sanctions; or the promotion of agreements and partnerships between workers and employers. In many cases, work has been done to address the complex topic of a culture of compliance. In other cases, governments have strengthened their inspection capacity by increasing the number of labour inspectors operating or by modernizing the databases and technology used to monitor and act in the sphere of inspection. Other countries have developed innovative ad hoc inspection strategies based on new information and communication technologies. In Argentina, labour inspectors are given Netbooks with which to register information on new workers in a centralized database during inspection activities, replacing paper records. In Chile, labour standards violations can be reported via the website of the Labour Directorate. One

requirement of the system is that reports do not require an analysis of documents in the enterprise and are not related to contract terminations. Chile has created a mechanism that replaces fines with training in the case of violations committed by micro and small enterprises, while in Colombia it is possible to negotiate formalization agreements.

Accumulated positive impacts with integrated approach

Have these instruments been effective? Most of the existing studies focus on the formalization of business and less attention has been paid to the formalization of employment. In general, studies show that generally the instruments did work and had positive – albeit modest – impacts. Nevertheless, these studies evaluated the range of interventions or instruments on an individual basis. No study has been carried out that offers an overall evaluation of different combinations of interventions and reforms. The

obvious hypothesis is that an integrated approach combining various types of interventions would maximize the impacts towards promoting the transition from the informal to the formal economy since it would benefit from all the accumulated positive impacts of the various interventions.

Another important conclusion is that the impact of growth and changes on the economic structure and the formalization process tend to be greater than the impact of interventions established by institutions. As noted above, Infante (2018) finds that during the period 2002–2012 some 60 per cent of the reduction in informality can be attributed to changes to the economic structure, while the remaining 40 per cent is due to the policies implemented by institutions. In this case, the most plausible hypothesis is that the most effective approach observed is to combine growth and relatively accelerated economic transformations with holistic interventions on the part of institutions.

► Policy discussion and way forward

After many decades of discussion of concepts and definition, the international discussion of the transition to formality has experienced a shift to a more marked emphasis on actions and policies in recent times. Not only are an increasing number of countries putting in place initiatives to facilitate the transition to formality, but there is also a growing international and tripartite consensus on the importance of implementing policies for the transition to formality.

The 2030 Agenda recognizes the role and importance of inclusive and sustained growth and productive employment and decent work for all, and SDG target 8.3 addresses the transition to formality. The recent ILO progress report of SDG 8 (ILO 2019b) shows that progress on informality (target 8.3) has been limited at the global level, although in some regions there have been some advances. ILO Recommendation No. 204 provides a comprehensive policy framework to facilitate this transition.

In this chapter, we have described the different policy emphasis that different countries and regions use when addressing informality. Using empirical episodes of formalization or ex post evidence of impact studies, we have found that these emphases are heavily dependent on economic and labour market conditions and institutional capacities. A broad contrast has been found, for example, when comparing the approach of developed countries, in which informality is more related to the regularization of work (undeclared work), with the approach of developing countries, in which the emphasis is more varied and policy approaches usually include productivity concerns (such as the development of MSMEs), as well as incentives and enforcement measures.

We have compared the different approaches or emphasis in developing countries, in particular in Africa, Asia and Latin America and the Caribbean, in order to identify elements of effective policies. In all these contexts, informality can be seen as

a manifestation of underdevelopment and at the same time a manifestation of major institutional challenges. Given the vast heterogeneity of informality and its multidimensionality, it is not surprising that policies in different regions and countries tend to address the most notable specific characteristics or dimensions of informality in each case. In some cases, this implies addressing one dimension more than the others.

