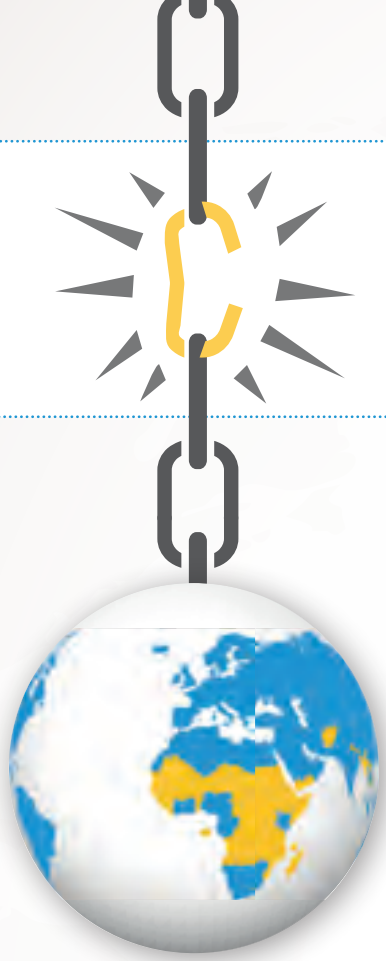
CHAPTER

5

Policies to develop productive capacities in the new decade

A global partnership for LDCs goes beyond the commitment to "leave no one behind", it is also an investment in systemic resilience



Investor

INSTITUTIONAL CAPACITIES

Rule setter

Coordinator

The pandemic highlights the pivotal roles of the state to steer development strategies

CLIMATE CHANGE

RECESSION

COVID-19

Structural transformation

Countercyclical measures

Productive capacities

Strengthening LDC productive capacities remains critical to their sustainable development and resilience-building

CHAPTER 5

Policies to develop productive capacities in the new decade

A. Introduction

The emergence of advanced technologies and the rising importance of related services are radically transforming the prospects for trade and industrialization in developed and developing countries alike. Meanwhile, the fallout from the COVID-19 pandemic increasingly appears set to have long-lasting effects on the global economy and erode many of the achievements made towards meeting the Sustainable Development Goals. While least developed countries (LDCs) are not at the epicentre of either of these two trends, the impact of the pandemic is exerting wide-ranging impacts on their sustainable development prospects and will continue to do so for the foreseeable future. Against this backdrop, this chapter outlines key policy options to foster the development and full utilization of the productive capacities of LDCs. In addition, with an eye on the preparations for the Fifth United Nations Conference on the Least Developed Countries (UNLDC-V), this chapter charts critical elements for the international community as it considers how best to support LDCs in the new decade.

The structure of the present chapter is (loosely) based on that of the Istanbul Programme of Action (IPoA) and distinguishes actions undertaken by LDCs and by development partners. The chapter is structured into two main sections. Section B presents policy options for policymakers in LDCs to consider as they seek to put the development of productive capacities at the core of their development strategies. Section C is instead mainly directed to the international community, and outlines concrete proposals to enhance the effectiveness of international support measures (ISMs) in favour of LDCs. While this subdivision was adopted for conceptual clarity, it is worth highlighting that these two levels of analysis and policy action are complementary.

As shown in earlier chapters, the development of LDC productive capacities is largely – but not exclusively – an endogenous process: the pattern of LDC integration in the global economy inevitably exerts a far-reaching influence on their needs, policy space, available means, as well as the viability of given policy measures. Therefore, while LDCs have the primary responsibility for their own development, the international community has an important role to play in supporting their quest for sustainable development.

These considerations are all the more relevant in the context of the unprecedented shock that humanity has experienced in 2020. This new decade simultaneously marks the remaining horizon of Agenda 2030 for Sustainable Development and the implementation of

Persistent divergence between LDCs and other countries undermines sustainable development for all

the next programme of action for LDCs, to be adopted during UNLDC-V. While there will inevitably be an understandable temptation to prioritize domestic concerns in the policy discourse, it is fundamental that the international agenda adequately reflects the interests and needs of LDCs, particularly as the IPoA is likely to remain largely unfinished business by 2021. Currently accounting for 14 per cent of the world population, the 47 LDCs are home to more than 50 per cent of the people living with less than $1.90 per day at a global level. Representing the main locus of extreme poverty worldwide, they remain, now more than ever, "the battleground on which the 2030 Agenda for Sustainable Development will be won or lost" (UNCTAD, 2015a: 14).

Yet, the call for an authentic global partnership in support of LDCs goes well beyond the moral commitment to "leave no one behind"; in an increasingly interconnected world, it also reflects long-term considerations related to global public goods, potential spillovers across nations and ultimately to the world's systemic resilience. The rapid cascading effect of a health shock (COVID-19) on a wide swathe of dimensions ranging from the socioeconomic sphere to the environmental one, has underscored critical elements of systemic interdependence that can no longer be overlooked (OECD, 2020b; Ungar, 2018). This has placed renewed emphasis on inclusivity/universality, the fundamental role of international cooperation, and adds a new strategic dimension to the call for ensuring that LDCs do not fall behind. Low socioeconomic development is typically regarded as an influential driver of instability, conflict and migration, particularly when coupled with increasing pressure on natural resources, the intensifying adverse impacts of climate change and limited institutional capabilities (Hendrix and Salehyan, 2012; Mach et al., 2019; United Nations, 2019; Katie Peters et al., 2020). In this respect, the persistent divergence between LDCs and other countries might adversely affect political economy dynamics, and ultimately undermine sustainable development in neighbouring countries and beyond.

With over a billion people, a very young population structure, considerable natural resources but also entrenched vulnerabilities, LDCs inevitably represent

International support for structural transformation in LDCs is an investment in systemic resilience

"frontier economies", in which the recent wave of technological innovations could either unleash opportunities for inclusive growth – with positive repercussions on economic partners – or further entrench and widen existing divides, with all the attendant risks. Which of these two scenarios turns out to be closer to reality will largely depend on the achievement of a virtuous circle of structural transformation. In this perspective, revamping international support for productive capacity development and structural transformation in LDCs should be conceived as an investment in systemic resilience, and as part and parcel of a process of "building back better", as originally defined in the United Nations Sendai Framework for Disaster Risk Reduction 2015–2030 (United Nations, 2015b).

B. Putting productive capacities at the core

A growing consensus is emerging on the central role that productive capacities development plays in setting in motion the long-term process of structural transformation, which forms one of the pillars on which sustainable development rests (UNCTAD, 2006, 2014, 2018c, 2019b). As clarified in chapter 2, productive capacity development operates both within firms/sector, through capital deepening and productivity gains, and across sectors, as the acquisition of productive capabilities paves the way for the emergence of new products and higher value-added activities. This process hinges on a mutually reinforcing dynamic relationship between the supply and demand-side of the economy, whereby the expansion of aggregate demand creates the scope for intersectoral linkages, factor reallocation and pecuniary externalities that sustains the financial viability of investments. Productive capacity development fosters structural transformation and economic diversification, and has a knock-on effect on employment opportunities, inclusive growth and potentially also on resource-efficiency and environmental sustainability (UNCTAD, 2012).

Chapters 2 and 3 highlighted how efforts to develop productive capacities have been critical to the trajectory of a handful of best-performing LDCs; they also drew attention to the fact that the general performance of most LDCs was rather lackluster, and fell short of the objectives enshrined in the IPoA. In this context, UNCTAD's Productive Capacity Index (PCI) provides a means to assess the performance of LDCs, benchmark progress made, and identify critical areas for improvement. A number of LDCs, including many of those in the process of graduation, have steadily increased their capacities, as measured by the sustained improvement in their PCI. However, a large group of them progressed at a markedly slowing pace, while many others stagnated or even fell behind. Additional analysis of the subcomponents of the PCI sheds more light on the effectiveness with which LDCs have translated productive capacity gains into higher per capita income. The analysis demonstrates that, on average, LDCs operate at less than 60 per cent of the maximum possible efficiency to raise their per capita incomes, with in particular elements related to natural resources, human capital and structural change being either underutilized or ineffectively combined with other facets of productive capacities. Beyond pointing to considerable margins for improvements, these findings highlight the intrinsic complementarity of the various productive capacity components, and show how the PCI can be unpacked, in a sort of country-level diagnostic, to identify the most binding constraints to inclusive growth.

More generally, the findings of this report underscore the risk of a widening gap between LDCs and other countries (whether developing or developed), as well as persistent vulnerabilities among even the best performing LDCs, which are currently close to the graduation milestone. Against this background, the centrality of productive capacity development remains of paramount importance in building the resilience of LDCs and, as such, forms the core of strategies geared towards "graduation with momentum" (UNCTAD, 2016a). While this key message is not entirely new, it remains as topical as ever, not only because the 2030 Agenda for Sustainable Development calls transformative change, but also because its main tenets have been further vindicated by the COVID-19 crisis. Indeed, the transmission of the shock, as well as the sharp asymmetries in the capacity of different countries to respond to it, once again expose the vulnerabilities stemming from weak productive capacity development. Equally, in the wake of the COVID-19 crisis potential tensions have emerged between the (over)emphasis on efficiency and specialization as opposed to redundancy, local embeddedness and connectivity (OECD, 2020b; Ungar, 2018).

As the fallout from the pandemic threatens to roll back the clock on several areas of progress achieved by many LDCs in recent years, only a sustained recovery rooted in the structural transformation of LDC economies can avert the dangers of a decade of anemic growth. Accordingly, productive capacity development needs to be integrated into COVID-19-related responses. This does not involve neglecting the containment of the health emergency, nor its immediate socioeconomic costs but rather implies addressing these critical needs in a sustainable way, by addressing their root causes and building long-term resilience. For instance, fostering greater inclusivity is not only a social goal in itself; if articulated strategically, related measures can also represent a way to break poverty traps which constrain LDC domestic markets and foster a denser network of supply-demand linkages. This adds further emphasis to the importance of integrating short-term policy responses with longer-term support to a broad-based recovery, underpinned by the creation of sufficient levels of productive employment.

The objective of setting in motion the process of structural transformation through the development and full utilization of LDC productive capacities will require tailored policies at all levels. For the sake of clarity, the sections below make a distinction between macroeconomic and financial policies (affecting broad macroeconomic aggregates) from meso/sectoral-level ones. Notwithstanding this conceptual distinction, what matters in practice is their interplay and the underlying incentive structure they shape. Hence, the importance of policy coherence and coordination across different ministries and stakeholders cannot be overemphasized.