In Africa, with its high informality rates, informality is sometimes considered as part of the solution to broader development, labour market and poverty-related problems and these solutions are sometimes based on informal rules such as informal apprenticeship programmes. The policy emphasis is more on increasing productivity and achieving a gradual transition to formality (improving the business and working conditions of those in the informal economy) rather than on formalization per se. In Latin America and the Caribbean, where most countries are middle-income countries, informality is mostly seen as a restriction to development, economic growth and decent work, and many innovative and deliberate institutional initiatives target the reduction of informality and in some cases include programmes to “combat informality”, while less emphasis has been paid to the structural transformation of the economy. In Asia, the dispersion of income countries is larger, but in recent decades there has been experience of rapid economic transformations that have in some cases – but not always – led to reductions in informality, which again means that a more balanced approach is needed.

It is clear that the only way to sustainably facilitate the transition to formality is to engage in interventions in the multiple dimensions of informality at the same time. In all episodes of formalization, we have found the presence of economic growth and structural transformation, together with a combination of incentives and enforcement measures (sticks and carrots) for business and/or labour. Although the evidence indicates that the impacts of each individual

intervention tend to be small, together they can make a significant difference. In other words, these policies or interventions tend to work better together than separately. The experience of formalization episodes also shows that the exact combination of economic and institutional policies in each region needs to be set according to its own needs. The proportion of 6:4 was shown to be effective in the Latin America and the Caribbean formalization episode of 2005–2015 (Infante 2018). Finally, these experiences also show that the selection of the entry points (where to start) does not seem to be as relevant as accumulating interventions and sustaining them over time. The coordination of multiple interventions is, however, a complex challenge that needs to be addressed according to national institutional settings. The common practice of leaving this task to only one agency or body (such as inspection bodies or production ministries) seems inadequate.

Acknowledging the multidimensionality of informality has numerous policy implications. For example, this implies that the vision of informality as a dual concept, with informal workers on the one side and formal workers on the other, is an extreme case. In practice, economic units may be formal in one dimension (such as the business dimension) but not in others (such as the employment dimension). Or they may be partially formal in one dimension (such as the production dimension). In other words, there are degrees of informality and formality that need to be taken into account in policymaking. Some countries have started addressing informality with a multidimensional approach. At least from the statistical point of view, Peru has estimated a satellite account for the informal economy within its national accounts framework. The results indicate that in Peru in 2017, 72 per cent of workers were in informal employment (56 per cent in the informal sector and 16 per cent in the formal sector) and the informal sector produced 19 per cent of GDP.¹⁰³ In Colombia, the formalization strategy clearly advocates for a multidimensional approach and the country is working on a multidimensional measurement of informality for policy purposes.¹⁰⁴

103 See Peru, INEI, *Producción y Empleo Informal en el Perú, Cuenta Satélite de la Economía Informal 2007–2017*, 2018.

104 See Colombia, *Política de Formalización Empresarial*, 2019.



The same applies to the high dynamics of informality observed in some countries. The transition to formality rarely occurs in one direction only and there are frequently transitions to informality. Understanding these flows in the context of general labour market flows, such as the creation of salaried work or own-account work, is essential for identifying policy emphasis.

These findings are highly relevant in times of great transformations, like those we are experiencing currently, 50 years after the creation of the term informality. If we have learned one thing from all these decades of discussion, it is that informality evolves and changes constantly. Policy approaches need to evolve and adapt as well, according to country-specific circumstances.

The discussion of the future of work, for example,¹⁰⁵ has highlighted the appearance of “new forms of informality” related to the use of new technologies (ILO 2018). Diverse reports¹⁰⁶ have recognized that these developments are generating new business models and new forms of employment. Infante and Martinez (2020) add that “significantly, these are not illegal activities, simply – in a great many cases – informal ones; these are highly autonomous jobs where the traditional power imbalance between the employer and the worker has been altered, hence the need for regulation”. At the same time, technologies also offer the possibility of transforming or upgrading the way policies are implemented. An increasing number of countries are in practice using new technologies for supporting the transition to the formal economy.¹⁰⁷ Although these e-solutions

are not always explicitly linked to the transition to formality, they bring transparency, information and innovative approaches to policymakers; they can only be considered as complementary to (not substitutes for) the structural drivers of the transition to formality, namely formal job creation and sound institutional policies.

More recently, the COVID-19 pandemic and the restrictive measures imposed, while requiring quick responses from the majority of governments in the world, has made it clear that informal workers and economic units will be the most affected, not only because they usually live day to day but also because of the limitations of traditional emergency policy responses in reaching them. In other words, this crisis has provided clear evidence that if it is traditionally difficult to support the informal economy, in times of crisis it becomes even more difficult and this is non-neutral in terms of inequality and social inclusion. It is to be hoped that the post-epidemic discussion – the reconstruction period – will explore new and revitalized policy avenues for including the informal economy in progress towards the objective of full and productive employment and decent work.

For this or other transformations that the future may bring, tripartite social dialogue remains the vehicle for ensuring that the transition to formality leads to better and decent jobs (ILO 2018c). Informal economy actors know their own problems and concerns best and social dialogue provides them with a channel for their voice to be heard in policymaking for the transition to formality.

¹⁰⁵ See ILO, *ILO Centenary Declaration for the Future of Work*.

¹⁰⁶ See ILO, “*Future of Work Issue Briefs*”.

¹⁰⁷ Chacaltana et al. (2018) call these policies “e-formality” policies since they can be considered part of e-government.

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► Annex to Chapter 5

► **Table 7: Total global informal employment (agricultural and non-agricultural), circa 2016 (in percentages)**

	World	North America (United States and Canada)	Europe and Central Asia	Latin America and the Caribbean	Asia and the Pacific	Arab States	Africa
Share of informal employment	61.2	18.1	25.1	53.1	68.2	68.6	85.8
In the informal sector	51.9	16.0	19.4	37.4	58.6	60.9	76
In the formal sector	6.7	1.7	5.3	11.6	6.9	7.5	5.5
In households	2.5	0.5	0.5	4.1	2.5	0.2	4.3
Status in employment	Employees	39.7	12.7	15.4	37.2	49.8	56.8
	Employers	50.7	5.5	39.9	43.4	53.6	77.9
	Own-account	86.1	68.6	60	84.1	86.2	94.3
	Contributing family workers	100	100	100	100	100	100
Gender	Male	63	18.9	26.4	52.3	70.2	82.7
	Female	58.1	17.3	23.6	54.3	64.1	89.7
Age	Youth (15–24)	77.1	12.8	35.7	62.4	85.1	94.9
	Adults (25+)	58.7	19.5	21.8	52.5	67.1	82.8
Education	No education	93.8	13.6	77.1	82.2	88.6	94
	Primary	84.6	32.8	40.9	72.5	77	88.5
	Secondary	51.7	18.2	23.3	50.8	58.9	68.1
	Tertiary	23.8	18.5	15.2	33.5	30.7	22.4
Area of residence	Rural	80	23.4	33.2	68.5	69.3	88.3
	Urban	43.7	17.6	19.4	47	47.4	76.3
Industrial sector	Agriculture	93.6	50.7	71.6	79.2	94.7	97.9
	Industry	57.2	16.7	21.9	49.1	68.8	77.4
	Services	47.2	17.9	20.2	49	54.1	70.2
Size of enterprise	Own-account	86.1	68.6	60	84.1	94.3	94.4
	2–9 persons	74.2	-	35.9	72.4	80.7	90.4
	10–49 persons	49.9	-	20.9	29.1	57.5	64.5
	50+ persons	32.9	-	15.6	15.3	38	40.6