1. Macroeconomic and financial policies

Integrating a developmental approach into macroeconomic policies requires moving beyond a narrow focus on preserving stability, and acknowledging that the expansion and full utilization of productive capacities is itself a crucial policy objective, which cannot automatically be achieved through a laissez-faire approach. In the context of technological gaps in LDCs, the process of capital accumulation and technological upgrading plays a key role in this respect, not only through demand multipliers but also by supporting the emergence of new activities, goods and sectors. The key policy priority for LDCs is thus to preserve stable macroeconomic fundamentals, while concurrently pursuing a concerted investment push to redress or close long-standing infrastructural and technological gaps. Achieving this calls for an expansionary fiscal

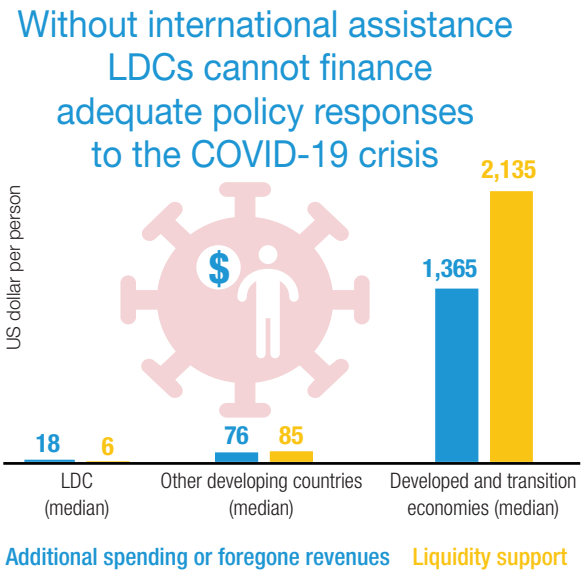
Only a recovery rooted in the structural transformation of LDC economies can avert a decade of anemic growth

policy, buttressed by an accommodating monetary policy that maintains inflation in check but also keeps interest rates reasonably low, as well as, where possible, an exchange rate policy designed to facilitate the process and ease pressure on the balance of payment (UNCTAD, 2018c).

Until recently, many LDCs have displayed some signs of progress in relation to the above macroeconomic objectives, as they maintained fairly sound fundamentals and significantly boosted investment ratios. This process, however, had come at the cost of widening current account deficit and soaring indebtedness, with only modest benefits in terms of structural transformation (UNCTAD, 2019b). The current conjuncture, marked by the COVID-19 pandemic, has put an abrupt end to this situation, and even threatens to reverse some of the modest gains recorded so far. In so doing, the downturn is once again underscoring the structural constraints to LDCs macroeconomic policy options, ultimately stemming from the weak development of productive capacities and the associated dependence on external finance.

a. Countercyclical policies

More so than in 2009, at the beginning of 2020 the fiscal space of LDCs was already seriously constrained by their limited economic size, lukewarm dynamism, widespread informality, coupled with persistent pitfalls in tax structure and revenue administration systems and limited progress at an international level in tackling illicit financial flows (UNCTAD, 2019b, 2020g; UNECA, 2019). These factors, coupled with LDC limited ability to borrow domestically, have restricted the scope for counter-cyclical fiscal policy at a time of unprecedented need; likewise, LDC monetary and exchange rate policies were inevitably constrained by structural current account deficits, heightened dependence on sensitive imports, and a worsening debt sustainability outlook (UNCTAD, 2019b). On the one hand, sluggish improvements in the financial development and the shallowness of domestic bond markets (absent in many LDCs) have crippled the effectiveness of monetary policy; on the other, the scope for using exchange rate devaluation to sustain aggregate demand is undermined by both the reduction in global demand and a corresponding rise in the costs of critical imports and debt services,



with the ongoing fall in foreign direct investment (FDI) and remittances adding to the shortage of foreign exchange (chapter 1).

While the exceptional severity of the COVID-19 crisis called for bold countercyclical policies, along the lines of the "whatever it takes" motto, most LDCs have been unable to afford the sizeable policy packages adopted elsewhere, notably in developed countries (Figure 5.1).[1] Regardless whether one considers fiscal support measures, such as additional spending and forgone revenue, or liquidity support measures (e.g. contingent liabilities, equity injections, loans, asset purchase, or debt assumptions), the imbalance in the magnitude of policy responses across different groups of countries stands out clearly, when seen relative to each country's GDP (Panel A), and more so still when expressed in per capita dollar terms (Panel B). This calls for greater solidarity, as stronger international support will be indispensable to avoid catastrophic outcomes. At this stage, averting a deeper and more prolonged downturn appears to be the top priority to minimize long-term scars to the productive sectors, which could pose even more serious challenges to the attainment of the Sustainable Development Goals. The International Labour Organization (ILO) has warned that working-hours losses in the first half of 2020 could be equivalent to over 400 million full-time jobs worldwide, and that 1.6 billion workers in the informal economy are at an immediate risk of seeing their livelihoods reduced (ILO, 2020b). Other research work has raised profound concerns about the challenges faced by enterprises and small businesses (UNECA, 2020; Le Nestour and Moscoviz, 2020; *Reuters*, 2020b; Bosio et al., 2020). Similarly, numerous studies have highlighted the harsh impact the downturn could have on global poverty and food insecurity, potentially giving rise to path-dependency turning transient forms of poverty into chronic ones (Gerszon Mahler et al., 2020; Sumner, Hoy, et al. 2020; Valensisi, 2020; UN, 2020; Laborde et al., 2020).

Overall, these analyses point to the risk that a protracted recession could cause permanent job destruction, threaten enterprise survival – with related losses in terms of tacit knowledge and productive capabilities – and possibly have a long-term effect on potential output. Avoiding this dramatic outcome will be crucial to LDCs, as a prolonged crisis would further deteriorate an already weak entrepreneurial landscape characterized by a plethora of mainly informal survivalist businesses, a structure of firms largely skewed towards small enterprises, and limited access to credit for the private sector (UNCTAD, 2018a). According to early surveys, African firms during lockdown were operating at 43 per cent of their capacities, with labour-intensive sectors, e.g. manufacturing, transport, trade and tourism services, being the hardest hit (UNECA, 2020). Similar difficulties were reported in relation to the Asian garment industry, with supply chain disruptions compounded by a deep recession in key export markets (*Reuters*, 2020b). In this context, the deeper or longer the crisis the higher the risk of exacerbating the "missing middle" in LDCs, as the downturn threatens hard-gained entrepreneurial capabilities and ultimately jeopardizes a broad-based recovery.[2]

While the situation is still unfolding and it is too early to have a full picture, the emerging evidence points to the following priority areas for countercyclical policies:

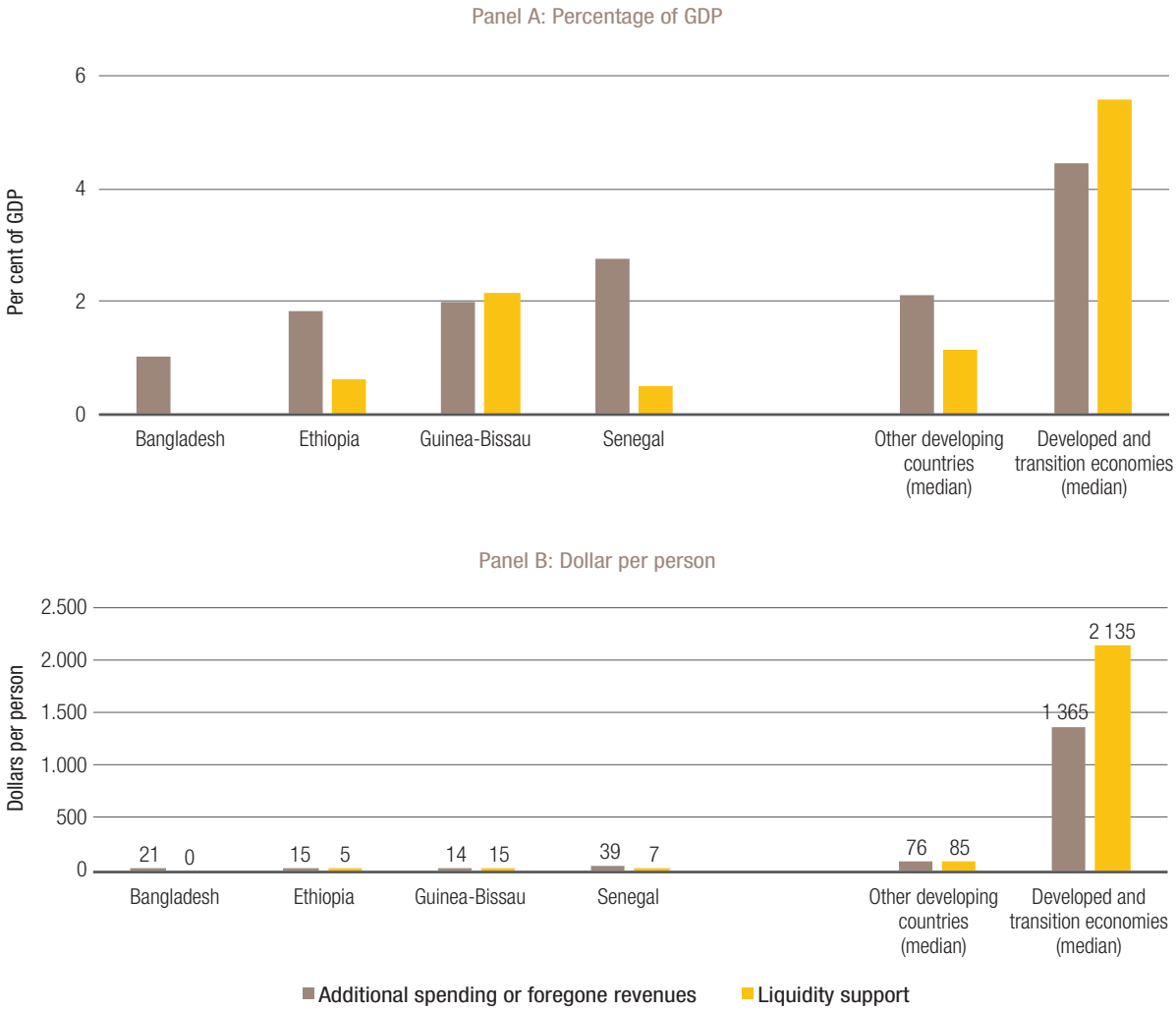
1. *Protect employment and minimize income losses for own-account and informal workers*, who constitute the bulk of the labour force of LDCs;
2. *Preserve the viability of enterprises*, including micro, small and medium-sized enterprises (MSMEs) which have limited resources to weather the crisis and typically have reduced access to credit; and

[1] Data from ESCAP repository of policy responses to COVID-19 in Asia and the Pacific confirms this reading of the evidence, with Asian and Pacific LDCs typically unable to earmark to policy support packages more than 2–5 percentage points of GDP, unlike their richer neighbours.

[2] The expression "missing middle" refers to the relative lack of mid-sized enterprises in LDCs, whose entrepreneurial scene is dominated by a plethora of micro or small firms, and, at the other end of the spectrum, a few large enterprises with a disproportionately large footprint in terms of output, employment and exports (UNCTAD, 2018a).

Figure 5.1

Summary of fiscal measures in response to COVID-19 (selected countries)[3]



Source: UNCTAD secretariat calculations, based on data from IMF (2020a) and UNCTAD, UNCTADStat database [accessed June 2020].

3. Provide support to poor households *and vulnerable categories*, notably women who tend to be over-represented in many of the sectors that have been the most heavily hit by the downturn.