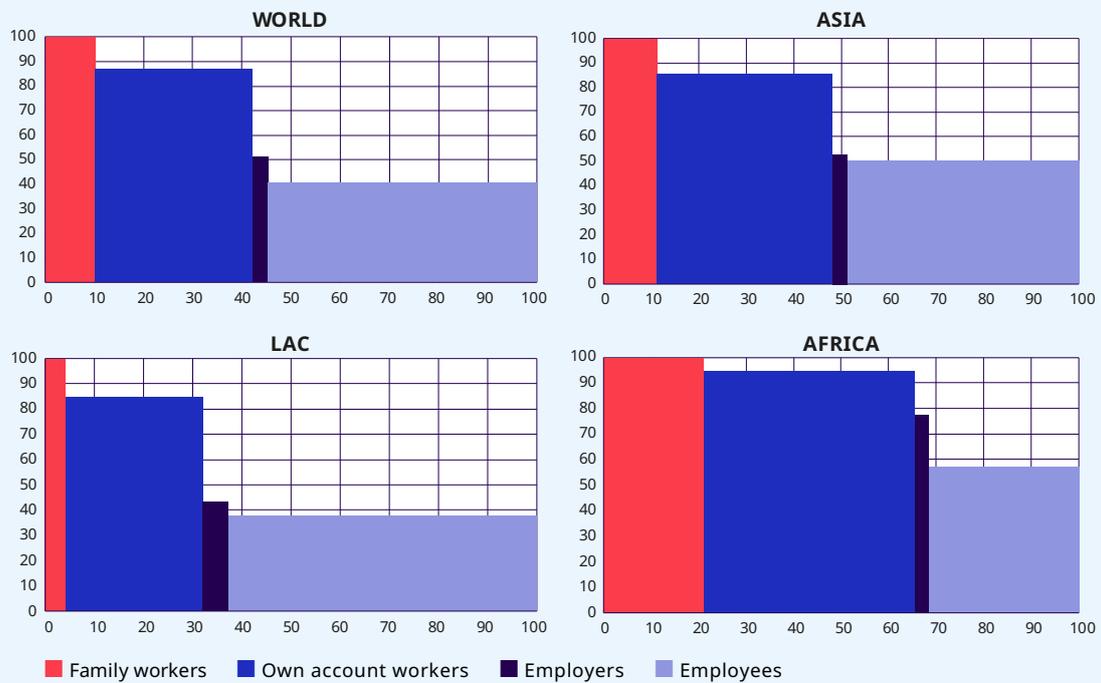
Source: ILO (2018a); ILO harmonized series data; Bonnet (forthcoming).

Note: Global and regional estimates are based on 119 countries, representing more than 90 per cent of the global employed population. A harmonized definition of informal employment and employment in the informal sector is applied to national labour force or similar household survey micro datasets. Missing values are estimated for key indicators on the size and composition of the informal economy for all ILO Member States for which micro data are not available, with the exception of high-income countries in the Arab States region due to insufficient coverage from existing data. For informal employment by “size of enterprise”, global and regional estimates are based on a smaller set of countries. Data available for 92 countries represents 71 per cent of the global employed population. No data is available for North America.