Distinct countries have implemented these priorities differently, reflecting their specific contexts and institutional capacities, but the wealth of experiences across these countries provides useful lessons. In the wake of the pandemic, a large number of countries (including many LDCs) have extended social protection programmes or developed *ad-hoc* solutions to cushion the impact of the crisis on vulnerable groups. Concrete examples include: (i) public procurement or conditional cash transfers to support local production in Bangladesh and Ethiopia; (ii) tax exemptions/deferrals to support households and firms coping with liquidity constraints in Angola, Bhutan, Burkina Faso and Zambia;[4] (iii) enhancing infrastructural provision through

[3] Instead of aggregating across countries of diverse economic and population size, Figure 5. 1 reports the median value (i.e. the value separating the higher half from the lower half of a distribution) for each country group, apart from LDCs which depicted individually. Other developing countries include: Argentina, Brazil, Chile, China, Colombia, Egypt, Ghana, Honduras, India, Indonesia, Kenya, Mauritius, Mexico, Nigeria, Pakistan, Peru, Philippines, Saudi Arabia, Singapore, South Africa, Thailand, Tunisia, Turkey, United Arab Emirates and Viet Nam. Conversely, developed and transition economies encompass: Albania, Australia, Belgium, Bulgaria, Canada, Czech Republic, Denmark, Finland, France, Georgia, Germany, Italy, Japan, Kazakhstan, Korea (Republic of), New Zealand, Norway, Poland, Romania, Russia, Spain, Sweden, Switzerland, The Netherlands, United Kingdom and the United States.

[4] The examples cited in this paragraph are drawn from the IMF repository of policy responses to COVID-19 and are only intended to provide concrete examples, and not the exhaustive list of policies taken by LDCs.

The COVID-19 crisis has highlighted the pivotal role of the state as rule setter, coordinator and investor

public work schemes in, among others, Guinea, Sierra Leone and Uganda; and (iv) facilitating the emergence of digital businesses, as in the case of Senegal where the government fast-tracked the implementation of e-commerce policies.[5]

In many LDCs these schemes reflected timely but temporary initiatives and/or were characterized by incomplete coverage. Fiscal constraints and institutional challenges, notably the lack of systematic data on informal workers and people living in informal settlements, has rendered these vulnerable categories harder to reach with targeted extensions of existing social programmes. The lack of universality, however, implies weaker countercyclical effects and higher social costs. Moreover, the *ad-hoc* nature of such schemes makes them less suitable to respond to other longer-term shocks where risk pooling might be critical, as is the case for climate change and extreme weather events. A progressive move towards universal social protection schemes can nonetheless be built upon existing initiatives and judiciously paced to respond to mounting socioeconomic needs without creating excessive fiscal imbalances. This process could also pave the way for discussions on creating more sustainable financing options and on channeling funds to programmes linking short-term relief with measures conducive to the longer-term development of productive capacities. Conditional cash transfers linked to training and upskilling programmes, or public work schemes to improve the provision of infrastructure in slums and rural areas, are but two examples of these potential linkages (UNCTAD, 2013a).

b. The role of the state

Interestingly, the COVID-19 crisis has brought to the fore a renewed debate on the pivotal role of the state as a "rule setter", but also as a "coordinator" and an "investor", as well as related emphasis on institutional capacities to steer development strategies and design policy measures to respond to exogenous shocks. The role of public investment remains particularly critical for LDCs, both in the short term – to contain job losses and support unskilled workers – and also over the long term – for redressing supply-side bottlenecks (UNCTAD, 2017a, 2018d, 2019b). In this respect, pervasive market failures, ranging from sunk costs and scale economies to complementarities and the public goods nature of the underlying infrastructure, suggest that governments have a fundamental role to play in crowding-in private investments. Rural areas, in particular, have suffered massively from under-investment in basic infrastructures (e.g. irrigation, transport/storage facilities, electrification); these gaps weigh down the potential supply response on the parts of LDC farmers, further limiting the scope for viable rural non-farming activities (UNCTAD 2015a, 2018a). Equally, the poor quality of infrastructural provision in many LDC cities and peri-urban areas compromises the competitiveness of manufacturing and services firms, forcing them to incur disproportionate costs for electricity or connectivity, thus dampening the prospects for both traditional and digital businesses. In this context, public investment will continue to play a crucial role in the shift towards greener and climate-resilient infrastructures, supporting a more sustainable recovery.

Even in sectors where innovations, such as mobile telephony or decentralized electricity generation, have tempered some of the traditional market failures associated with infrastructure and paved the way for a greater involvement of private actors, the role of the state should evolve, but cannot retrench. History shows that not all areas of this "social overhead capital"[6] lend themselves equally well to the involvement of the private sector, hence public investment remains crucial to avoid the under-provision of specific infrastructural services, as well as to strike an appropriate balance between financial viability and affordability. Moreover, technological transitions occur over lengthy periods of time, especially infrastructure development, and entails the coexistence of different technology vintages (Grubler, 2012; UNCTAD, 2017a). Hence, the role of the state remains critical in ensuring that systemic considerations, including competition issues and the interrelatedness/inter-operability of different technologies are duly accounted for, and that the overall investment push is closely integrated with the country's development strategies, including in relation to the interface between infrastructural development and productive sector dynamics. Moreover, the development of traditional or digital infrastructure

[5] https://unctad.org/en/pages/newsdetails.aspx?OriginalVersionID=2342.

[6] The concept of "social overhead capital" is used to identify the source of certain basic services required in the production of virtually all commodities. In its most narrow sense, the term refers to transportation, communication, and power facilities.

sectors should be seen not just as a response to existing and latent demand but rather through strategic lenses as: (i) forming part and parcel of the process of structural transformation; (ii) contributing to value addition by offering possibilities of technological development and skills accumulation; and (iii) a potential source of spillovers to other sectors.

c. Financial policies

The emphasis on investment goes hand in hand with domestic resource mobilization and effective financial intermediation, as it combines adequate incentives for broadening access to financial services guided by sound regulations and supervision (UNCTAD, 2018c, 2016c). Given the shallowness of the financial sector in most LDCs, the main long-term priorities in this respect are: (i) the development of viable secondary markets for government securities and long-term financial instruments denominated in local currency; (ii) the strengthening of the banking sector to cater for the diversified needs of private enterprises and consumers; and (iii) the consolidation of national and regional development banks. The progress made thus far under the IPoA has, in most cases, been lackluster and marked by sluggish improvements, and a persistently large share of unbanked firms and individuals, notably among women and MSMEs (UNCTAD, 2018a, 2018c). Moreover, the portfolio of available financial instruments is limited and does not always meet the requirements of all segments of potential customers; unlike large firms or high turnover businesses, the distinct needs of other private actors, in particular SMEs and agricultural producers, remain inadequately catered for. Improving this situation requires creating an effective and reliable institutional framework, capable of mobilizing domestic savings and intermediating them, while also upgrading prevailing technologies and business practices.

The COVID-19 pandemic has exacerbated liquidity constraints and has presented a major stress-test for an underdeveloped financial sector that has long struggled to ensure that credit reaches those most in need. In the wake of the pandemic, many LDCs swiftly adopted measures to alleviate constraints linked with their tight finances, cutting rediscount rates, adopting credit support schemes (for instance through loan guarantees), lowering reserve requirements, as occurred among others in Angola, Bangladesh, Cambodia and the Democratic Republic of the Congo. In responding to the crisis, several LDCs also moved to integrate the use of digital technologies in social welfare programmes through digital cash transfers, or by supporting the extension of digital payment and financial services, as in the case of Mozambique, Togo and Uganda. These encouraging initiatives provide a wealth of experiences from which to draw important lessons for the future; however, more needs to be done to strengthen financial intermediation, particularly if the sector is to pave the way for structural transformation and productive capacity development.

2. Sectoral and industrial policies

Beyond the pure macroeconomic realm, the COVID-19 pandemic has underscored the fundamental importance of so-called meso-level policies, which decision-makers use to steer the development of specific economic activities according to the national development strategy. These encompass policies applied horizontally (i.e. across all sectors), as well as vertical policies concerning only selective sectors or activities. Though straightforward in conceptual terms, this distinction is somewhat blurred in practice, as policy implementation is contingent on the prevailing characteristics of the sectoral composition of output and entrepreneurial landscape; hence, these policies are often lumped together under the rubric of "industrial policies".

Calls to rethink industrial policies have received a fair amount of attention in recent years (Crespi et al., 2014; OECD, 2016; UNCTAD, 2018g, 2016b, 2014), but it was their swift deployment – even by countries supposedly preaching a more laissez-faire approach – that has decisively brought them back to the fore of the political debate in the wake of the COVID-19 pandemic. A detailed, comprehensive discussion on meso-level policies for productive capacity development in the context

Strategies for productive capacity development need to speak to the political economy of each country

Digitalization and 4IR call for prioritizing access to technologies

of African and LDCs can be found elsewhere (UNCTAD, 2018c, 2020d). What this section does, instead, is to highlight those critical policy elements that have acquired renewed relevance and/or are set to play a fundamental role during the next programme of action for LDCs.

The importance of meso-level policies cannot be fully grasped without considering the fundamental role of employment creation and labour reallocation in the process of structural transformation, and the concomitant effects this may have on aggregate productivity growth and poverty reduction (chapter 2). With the labour supply in LDCs expected to increase by an average 13.2 million workers per year over the next decade, sustainable development will inevitably hinge on the capacity of LDC economies to generate sufficient opportunities for productive employment outside the agricultural sector, and thus ultimately affect both the direction and pace of their structural transformation process. Addressing the employment challenge calls for a multipronged approach which simultaneously supports labour demand in higher-productivity labour-intensive sectors and enhances the employability of youth entering the labour market. Macro-policies focused on investment should intrinsically support employment creation. Besides, a growing number of LDCs have embarked in reforms to improve their respective business environment and trade facilitation frameworks in order to lower administrative costs for potential entrepreneurs, including self-employed and own-account workers who constitute the backbone of the labour force of LDCs (chapter 4 and UNCTAD, 2018a). Such measures have the merit of cutting red tape, lowering barriers to entry, promoting greater competition and facilitating self-employment; nevertheless, the extent to which business environment reforms contribute to productive capacity development ultimately depends on the prevailing type of entrepreneurship they foster. Lacking broader shifts towards higher-productivity sectors, these measures alone are unlikely to change the patterns of entrepreneurship characterizing many LDCs, dominated by survivalist forms of entrepreneurship (UNCTAD, 2018a). Targeted forms of support to labour-intensive but relatively high-productivity sectors covering, among others, rural non-farming activities, light manufacturing, installation/maintenance of mechanical equipment, business services and ICTs, stand a better chance of combining employment creation with productivity-enhancing structural change.

a. Employability and labour market policies

Beyond improving the entrepreneurship framework, rapid job creation will inevitably require enhancing the employability of youth entering the labour market. Investments in education and upskilling are thus of paramount importance, particularly as shortages of skilled labour are often cited among the main obstacles faced by firms operating in the LDCs. This is set to become an even more binding constraint with the emergence of advanced technologies. Action in this respect could involve improving the quality of secondary education and bolstering technical and vocational training programmes as these could make an important contribution to enhancing human capital in LDCs. Given the increasing degree of specialization and complexity of new technologies, however, decisive action is also required to boost tertiary education, particularly in relation to science, technology, engineering, and mathematics (STEM) disciplines. Strengthening consultations with the private sector and business associations could lead to a better alignment of curricula with market needs; enhancing international university collaboration (especially at the regional and South-South levels) could also be particularly important. Beyond formal education, the potential contribution of apprenticeships, on-the-job training, adult education and retraining should also be explored, especially in view of the potential inputs employers could provide to the upskilling process (UNCTAD, 2020d).

b. Policies for science, technology and innovation

The second horizontal issue of crucial relevance for the future prospects of LDCs is technological upgrading. The surge of digitalization and the Fourth Industrial Revolution (4IR) have brought renewed emphasis on access to technologies as key drivers of development prospects. However, while advanced technologies create additional opportunities for employment and productivity growth, serious concerns have been voiced about the extreme divides in their creation and diffusion, as well as the potential of some digital technologies to give rise to excessive market power and rent-seeking behaviour (chapter 4 and UNCTAD, 2018d, 2019d; UNIDO, 2019a). The fact that the ten technologically frontrunner economies account for 90 per cent of the patents and 70 per cent of exports of advanced digital production technologies, speaks volumes to the risk of widening technological divides (UNIDO, 2019a).

The pivotal role of technologies for sustainable development is all the more critical to the post-COVID-19 scenario, as the fallout from the pandemic is likely to accelerate some facets of the ongoing process of industrial digitalization and servicification. Value chains are set to undergo far-reaching reconfigurations to: (i) reduce excessive dependence on key suppliers; (ii) encourage reshoring and regional embeddedness, and (iii) boost overall resilience (Baldwin and Evenett, 2020). While these trends are unlikely to reverse globalization, they have nonetheless critical implications for the industrialization prospects of developing countries, as some authors had warned before the outbreak of the COVID-19 crisis (Rodrik, 2018; Baldwin and Evenett, 2020). Most importantly, the advent of advanced technologies may reshape comparative advantages, thereby potentially weakening the importance of low-labour costs for investors' locational choices.

For LDCs, all of this implies that the long-standing challenges in upgrading their technological base and setting in motion meaningful technology transfer will likely become even more daunting in the future, for at least three reasons. First, their positioning in the global division of labour could be further marginalized, should their distance from the technological frontier grow wider and the digital divide persist. Emerging evidence points to serious risks in this respect, as LDCs are overwhelmingly "laggards" in relation to advanced digital production technologies applied to manufacturing, with only four countries classified as "latecomers" (Ethiopia, Malawi, Uganda and Zambia), and one country (Bangladesh) designated as a "follower" (UNIDO, 2019a).[7] Equally worrying, no LDC appears to be meaningfully engaged in the production and trade of advanced digital technologies, being at most importers of such technologies (chapter 4). Such a lopsided pattern of engagement as "users" vs "producers" of advanced technologies points to deep-seated challenges not just in terms of adoption, but more so in domesticating frontier technologies, adapting their design to the reality and comparative advantages of LDCs, and engaging in the manufacturing stages of these technologies. This is reminiscent of the trajectory followed with mobile telephony: its rapid penetration in LDCs provided some developmental benefits and enabled some instances of leapfrogging but the full developmental benefits of these technologies in terms of manufacturing and structural transformation have remained elusive (Juma, 2015, 2017).

No LDC appears to be meaningfully engaged in the production and trade of advanced digital technologies

Second, in a context of weak global demand and increasing drive for resource efficiency, the failure of LDCs to break their dependence on primary commodities and spur industrialization will continue to be their Achille's heel. This is especially the case if the establishment of forward linkages in commodity sectors remains elusive and if commodity-related goods continue to be exported in forms that embody limited domestic value addition (UNCTAD, 2019g). Current production activities inevitably constitute the main source of potential learning and innovation opportunities for a firm, and hence have a crucial bearing on the accumulation of productive capabilities and tacit knowledge. Accordingly, history shows that developing a certain basis of industrial capabilities is critical for the adoption and domestication of advanced technologies; it also presents advantages when reaping the benefits of learning-by-doing to climb the technological ladder. Yet, since the beginning of the decade more than half of the LDCs have witnessed premature de-industrialization, reflecting a decline in the relative weight of their respective manufacturing sectors in total value added. Moreover, engagement in advanced digital technologies and research and development (R&D) activities is largely concentrated not only in terms of countries, but also within larger firms, due to the pervasiveness of economies of scale and scope (UNCTAD, 2018d; UNIDO, 2019a). Therefore, without dismissing the "advantages of backwardness" à la Gerschenkron, the lopsided nature of the LDC entrepreneurial landscape – dominated as it is by MSMEs with little capital and technology/knowledge-intensive activities – represents an additional challenge.

Third, advanced technologies will no doubt have to play a critical role in LDC mitigation and adaptation efforts, LDCs being particularly exposed to climate change and extreme weather events (UNCTAD, 2010, 2016a, 2017a). Commodity sectors, in particular,

[7] UNIDO's approach defines as "frontrunner" as the leading 10 economies engaged in patenting advanced digital production technologies; the categories of "followers" and "latecomers" are defined in terms of decreasing engagement in patenting advanced technologies or trading related goods, with "laggards" displaying very little or no engagement. The dimensions considered to obtain this classification include the average values of patent, export and import activity.

Policies to promote technological upgrading and innovation ecosystems are pivotal

are extremely susceptible to climate change, as it is expected to reduce yields for major crops and more broadly to affect millions of people relying on natural resources for their livelihoods (Zhao et al., 2017; Ray et al., 2019; UNCTAD, 2019h). Equally, it will also impinge on the fundamentals of hard commodity markets, especially (but by no mean exclusively) fuels (UNCTAD, 2019h). Much-needed policies to reduce greenhouse gas emissions in line with the Paris Agreement will inevitably depress fossil fuel demand and increase the risk of "stranded assets" – a possibility that should be carefully accounted for in the development strategies of resource-rich LDCs.[8]

Policies to promote technological upgrading and enhance science, technology and innovation (STI) ecosystems are set to become even more pivotal in the future. Maintaining and, wherever possible, increasing investment in basic research and related facilities/institutions is an inescapable priority, not only nationally but also at the regional and subregional level. Similar investments should be accompanied by ambitious measures to boost human capital accumulation, particularly by boosting competencies in STEM disciplines. Besides, governments should strengthen the incentives for bolstering technology absorptive capacity, while actively promoting experimentation. In this respect, more can be done to catalyze collaboration and knowledge-sharing between private actors, research institutions and public bodies, and encouraging more rapid technology experimentation and domestication. Ongoing responses to the COVID-19 pandemic provide some success stories, one example being the rapid development of testing kits in Bangladesh, Senegal and Uganda (Mahmud, 2020; UNECA, 2020). A more proactive approach on the part of public institutions and regulatory bodies could help in supporting technological upgrading by private actors, for instance by raising awareness on the available policy space (notably in relation to the LDC flexibilities under the Agreement on Trade-Related Aspects of Intellectual Property Rights – TRIPS), or by having patent offices or other public authorities periodically disseminate lists of expired patents to interested parties and business associations.[9] Enhanced South-South cooperation could also play a conducive role in strengthening national and regional capacities for technological upgrading in countries of the Global South.

c. Rural development policies

Going beyond horizontal issues, a focus on agriculture and rural development remains a critical priority for inclusive and sustainable growth in the LDCs, particularly as the agricultural sector still employs the bulk of the labour force, a large percentage of whom are women, and plays a pivotal role in terms of poverty reduction and ensuring food security (chapter 2). The growing pressure on natural resources coupled with the looming threat of climate change leave little alternative to tackling the sector's chronic productivity gaps, and to gradually shift away from the reliance on exports of cash crops, often in the context of buyer-driven value chains. If harnessed judiciously, rapid urbanization can provide a powerful demand multiplier to sustain investment in agriculture and strengthen intersectoral linkages, thus establishing a virtuous circle between domestic demand and supply (chapter 4). This calls for broadening access to the inputs needed by the distinct agro-ecological and farm systems, stepping up measures to tackle scale issues in input supply, and exploring the scope for diversification into higher value-added products (UNCTAD, 2015a). It also implies strengthening R&D and extension services to promote the use of appropriate and climate-resilient seed varieties (including by nurturing and adding value to traditional knowledge), as well as supporting the pursuit of market differentiation, certification schemes and enhanced value addition through agro-processing.

d. Industrial policies

If agriculture cannot be disregarded, in most cases it is the emergence of viable manufacturing hubs which remain the fundamental engine for growth, structural transformation and sustainable development in LDCs. This prominence was retained in the context of the Sustainable Development Goals which, in Goal 9, explicitly refers to "sustainable industrialization". This consideration, which is the traditional premise of industrial policies, ultimately stems from the

[8] "Stranded assets" refer to assets that, prior to the end of their economic life (as assumed at the investment decision point), are no longer able to earn an economic return. In the context of climate change, this typically refers to fossil fuel resources, exploration/production/processing facilities and other infrastructure which may need to be mothballed to limit global warming to well below 2°C.

[9] Under Article 66.1, LDCs are not required to apply the provisions of the TRIPS Agreement (other than Articles 3, 4 and 5) until 1 July 2021.

conclusion that the manufacturing sector can provide a greater scope for increasing returns, learning by doing and technological spillovers than other sectors. The advent of digitalization, servicification and 4IR may warrant some rethinking of the above premise, as some features traditionally ascribed to manufacturing, e.g. spillovers, scale economies and innovation, are increasingly shared by services sector firms (UNCTAD, 2016b; Rodrik, 2016; Nayyar et al., 2018; Hallward-Driemeier and Nayyar, 2017). This, however, does not completely overturn the argument in favour of developing a sound industrial basis, at least not for countries such as LDCs as their structural characteristics – notably low levels of industrialization and human capital – remain far from those of knowledge-based economies (UNCTAD, 2016b; Rodrik, 2016; UNIDO, 2019a; UNCTAD, 2020d). Moreover, the importance of a manufacturing base was once again highlighted in the context of the reaction to the spread of the pandemic (chapter 1).

One of the key lessons of the COVID-19 fallout is that resilience requires adaptability and, to borrow from the terminology of Hausmann and Chauvin (2015), a capacity to adapt "moving to the adjacent possible", which are both contingent on the pre-existing capabilities.[10] Being able to rapidly adjust from the production of textiles to that of personal protective equipment (PPE) (Venter, 2020; Moyo and Lozansky, 2020), or from alcoholic beverages to disinfectant (Munnik and Chen, 2020), requires firms with productive capabilities and that are able to identify potential opportunities and work out what adjustments they need to make to competitively respond to market changes. Equally, the opportunity to engage in the adaptation and production of advanced technologies largely depends on the presence of a certain manufacturing basis and the acquisition of complementary skills (UNCTAD, 2020d; UNIDO, 2019a). The latent spillovers in this discovery process imply that investment in different and complementary types of productive capabilities should be actively encouraged by LDCs as a fundamental step in establishing and advancing their industrial competitiveness (Hausmann and Rodrik, 2003). Servicification, digitalization, along with the growing importance of distribution and logistics, have blurred the distinction between the manufacturing and

[10] In this context, the idea of "moving to the adjacent possible" refers to the incremental process of economic diversification, through step-by-step "jumps" from the existing products to nearby possibilities, characterized by broadly similar requirements in terms of underlying knowledge and productive capabilities, but higher levels of sophistication.