► Table 8: Summary of regional approaches on transition to formality

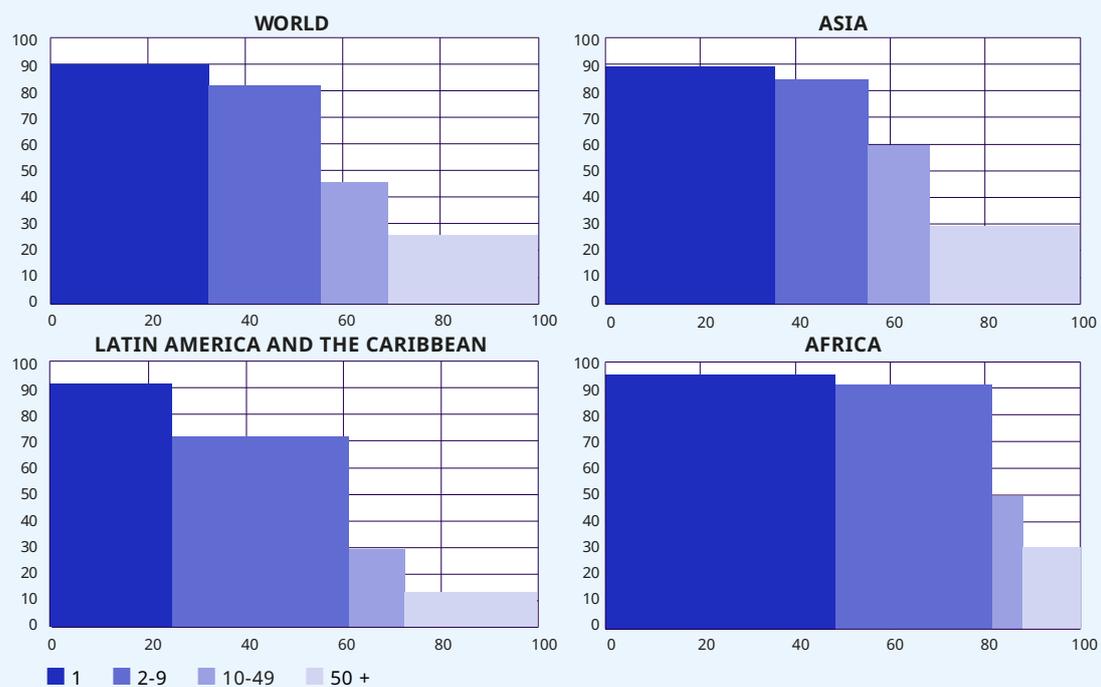
Region	Formal job creation	Institutional policies	Impact evaluation
AFRICA	<ul style="list-style-type: none"> ▶ current growth model relies on traditional low-productivity sectors, export of commodities and public expenditure, with limited private investment; ▶ agriculture accounts for a large part of the working population; ▶ job growth in services is concentrated in low-productivity activities; ▶ policies promote informal sector for generating employment and income for the urban poor. 	<ul style="list-style-type: none"> ▶ decentralization of economic governance process; ▶ specific strategies for enterprise formalization and improving regulatory environment; ▶ initiate formalization process by extending social protection to informal workers; ▶ most policies support development of MSMEs and their registration; ▶ promote youth transition to formality and the use of informal apprenticeship systems. 	<ul style="list-style-type: none"> ▶ very few existing impact evaluations; ▶ combination of measures is more effective; ▶ measures for the formal sector affect formality and informality in different ways; ▶ fiscal incentives for business registration are more effective for enterprises with more than ten workers; ▶ employment and tax policies reduce informality and poverty if applied in the right way; ▶ inclusion of informal workers in policy; implementation is proven to bring more impact.
ASIA	<ul style="list-style-type: none"> ▶ pattern of growth and its labour intensity are more closely linked to the extent of informality than to GDP growth per se; ▶ China's success due to strategy of employment-intensive industrialization; ▶ resilience of informality in India is related to specific institutional decisions. 	<ul style="list-style-type: none"> ▶ focus more on enterprise formalization; ▶ business entry reforms; ▶ simplified tax and contributions assessment and payment regimes; ▶ access to public procurement; ▶ access to inclusive financial services; ▶ access to entrepreneurship training, skills; development and tailored business development services; ▶ access to social security coverage; ▶ e-formality; ▶ few countries develop policy frameworks on transition to formality; ▶ some countries adopt laws that cover informal employment and promote transition to formality. 	<ul style="list-style-type: none"> ▶ some impact evaluations but all for evaluating policies on enterprises formalization; ▶ government would do better to focus their attention on the larger units; ▶ firms should be provided with substantial monetary compensation; ▶ "Sticks" work as a trigger for formalizing informal firms and tax farming because this approach works in raising tax revenues; ▶ one-stop-shop business registration programme had no effects on firms' informality rates and did not reduce the probability that workers were informally employed.
LATIN AMERICA AND THE CARIBBEAN	<ul style="list-style-type: none"> ▶ highly heterogeneous economic structure; ▶ high growth rates; ▶ transformed economic structure. 	<ul style="list-style-type: none"> ▶ promotion of productivity; ▶ improvement of regulations; ▶ providing incentives; ▶ extension of social protection; ▶ improvement of compliance and enforcement. 	<ul style="list-style-type: none"> ▶ most existing studies focus on formalization of business; ▶ an integrated approach combining various types of interventions would maximize impacts.

► **Figure 3: Informality rates, by economic status and composition of employment**



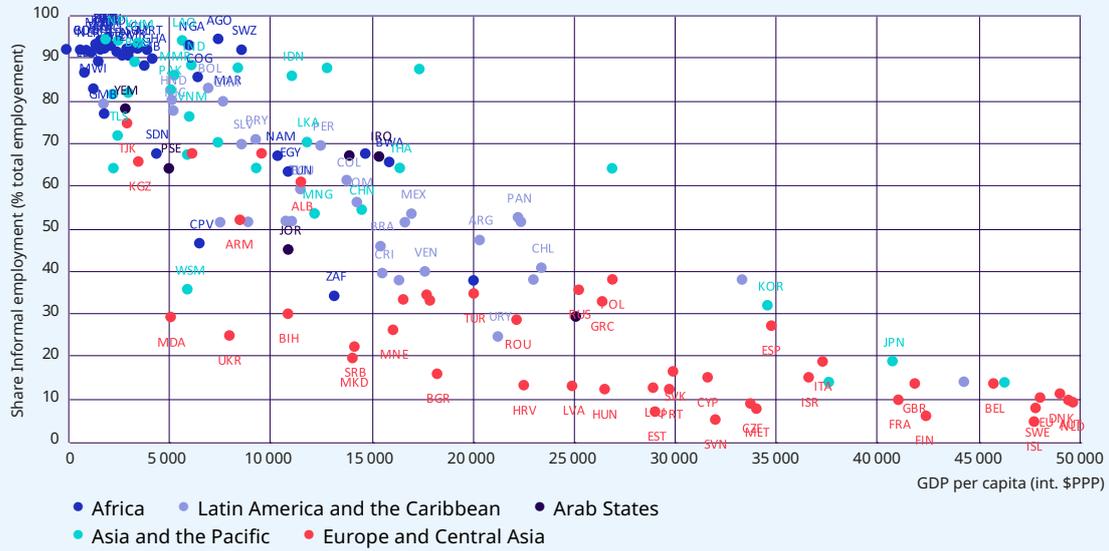
Source: ILOSTAT; ILO (2018a).