Developmental opportunities in high-productivity services are contingent on a vibrant industrial basis

services sectors, and underscored the emergence of services segments that may offer large scope for spillovers. Yet, these services subsectors are typically underdeveloped in LDCs, and unlikely to provide opportunities for both productivity growth and job creation for unskilled labour (Nayyar et al., 2018). Many of the developmental opportunities in high-productivity services are ultimately contingent on a vibrant industrial basis, as a key source of demand in the case of business services, logistics and distribution, or through synergies and complementarities with the design and production of the goods embodying knowledge-intensive services (e.g. the installation and maintenance of machinery and mechanical equipment).

From a policymaking perspective, rather than framing the discussion as a dichotomy between manufacturing-led versus services-or an agricultural-led model, the advent of new technologies puts a premium on the systemic coherence of the policy framework. This entails designing policies that strategically target synergies and complementarities across sectors, with a view to gradually enhance an economy's sophistication. It also involves awareness of the political economy dimensions underlying technological change and its potential distributional effects. The accelerating penetration of new technologies makes skills acquisition and technological upgrading ever more relevant, since the capabilities to adapt and undertake incremental innovation can play a key role in "directing" technical change towards more appropriate, inclusive and socially desirable outcomes. A notable example of this is decentralized renewable-based electricity generation, which has the potential to foster rural electrification and reduce rural-urban inequalities; however, if left to unfettered markets, its rollout it could fall short of what is required for structural transformation (UNCTAD, 2017a).

Lacking a viable industrial basis, current trends suggest that LDCs will struggle to move beyond the role of late followers in the use of advanced technologies, i.e. they are likely to remain importers and consumers, rather than producers and innovators. This situation calls for a bold and proactive industrial policy framework, which favours pragmatic

Coherence between trade policy and agricultural/industrial objectives is a priority

experimentation and coordination by all relevant stakeholders to address market failures and nudges firms to gradually sharpen their competitiveness edge, as well as support linkages development and the process of self-discovery inherent to the climbing up the sophistication ladder (UNCTAD, 2020d, 2018b; Hausmann and Rodrik, 2003; Chang and Andreoni, 2020). Simultaneously, policymakers should be wary of potential rent-seeking – hence careful to build-in sunset clauses and closely monitoring the outcomes of the support/protective element provided – but also creative in defending and make full use of available policy space.

The global on-going response to the COVID-19 pandemic has provided numerous concrete examples of industrial policy options, thanks to an unprecedented level of mobilization, albeit under faltering multilateral leadership. These responses range from the strategic use of public procurement to advanced market commitments (which lower risks and entice investment in R&D), and from swift legal action to ensure that intellectual property rights (IPR) flexibilities are actionable to proactive efforts aimed at facilitating coordination among all relevant stakeholders. More broadly, a large number of developing countries have recently deployed other policy tools, including local content requirements as targeted Special Economic Zones (SEZs) (Oqubay and Lin, 2020; UNCTAD and FAO, 2017; UNCTAD, 2020a). The success record of these industrial policy measures remains somewhat mixed: upgrading opportunities and spillovers to the rest of the economy have not always materialized or been commensurate to the related costs. Nonetheless, when part of a holistic policy framework and designed in a balanced pragmatic manner, industrial policies have been instrumental to industrial upgrading (UNCTAD, 2020d).

e. Trade policy

Beyond the domestic border, another key policy priority for LDCs is to enhance the strategic coherence and articulation of trade policies and align them with sectoral agricultural/industrial policy objectives. Harnessing international trade strategically to achieve diversification is part and parcel of that systemic policy coherence that was referred to above. Regional integration, in particular, can provide a powerful engine to attain larger economies of scale, harness trade complementarities and gradually enhance an economy's competitiveness and sophistication. It can also prove instrumental in attracting FDI and enhancing the scope and developmental effectiveness of integrating regional and global value chains. The experience of many LDCs, particularly in Africa, suggests that trade liberalization has at times been rolled out in a rather haphazard way, with tariff structures that are not necessarily conducive to the establishment of a national/regional industrial basis, or with measures sequenced in ways that ultimately hinder national competitiveness (UNECA, 2015; UNCTAD, 2019c, 2009). This reasoning applies not only to tariff liberalization, but also to non-tariff measures (NTMs). The supply disruptions caused by the COVID-19 pandemic are a stark reminder of the magnitude of the costs and frictions related to transport and trade facilitation issues, as well as to other NTMs. This serves as strong reminder of the need to implement the African Continental Free Trade Area. Similarly, broad regional integration schemes, e.g. the Association of Southeast Asian Nations (ASEAN) or the South Asian Free Trade Area (SAFTA), could be instrumental to the recovery of Asian LDCs, and could prove particularly valuable for countries graduating from the LDC category in the future (UNCTAD, 2016a).

International trade, with its inherent focus on country-specific endowments, geography and specialization pattern, provides an excellent example that there is no "one size fits all" approach, just as there is no single pattern of structural transformation. The mainstream prescription of pursuing export-led growth risks falling victim to a fallacy of composition, especially in the current depressed context: not all countries can simultaneously export their way out of the recession. Moreover, even when accounting for their small share of the global market, it remains clear that unless LDCs can attain a gradual diversification of their exports, they will at least partly compete with one another in markets related to a narrow range of products. Hence, to be successful, strategies geared towards productive capacity development should address the context-specific realities of each individual country, whether in relation to their international trade or their own "internal integration", which is often overlooked in the development discourse but remains crucial notably for relatively large LDCs.[11]

[11] According to Wade, "(a)n economy with high internal integration, has a well-filled input output matrix – a dense set of links between sectors (…) and a structure of demand such that a high proportion of domestic production is sold to domestic wage earners" (Wade, 2004: xlviii).

Box 5.1 Using the PCI to identify common challenges in productive capacity development

This box illustrates how the PCI can be used to identify common challenges in LDC productive capacity development in a "theory-blind" manner. To do so, a K-means clustering analysis has been performed along the eight underlying dimensions of the PCI, using values for the year 2018. This analysis identifies a partition of the n observations into k clusters in which each observation belongs to the cluster with the nearest mean (cluster centroid). The exercise was repeated for a number of clusters ranging from two to ten, and then the preferred number of clusters was selected based on the Calinski-Harabasz pseudo-F statistics (which describes the ratio of between-cluster variance to within cluster variance).

The resulting centroids are reported in Box Table 5.1. Besides, since it would be impossible to graphically represent all the eight dimensions of the PCI, to provide a visualization of the clusters the latter are aggregated into three components – namely infrastructural, structural change and institutional (as illustrated in the table) – using the geometric mean, thus mimicking the aggregation procedure adopted in the construction of the PCI itself. Further, the clusters are graphically represented in Box Figure 5.1, which drops the structural change dimension along which the variability is anyway extremely limited across LDCs.

Box Table 5.1

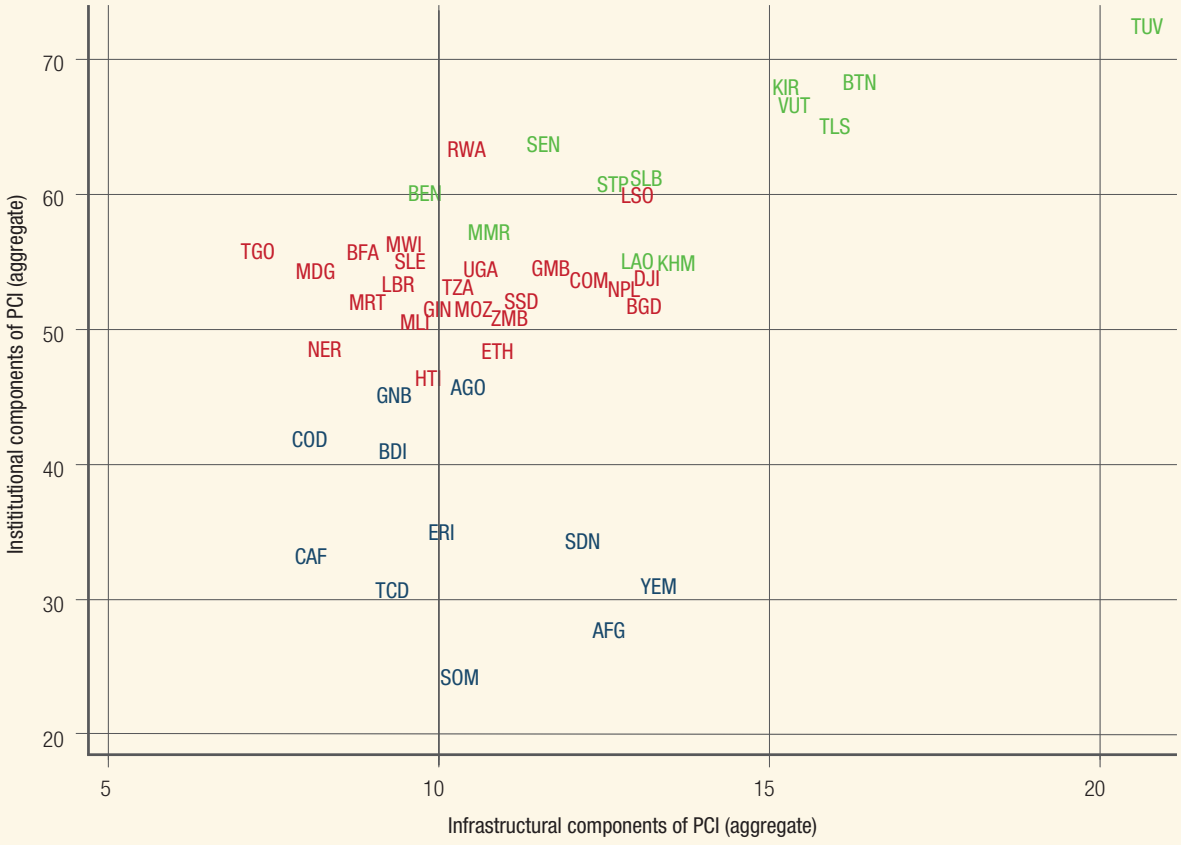
Mean values of Productive Capacity Index dimensions, within-cluster

	Infrastructural component			Structural change component			Institutional component	
	Energy	ICT	Transport	Human capital	Structural change	Natural capital	Private sector	Institutions
Blue cluster	19	5	13	34	12	59	61	22
Red cluster	17	6	12	38	14	62	72	40
Green cluster	23	8	17	42	16	48	79	51

Source: UNCTAD secretariat calculations, based on data from UNCTAD (forthcoming).

Box Figure 5.1

Visualization of LDC clustering according to PCI dimensions, 2018



Source: UNCTAD secretariat calculations, based on data from UNCTAD (forthcoming).