► **Figure 4: Informality rates, by firm size and composition of employment**



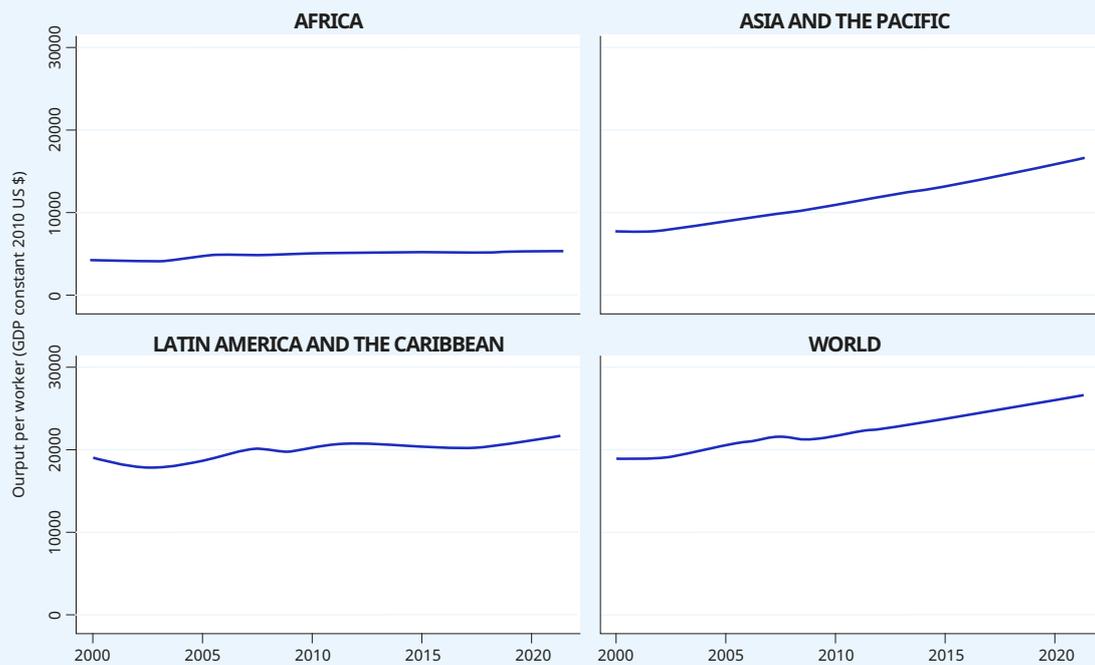
Source: ILOSTAT; ILO (2018a).

► Figure 5: Share of informal employment and level of per capita GDP, by geographical region



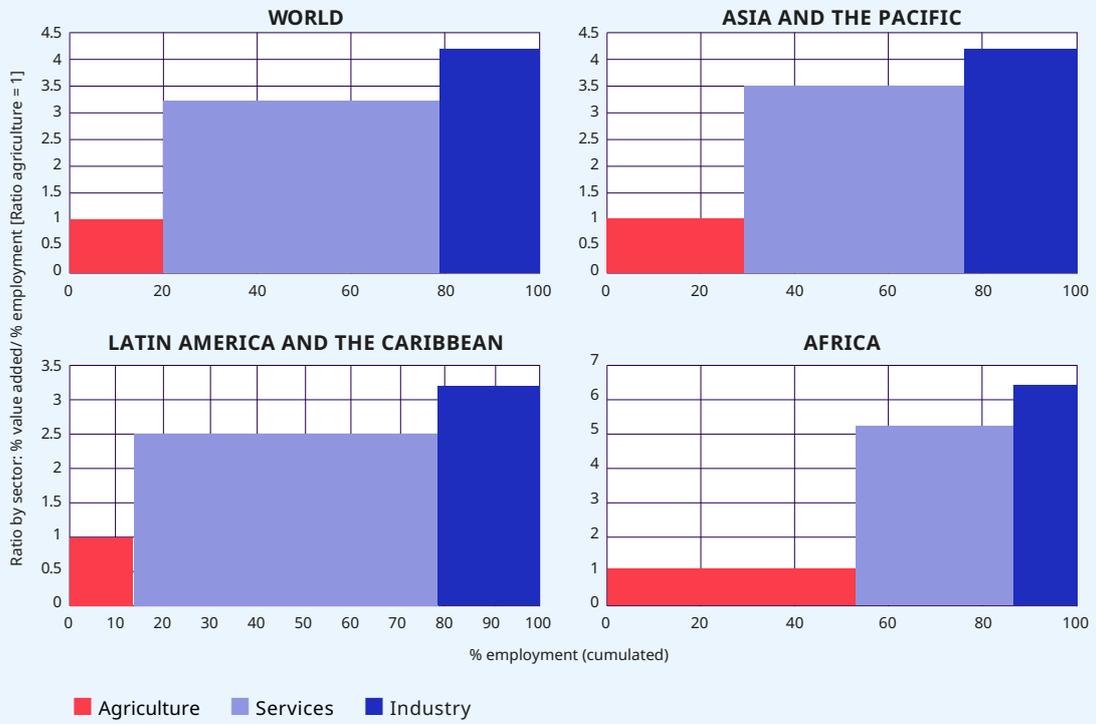
Source: ILOSTAT.