LDCs need a more conducive international environment and support to develop their productive capacities

f. Policy priorities for the development of productive capacities of LDC sub-groups

The importance of country-specific factors has been highlighted repeatedly in this report, and the need for them to inform strategies for the development of LDC productive capacities. From a broader policy perspective, though, it is instructive to go beyond the heterogeneity of the LDCs and identify broad commonalities across them, which point to specific sets of policy priorities. As shown in Box 5.1, a way to do so is through clustering the eight dimensions of UNCTAD's PCI to detect similar challenges in productive capacity development. Interestingly, this exercise reveals three broad typologies of LDCs:

1. A group of mainly conflict and post-conflict countries, characterized by low average levels of productive capacities across all dimensions, but whose most binding constraints appear to stem from the institutional dimension (blue cluster);
2. A second group with similarly low average performance along five of the PCI dimensions, but far better track record in terms of institutional, private sector and human capital components (red cluster);
3. A third group of LDCs with typically higher average human capital, private sector and institutional component and with a significantly lower footprint on natural capital (green cluster). This latter group, encompassing eight of the 11 countries meeting the criteria for LDC graduation in 2018, is composed by LDCs with a relatively diversified export structure, and smaller countries with far better average quality of the infrastructural provision.[12]

The above exercise points to the fundamental importance of accounting for political economy dynamics and related institutional challenges in shaping the viability of LDC development strategies, as well as the importance of human capital investment and the pattern of export specialization. It also underscores the peculiarities of island LDCs, whose level of productive capacity development might be relatively encouraging by LDC standards, but whose economic vulnerability remains extremely high. More broadly, the evidence presented here reinforces the relevance of "graduation with momentum", which views graduation not so much as an end in itself, but rather as a milestone in the long-term process of structural transformation, whereby developing productive capacities is key to building resilience in turbulent times (UNCTAD, 2016a).

[12] The three LDCs meeting the criteria for LDC graduation in 2018, but not included in the second cluster are: Angola, as an oil exporter representing a case of graduation based on income-only criterion, and Bangladesh and Nepal, both narrowly belonging to the middle cluster, but located at the fringes of the upper cluster.

C. What can the international community do?

Considering that structural transformation is largely an endogenous process occurring within a given economy, the preeminence of domestic policymaking for productive capacity development is rather straightforward. This is also consistent with the positions stated in the IPoA, and later reaffirmed in the Addis Ababa Action Agenda, that LDCs "have the ownership of and primary responsibility for their own development" (United Nations, 2011: 10). Nonetheless, in an increasingly interdependent world, the unfavourable terms of LDCs' integration into the global economy inevitably shape their development needs, policy space, available means of financing, and more broadly the overall viability of given policy measures.

Renewed assistance on the part of the international community is needed at a challenging time for multilateralism; support is needed to create a more conducive international environment and sustain the aspirations of LDCs to develop their productive capacities. Indeed, this recognition constitutes the raison d'être of the LDC category itself, whose continued relevance was demonstrated in earlier chapters. This position is reinforced by the recent recommendation of the Committee for Development Policy that the UNLDC-V Conference adopt the theme "Expanding productive capacity for sustainable development" as the organizing framework for the new programme of action for LDCs for the decade 2021–2030 (CDP and UN DESA, 2020). With this in mind, this section discusses how the international community can strengthen its support to LDCs, first by highlighting the significant stakes they have in systemic issues, then by moving to recommendations related to LDC-specific ISMs.

1. LDC stakes in systemic issues

The structural nature of LDC vulnerabilities implies that they are at the forefront of the looming crises confronting the multilateral system and its capacity

to adequately provide global public goods, redress entrenched inequalities, and support sustainable development and resilience building. This is immediately evident in relation to the containment of COVID-19, but the same point also applies to securing adequate access to sustainable development finance, preserving financial stability and addressing the impact of climate change and biodiversity losses. Given their heightened exposure to shocks (chapter 1), LDCs cannot but be among the most fervent supporters of a revamped and more effective multilateral system, capable of addressing today's global challenges and creating a more conducive international environment. While their marginal economic weight mirrors their limited say on systemic issues, the stakes for LDCs in the related debates could not be higher. Hence, they would definitely stand to gain from a greater voice and representation in global fora. Symmetrically, disregarding their legitimate interests may come at a cost not only to the LDCs themselves but also to other countries as a result of potential spillovers related to global health, financial stability, environmental considerations but also, more positively, to pecuniary externalities within the global economy.[13]

a. Strengthening multilateralism

Even prior to the COVID-19 pandemic, the Inter-Agency Task Force on Financing for Development warned that "international economic and financial systems are not only failing to deliver on the SDGs, but … there has been substantial backsliding in key action areas" (United Nations, 2020a: xvii). The COVID-19 crisis and ensuing global recession have deteriorated the outlook further, exposing weak policy coordination and absent global leadership. The risk that the COVID-19 pandemic could be used to justify a retreat from multilateral cooperation and lukewarm efforts towards achieving the Sustainable Development Goals and the Paris Agreement, should be met with a resounding call for renewed and strengthened multilateralism, capable of furthering systemic resilience. This entails revamping support to vulnerable countries, as well as addressing long-standing flaws in the prevailing multilateral trade and financial architecture (UNCTAD, 2020h, 2017e, 2019b).

In the trading sphere, especially in the early phase of the crisis, unilateral trade-restrictive measures, such as border closures, export and travel bans or aggressive public procurement practices, created shockwaves in markets of sensitive products (e.g. medical equipment

An LDC post-COVID recovery requires the reform of the international financial architecture and a Marshall Plan

and food), leaving import-dependent countries such as LDCs vulnerable to price hikes and supply disruptions (Baldwin and Evenett, 2020; UNCTAD et al., 2020). These perverse dynamics have partly eased with time, as countries reverse export bans and resort to regional procurement schemes, similar to the one adopted by the Africa Centres for Disease Control and Prevention (CDC), and a range of international cooperation initiatives emerging in multiple directions, North-South, South-South and even South-North (UNCTAD et al., 2020; UNCTAD, 2020i; AUC, 2020; Izmestiev and Klingebiel, 2020). Nonetheless, realizing a free, fair, non-discriminatory, transparent, predictable and stable trade and investment environment and keeping markets open remains vital to ensure availability of essential goods and promote a strong economic recovery (UNCTAD et al., 2020).

In the financial sphere, the COVID-19 crisis has vindicated some of the arguments made in *The Least Developed Countries Report 2019*, and recalls the dynamics of balance-of-payment-constrained growth models (Thirlwall, 1979; Bacha, 1990; UNCTAD, 2019a). The multifaceted shock prompted by the COVID-19 pandemic triggered declines in public revenues and a largely exogenous deterioration of the balance of payments, through falling commodity prices and collapsing global demand, FDI and remittance flows (chapter 1 and UNCTAD, 2020h, 2020a; Baldwin and Weder di Mauro, 2020a, 2020b). In turn, the resulting exchange rate dynamics increased the cost of sensitive imports (food, fuels and medical equipment), while typically also worsening their debt sustainability outlook (UNCTAD, 2020j). The COVID-19 pandemic also further exacerbated LDC structural weaknesses, and led to widening of

[13] The fact that sustained growth in emerging markets pulled the global recovery in the aftermath of the 2008–2009 financial and economic crises provides a relevant example of these pecuniary externalities.

LDCs' foreign reserves drained by COVID-19 outbreak

"twin deficits" of government budget and current account, which have heavily constrained the scope for proactive policy responses by these countries.

Stronger international cooperation is sorely needed to reform the prevailing international financial architecture that has shown itself incapable of ensuring adequate access to international liquidity and long-term development finance to LDCs – all of which has undermined sustainable development and resilience building. While LDCs might have some room to enhance domestic resource mobilization, improve cost-effectiveness of public spending and strengthen national competitiveness, this is patently insufficient in the current context (UNCTAD, 2019b). With daunting investment needs and heightened external resource dependence, they are essentially constrained by an international monetary system which imposes the burden of adjustment on debtors and deficit economies (UNCTAD, 2015d, 2019b). This situation contributes to global deflationary pressure and exacerbates global inequalities, as the world's most vulnerable countries have had to cope with an unparalleled economic shock with little means at their disposal. The asymmetric role of international reserve currencies for developed and developing countries is at least partly to blame for this outcome, which further aggravated LDCs' vulnerabilities. Not only reserves hoarding (as a form of self-insurance) may entail sizeable opportunity costs for cash-strapped economies but exchange rate dynamics tend to ultimately undermine their usefulness precisely in times of crisis. While the foreign reserves of LDCs have historically been limited and have for the past four or five years been on a downward trend, they have dwindled rapidly in the early phase of the COVID-19 outbreak, which also occurred in other developing countries (UNCTAD, 2020c; IMF, 2020b). Shortages of hard currencies were worsened by the amplifying and mutually reinforcing interactions between financial markets and currency fluctuations, with LDCs losing much-needed foreign exchange because of "flight to safety" dynamics, leading to what has been dubbed "original sin redux" (Hofmann et al., 2020).[14] This exerted additional pressure on foreign exchange, reducing LDC resilience to the crisis, as hard currencies constitute a lifeline to pay for supplies of sensitive imports. International financial institutions and regional development banks have reacted to this situation by mobilizing and/or redirecting significant additional resources (Djankov and Kiechel, 2020; AfDB, 2020). However, lacking the political will for a stronger concerted action, including fresh capital injections, their action has fallen far short of the $2.5 trillion package for developing countries that UNCTAD and the IMF have called for (UNCTAD, 2020c; *Reuters*, 2020a; Djankov and Kiechel, 2020).

Against this background, the cry for stronger multilateralism and more effective international cooperation could not resound more clearly. A sustainable recovery in LDCs inevitably warrants stronger mechanisms for the provision of international liquidity. This should include a fresh injection of Special Drawing Rights (the IMF's unit of account), under a more progressive allocation mechanism that could at least partly rebalance LDC marginal weight in IMF's quota system (UNCTAD, 2020c; Truman, 2020). While a multilateral initiative is increasingly necessary, the current conjuncture also calls for strengthening regional and South-South mechanisms for financial cooperation. This might include the expansion of concessional and non-concessional resources provided by regional development banks, or as appropriate, a currency swap and repurchase arrangements. Looking ahead beyond the COVID-19 outbreak, mechanisms for rapidly disbursing international liquidity and contingent financing are likely to play an even more essential role in the future as part of enhanced emergency responses to climate change and disaster risks. In light of their disproportionate vulnerability to natural disasters, whose frequency and intensity is increasing year by year, the needs of LDCs should be given particular attention.

b. Sustainable development finance

The inadequacy of the current international financial architecture becomes perhaps even more apparent in relation to the issue of access to long-term sustainable development finance, especially considering the formidable scale of the investment needs of LDCs. In 2017 UNCTAD estimated, for instance, that the total investment needed to achieve basic universal energy access in LDCs by 2030 would be in the order of $12–40 billion per year, while increasing supplies to fulfil the needs of transformational access would raise these costs even further (UNCTAD, 2017a). Similarly, with only less than one third of the population of LDCs using the Internet and disproportionately high

[14] The "original sin" refers to the fact that most countries cannot borrow abroad in their own currency (Hausmann and Panizza, 2003).

costs for ICT services, the investment requirements to bridge the digital divide in LDCs are also daunting (UNCTAD, 2019e, 2019d). Moving from infrastructures to human capital, substantial financing gaps have long emerged in relation to the health and education sectors, whose chronic underfunding situation has become irrefutable in recent months. In a nutshell, there can be no doubt that prospects for spurring the development of LDC productive capacities and meeting the 2030 Agenda for Sustainable Development will require a concerted investment push of unprecedented magnitude. Failure to do so might deepen existing divides, entrench inequalities and gender disparities in access to education and new technologies, all of which will have long-term effects on the attainment of the Sustainable Development Goals.