► Figure 6: Evolution of labour productivity



Source: ILOSTAT.

► **Figure 7: Relative productivity, by sectoral composition of employment (agriculture=1)**



Source: ILOSTAT; ILO (2018a); WDI.

► Figure 8: FSPs and NEPs: Correspondence analysis biplot for thematic emphasis



1. Sustainable development, poverty eradication, and inclusive growth and generation of formal decent jobs

2. Appropriate legislative and regulatory framework

3. Conducive business and investment environment

4. Fundamental principles and rights at work

5. Organization and representation of employers and workers to promote social dialogue

6. Equality and elimination of all forms of discrimination and violence, including gender-based violence

7. Entrepreneurship, micro, small and medium-sized enterprises and other forms of business models and economic units, such as cooperatives and social and solidarity economy units

8. Access to education, lifelong learning and skills development

9. Access to financial services

10. Access to business services

11. Access to markets

12. Access to infrastructure and technology

13. Sectoral policies

14. Social protection floors and extension of social security coverage

15. Local development strategies

16. Effective OSH

17. Efficient and effective labour inspections

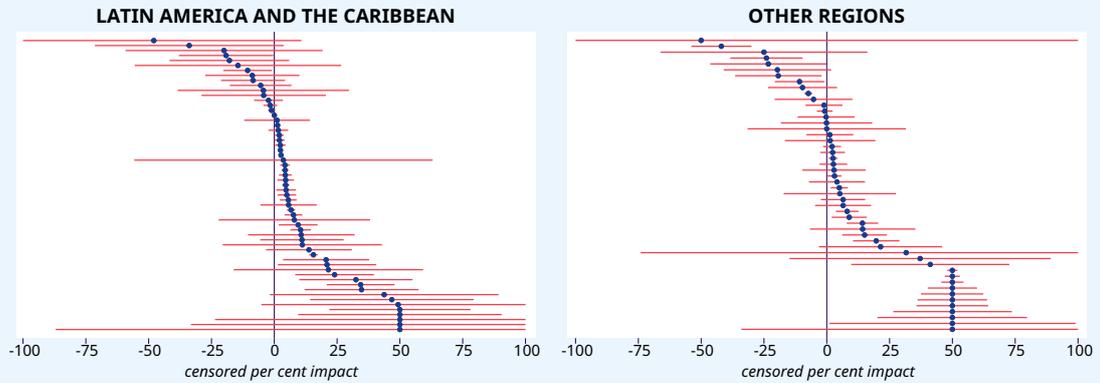
18. Income security, including appropriately designed minimum wage policies

19. Effective access to justice

20. International cooperation mechanisms

Source: Leung (2020).

► **Figure 9: Systematic review of impact assessments of formalization policies, Latin America and the Caribbean versus other regions**



Source: Jessen and Kluge (2019).

Note: Graphs show forest plots of per cent impacts and corresponding 95 per cent confidence intervals for all estimates and by intervention type. For illustrative purposes, per cent impacts larger than 50 per cent are censored at 50 per cent and the confidence intervals are scaled accordingly. Similarly, lower and upper bounds of the confidence intervals are censored at -100 and +100 respectively to ensure similar scaling.

Advancing social justice, promoting decent work

The International Labour Organization is the United Nations agency for the world of work. We bring together governments, employers and workers to drive a human-centred approach to the future of work through employment creation, rights at work, social protection and social dialogue.

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The GEPR examines trends in employment policies while at the same time presenting new and innovative solutions to the challenges of policy design and implementation. In this first edition, it focuses on the issue of structural transformation, an important topic especially at a time when policymakers search for sustainable ways to recover from the economic impacts of the COVID-19 crisis with the intention to build a better future of work.

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