The scant resources of LDCs and their dwindling fiscal space calls for a Marshall plan with significantly bolstered aid flows to avert the consequences of a prolonged downturn and pave the way for a sustained recovery (UNCTAD, 2020b). Notwithstanding periodically reaffirmed aid targets – whether in total or specific to LDCs (respectively 0.7 per cent and 0.15–0.20 per cent of donor countries' gross national income – GNI) – only a handful of Development Assistance Committee (DAC) donors have delivered on their promises (UNCTAD, 2019b). Preliminary data for 2019, for example, show that ODA provided by OECD-DAC members only reached 0.31 per cent of their GNI; meanwhile, net bilateral aid flows to the LDCs reached $33 billion, increasing by 2.6 per cent in real terms after a drop in 2018 (OECD, 2020a).It is already clear that the COVID-19 outbreak will put additional pressure on aid budgets; yet, the cost of policy packages adopted by donor countries in the wake of the pandemic dwarfs the cost of meeting long-standing aid commitments, as reaffirmed in target 17.2 of the Sustainable Development Goals. UNCTAD recently estimated that had DAC donors met the LDC-specific target for aid allocation, LDCs would have received an extra $32–58 billion per year (UNCTAD, 2019b). It is hard to overemphasize the difference such resources could make in supporting a broad-based recovery in the world's most vulnerable and aid-dependent countries. Equally, similar gaps speak volumes to the fact that decade-long debates on mutual accountability do not remain dead letter, as do the declarations to reduce global inequalities in the 2030 Agenda for Sustainable Development Goals.

Beyond the size, the very modalities of aid delivery to LDCs have become increasingly complex, evolving in ways that might pose additional challenges to recipient governments, notably in terms of ensuring

The scant resources and fiscal space of LDCs call for a Marshall plan with significantly bolstered aid flows

aid coordination, ownership of and alignment with their development strategies (UNCTAD, 2019b). Contrary to long-standing recommendations stipulating that ODA to LDCs should essentially take the form of grants, concessional loans have accounted for a rising share of resources, surpassing 25 per cent of total ODA.[15] In addition, project-type of interventions – which are poorly reflected (if at all) in the government budget process – have accounted for the lion's share of net ODA disbursement, contributing only weakly to the reinforcement of institutional capacities, including in the health and education sectors. Finally, increasing access to private sector instruments has only marginally been successful in mobilizing additional resources for LDCs (whose perceived risk-profitability profile remained unattractive); however, these instruments risk hollowing out the role of governments in assessing alignment and additionality, and also risk potentially watering down the whole aid effectiveness agenda, and ultimately blurring the lines between aid and other official flows. While these trends are consistent with what happened in other developing countries, the heightened aid dependency and institutional weaknesses of LDCs could mean that their adverse effects on capacity development might be more pervasive. In light of this evolution of the aid architecture, coupled with growing demands for redressing entrenched inequalities and spurring social change, a revamped aid effectiveness agenda 2.0 is increasingly warranted to rebalance the power relationships between donor and recipient countries, as well as enhance the coherence between the means and ends of international cooperation (UNCTAD, 2019b).

c. Debt issues

Another long-standing systemic issue of immediate relevance to LDCs pertains to debt sustainability and the related absence of an effective framework for debt workout. As highlighted repeatedly by UNCTAD,

[15] The OECD's Recommendation on Terms and Conditions of Aid stipulated that ODA to LDCs "should be essentially in the form of grants and, as a minimum, the average grant element of all commitments from a given donor should either be at least 86 per cent to each least developed country over a period of three years, or at least 90 per cent annually for the least developed countries as a group" (OECD, 1978: 8).

LDCs would benefit from a concerted investment push informed by common but differentiated responsibilities

recent years have witnessed an extraordinary buildup of developing countries debt stocks, and the COVID-19 shock could be the perfect storm to trigger a wave of debt crises (UNCTAD, 2016c, 2018e, 2019b, 2020j; Djankov and Panizza, 2020; Kose et al., 2020). The scale of the problem for LDCs is hard to overstate: according to the debt sustainability assessments by the IMF and the World Bank, as of September 2020 14 LDCs were deemed to be at high risk of external debt distress, with five more in debt distress.[16] While the G20 decision to adopt to a temporary debt service standstill on bilateral official loan repayments from the so-called "IDA countries" represents a step in the right direction, it remains insufficient along several dimensions. First, the exclusive focus on the poorest countries leaves out many low- and middle-income countries that already face severe economic strains. Second, private creditors participation is sought only on a voluntary basis, and yet they are an important constituency for some LDCs, as well as for middle-income countries, where they hold the majority of the sovereign debt. Third, while this solution is temporary and does not affects debt stocks, it is increasingly clear that several LDCs will require significant debt relief if they are to rebound from the COVID-19 shock without compromising much-needed social spending. More broadly, for LDCs and other developing countries alike, there is a pressing need to adopt a standard framework for debt workout, particularly as the costs for coordination and potential litigation have increased over time with the broadening of the range of creditors and the associated complexity (UNCTAD, 2019b). LDCs would equally benefit from greater international support and technical assistance in improving debt reporting and management practices, including in areas such as data reliability, transparency, monitoring of contingent liabilities and debt incurred by state-owned enterprises (SOEs) (UNCTAD, 2018e, 2019b).

[16] Countries at high risk include: Afghanistan, Burundi, Central African Republic, Chad, Djibouti, Ethiopia, Gambia, Haiti, Kiribati, Lao P.D.R., Mauritania, Sierra Leone, Tuvalu and Zambia; conversely Mozambique, Sao Tomé and Principe, Somalia, South Sudan and Sudan were classified as in debt distress. Data on Angola are not available as the country is not covered by the Debt Sustainability Framework for Low-Income Countries. Concerning the methodology of the Debt Sustainability Framework for Low Income Countries refer to IMF (2017); updated country assessments are available online at: https://www.worldbank.org/en/programs/debt-toolkit/dsa.

d. Climate finance

While the ongoing recession is understandably the main focus of current policy discussions, in the longer term the impact of climate change might well dwarf the COVID-19 shock, casting the whole debate on access to development finance in a different light. LDCs are predicted to disproportionately shoulder the adverse effects of climate change and could push tens of millions into extreme poverty, thereby worsening existing inequalities and creating what some have called a "climate apartheid" (United Nations, 2019, 2020b), underpinning their vital need for an adequate provision of climate finance. In this respect, if the availability of climate finance has increased in recent years, the fact remains that it falls significantly short of the promise to mobilize $100 billion per year by 2020, as agreed at the 15th Conference of Parties in Copenhagen (UNCTAD, 2019b). According to OECD estimates, in 2017 – the latest year for which data are available – climate finance reached globally $72 billion, including bilateral and multilateral public finance (attributed to developed countries), officially-supported export credits and mobilized private finance (OECD, 2019b). Of this amount, public climate finance accounted for $54 billion in 2017, consistent with a projected level of $67 billion in 2020 – a projection which did not take into account the COVID-19 shock. Moreover, the thematic breakdown of these resources remains heavily skewed: 73 per cent of the resources were channeled towards mitigation purposes, a further 8 per cent to cross-cutting issues, and only 19 per cent to adaptation. While the share of adaptation in public climate finance in 2016–2017 was significantly higher for LDCs (45 per cent), this composition remains only partly aligned with their conditions, considering their relatively small carbon footprint and their dire need for climate-resilient infrastructure. It is thus clear that LDCs would benefit greatly from the adoption of a concerted investment push informed by the principle of common but differentiated responsibilities and respective capabilities, such as those envisaged in the global green new deal (United Nations, 2015a; UNCTAD, 2019j, 2019b).

e. Illicit financial flows

Beyond ODA and external assistance, genuine support to the resource mobilization efforts of LDCs could go a long way in recovering much-needed financial resources. This applies notably to ongoing efforts to curb illicit financial flows. In 2015 it was estimated

that illicit financial flows averaged 5 per cent of the GDP of LDCs and 36 per cent of their tax revenue, with some countries registering much higher outflows (UNCTAD, 2019b). Trade mispricing, in particular, appears to be heavily concentrated in commodity sectors, depriving many LDCs of much-needed revenues and foreign exchange, with adverse effects on a wide range of developmental outcomes (UNCTAD, 2019b, 2016d, 2020g, 2020b). Similarly, LDCs appear to be particularly exposed to base erosion and profit shifting by multinational enterprises and the challenges related to the taxation of increasingly digitalized business models. Moving towards a fairer international taxation system and strengthening the support for capacity development for LDC regulatory and tax administration bodies is thus an international imperative. In addition, it is essential to enhance cross-border financial transparency, strengthen international tax cooperation, and provide adequate technical assistance and capacity development for LDC tax administration entities. LDCs may also benefit from even small steps towards unitary taxation of multinational enterprises (i.e. taxing a multinational enterprise and its subsidiaries as a single firm based on its worldwide operations), thus reducing the incentive for tax competition and the use of tax havens, along the lines proposed by the Independent Commission for the Reform of International Corporate Taxation (UNCTAD, 2020g). LDCs are particularly exposed (at least in relative terms) to illicit financial flows but have a limited stake in related international initiatives, which gives rise to questions on their legitimacy.

2. Stronger international support measures for LDCs

Existing international support measures (ISMs) in favour of LDCs encompass a range of actions, commitments and provisions across the fields of development finance, trade, technology and technical assistance. Thoroughly reviewing all of them and rigorously assessing their impact on LDC economic performance is admittedly beyond the scope of this report.[17] Nonetheless, it is fair to say that existing ISMs have only had – at best – modest concrete impacts, as evidenced by LDC limited progress against the IPoA targets. This, in turn, reflects a combination of weak design, declining effectiveness, insufficient funding, inadequate institutional settings, or limited awareness and low uptake on the part of LDC themselves (UNCTAD, 2016a).

[17] For a comprehensive discussion on the different ISMs and related impact, refer to UNCTAD (2016a) and CDP and UN DESA (2018).

Enhanced international cooperation to stem illicit financial flows could generate much-needed resources for LDC recovery

a. Trade ISMs

Beyond development finance issues, ISMs in the areas of trade and technology are the most relevant to the present discussion on productive capacities for the next decade. Despite some progress at the technical level, the various forms of trade-related support for LDCs have fallen short of what was needed to double LDC share of world exports by 2020, as envisaged in the IPoA (paragraph 65) and in target 17.11 of the Sustainable Development Goals. These challenges are best epitomized by the mixed record of the major trade-related ISM – duty-free quota-free market access – which is enshrined in several World Trade Organization (WTO) ministerial declarations, as well as in target 17.12 of the Sustainable Development Goals.

Notwithstanding the rising number of developed and developing countries granting unilateral non-reciprocal preferences to exports originating from LDCs, this has typically played a subdued role in the evolution of LDC market shares in preference-granting countries, with relative price effects and other structural factors being more important drivers of performance (WTO, 2019). Preferential schemes differ widely in terms of coverage, preference margins, rules of origin and availability of alternative preferential arrangements, but several common factors have dampened their effectiveness. First, preference erosion tends to reduce the commercial value of these schemes over time; besides, their unilateral nature implies some degree of uncertainty and unpredictability, especially at a time when the international trade scene has become increasingly volatile and restrictive measures are on the rise.[18] Second and more fundamentally, lacking a broader action to support productive capacity development, these schemes appear to

[18] Recent examples of suspension of unilateral trade preferences include:

- the February 2020 decision of the European Commission to withdraw part of the tariff preferences granted to Cambodia under the Everything But Arms trade scheme due to the "serious and systematic violations of the human rights principles" (European Commission, 2020); and
- the July 2018 decision by the US President to suspend the application of duty-free treatment for all AGOA-eligible apparel from Rwanda, following the latter's ban on second-hand clothes and imports of shoes (TRALAC, 2018; AGOA info, 2018).

International support measures for access to technology are grossly inadequate

have done little to support LDC export diversification. Even though preference margins tend to be more lucrative on manufacturing products, few LDCs have been able to reap these benefits at the extensive margin, making good use of preferential market access to support diversification. However, given the persistence of primary commodity dependence in most LDCs, the potential gains from preferential schemes have failed to materialize, as the bulk of their merchandise is traded at the most-favoured nation (MFN) duty-free rate (WTO, 2019). Third, stringent rules of origin have at times undermined the utilization of preferential schemes on the part of LDC exporters by raising their costs of compliance, especially in the context of weak productive fabric and institutional framework (UNCTAD, 2018f, 2019g). A set of multilateral guidelines for simpler and more transparent rules of origin applicable to preferential trading schemes for LDCs have been developed in the context of the WTO, helping to catalyze reforms in the area and bring more attention the issues of transparency and predictability.[19] Yet, greater scope exists to improve the utilization rates of preferential schemes, especially with respect to some of the more recent preferential arrangements, which are characterized by a high proportion of eligible imports entering LDCs at the MFN rate.

More generally, the trade performance of LDCs is constrained by NTMs, including a wide range of requirements from technical standards or sanitary and phytosanitary (SPS) measures to anti-dumping, and other administrative provisions. Developed countries, in particular, tend to apply relatively more NTMs (i.e. regulating a larger share of their imports and using more regulations on each item) than other developing countries or LDCs, while the latter regulate their exports twice as frequently as developing or developed countries (UNCTAD and World Bank, 2018). The presence of NTMs is particularly large in sectors of fundamental importance for LDCs, such as agro-food, textile and apparel, whose impact often exceeds that of tariffs.[20] LDCs and small producers are disproportionately hit by NTMs, as the costs of compliance depend on a range of factors, including technical know-how, production facilities, hard and soft infrastructural base (notably quality assurance and standard-setting bodies).

The same broad reasoning applies to trade in services in LDCs: while services exports have increased significantly over the past decade, they remain below one per cent of the world total and are increasingly concentrated in a handful of countries. Moreover, they are mainly accounted for by tourism, transport, and distribution services, while more knowledge and ICT-intensive types of services, whose dynamism is underpinned by digitalization and servicification, play a subdued role. Work on the so-called "LDC services waiver" – allowing WTO members to grant preferential treatment to services and service suppliers from LDC members – began in 2011 precisely with the objective of better integrating LDCs into international services trade. Yet, notwithstanding some progress, nearly ten years down the line it is clear that this measure alone is unlikely to radically change the picture, as services market access comprises a mix of liberalization (i.e. removing discrimination), capacity development and regulatory reforms.[21]

b. Technology ISMs

ISMs related to access to technology lend themselves to an equally sobering assessment, a finding that raises very serious concerns at a time when digitalization threatens to widen existing divides, and challenge traditional business models. LDCs do benefit from a number of related special and differential treatment (SDT) provisions, including a waiver of most obligations under the WTO TRIPS Agreement until 2021 (under Article 66.1), as well as an exemption from provisions of the TRIPS agreement related to pharmaceutical products until 2033 (under TRIPS Council decision nr IP/C/73, dated 6 November 2015). Besides, developed countries "shall provide incentives to enterprises and institutions (…) for the purpose of promoting and encouraging technology transfer" to LDCs, under article 66.2 of TRIPS. In practice, however, this provision has translated into very few meaningful success stories (UNCTAD, 2016a), few LDCs have been able to make significant progress in technological upgrading through the strategic use of SDT measures, Bangladesh being perhaps the

[19] Decisions on preferential rules of origin for LDCs have been adopted in the 2013 and 2015 WTO Ministerial Conferences (respectively in Bali and Nairobi).

[20] Incidentally, this sectoral pattern is likely to have an adverse impact on gender equality, as women tend to be over-represented in the agriculture and garment sectors.

[21] As of October 2019, 51 WTO members (accounting for 86 per cent of global trade) had notified preferences to the benefit of LDC services and services suppliers.

main exception in relation to the rapid growth of its pharmaceutical industry (Nazim Uddin Bhuiyan et al., 2019; Helal Uddin Ahmed, 2019). Besides, the use of these flexibilities is at times restricted by WTO-plus obligations included in bilateral trade and investment agreements (UNCTAD, 2007), as recently reflected by the litigation risks associated with policy responses to the COVID-19 outbreak (Bernasconi-Osterwalder et al., 2020).

Beyond SDT, a host of technical assistance initiatives have also been rolled out in relation to climate technology transfer, notably under the United Nations Framework Convention on Climate Change (UNFCCC) technology mechanism and the Poznan strategic programme on technology transfer. Similarly, the LDC Technology Bank, established in 2011 but only operational as of 2018, has begun carrying out Science, Technology and Innovation Reviews and Technology Needs Assessments and taken action to promote access to research and technical knowledge and strengthen national academies of science. Despite these laudable steps, it is hard to avoid the conclusion that, overall, these measures are too piecemeal and underfunded in relation to LDC technological gaps, rendering technological upgrading in LDCs largely elusive. Besides, the complexity and fragmentation of the underlying mechanisms are challenging to navigate for LDC policymakers, undermining the effectiveness of related support (Brianna Craft et al., 2017; UNCTAD, 2016a).

c. Reinforcing the effectiveness of ISMs

Overall, these few examples underscore five main conclusions. First, *ISMs that are inherently rooted in some form of trade liberalization are unlikely to succeed in redressing LDC marginalization in international trade, without a congruous simultaneous effort to boost their productive capacities and spur diversification*. If anything, this trend is likely to be further reinforced in the context of on-going servicification and digitalization, given the growing interdependence they underpin across firms and economic sectors, as well as the pivotal role of connectivity and related infrastructures. In this respect, the strengthening of the Aid for Trade initiative, as a critical form of support to productive sectors and trade-related infrastructure, stands out as a necessary condition for the effectiveness of other trade-related ISMs. Equally, a strengthening of trade-related technical assistance, notably through the Enhanced Integrated Framework (EIF), would also be important.

Second, *the concrete impact of most ISMs ultimately hinges on the quality of LDC institutions*. This is particularly critical in addressing some of the hurdles

Stronger and more innovative ISMs are needed to prevent a further widening of technological divides

related to NTMs, digital trade and trade in services, where issues of transparency and predictability (and even of mere measurement) are more challenging. Broad capacity development efforts are thus needed to: (i) improve the quality, availability and reliability of trade-related data; (ii) enhance regulatory transparency; (iii) ensure policy coherence across various entities; and (iv) spur evidence-based debate on the strategic elements of trade policy. Advanced digital technologies may to some extent facilitate these institutional improvements and reduce the costs of compliance (for instance through the application of advanced analytics to quality control, the adoption of paperless trade, or remote container management techniques). However, in most LDCs these gains are likely to be partially offset by the fixed costs of the technologies themselves and the related need for skill upgrading and awareness raising among the business community. In the same vein, as shown by the relative success in the implementation of the Trade Facilitation Agreement and related SDT, upfront investments should be made to raise awareness among LDC constituencies about the technicalities, usefulness and strategic content of the various ISMs (chapter 4).

Third, *adequate policy space continues to be necessary* if LDCs are to foster structural transformation and break their dependence on primary products. As already recognized in the WTO's Doha Round, existing SDT measures (for LDCs and other developing countries alike) need an overhauling, but the Monitoring Mechanism has produced few concrete results so far (UNCTAD, 2016a, 2020b). At the very minimum, existing flexibilities in relation to the obligations of the TRIPS agreement should

Technology transfer should feature in the design and implementation of investment promotion regimes for LDCs

be renewed beyond 2021, and LDCs should be reassured, for example through related "peace clauses" – that they will not be subjected to litigation, whether under the WTO or under bilateral trade/investment agreements, for policies adopted in response to the COVID-19 pandemic.[22]

Fourth, *stronger mechanisms to foster meaningful technology transfer by private firms are badly needed* to give concrete form to the obligations under Article 66.2 of the TRIPS agreement. Besides, the issue of technology transfer should feature prominently in the design and implementation of investment promotion regimes for LDCs, referred to in target 17.5 of the Sustainable Development Goals. Concrete steps in this direction could potentially include:

- Explicitly linking the use of public development finance through private sector instruments to genuine and documented practices on fostering technology transfer (such as joint ventures, creation of R&D facilities in LDCs, partnership with local research institutions, and the like);
- Paying greater attention to voluntary/mandatory technology transfer measures in the context of sustainability standards, corporate social responsibility (CSR) and responsible business conduct;
- Promoting the diffusion of open source software and digital products; and
- Creating a unified framework for the voluntary sharing of green technologies specifications and related intellectual property information, and building on the innovative business models applied in the health sector through the Tech Access Partnership (launched as part of the responses to the COVID-19 pandemic) and the Medicines Patent Pool.[23]

Fifth, without dismissing the urgent need for multilateral efforts to promote meaningful technology transfer to LDCs, *there is an ample scope to strengthen regional and South-South mechanisms for technological cooperation*. In the wake of the COVID-19 pandemic, this potential has surfaced visibly in health-related areas, but it could extend far beyond that, to other areas such as green technologies, industrial and digital cooperation. In this respect, the establishment of R&D consortiums, regional centres of excellence, cooperation frameworks for tertiary education are but examples of initiatives that could provide LDCs with additional opportunities to benefit from resource pooling and knowledge diffusion.

A final consideration to be borne in mind with respect to the forthcoming deliberation on LDC graduation is that it is imperative at the current juncture that these decisions take due account of the severity of the ongoing global recession and the seriousness of the socioeconomic impacts it is having. Looking forward, the priority should be to minimize long-term damage and renew international support to resilience building among LDCs. Simultaneously, emphasis on tailoring support to graduating countries should not come at the expense of diverting attention from the non-graduating LDCs, whose needs are even greater. Rather, the international community should seize the occasion to strengthen existing ISMs and make them more appropriate to a gradually more homogeneous category.

[22] This would be consistent with article 24 of the Rules and Procedures Governing the Settlement of Disputes, according to which WTO members "shall exercise due restraint in raising matters" involving LDCs and give particular consideration to their special situation".

[23] More information on the Tech Access Partnership and the Medicines Patent pool are available at the following hyperlinks respectively: https://techaccesspartnership.org/ and https://medicinespatentpool.org/.