



# Financing for Sustainable Development Report 2023

Inter-agency Task Force on Financing for Development

## *Financing Sustainable Transformations*



United Nations

Report of the Inter-agency Task Force  
on Financing for Development

# Financing for Sustainable Development Report 2023

Financing Sustainable Transformations



This report is a joint product of the members of the Inter-agency Task Force on Financing for Development. The Financing for Sustainable Development Office of the United Nations Department of Economic and Social Affairs serves as the coordinator and substantive editor of the Financing for Sustainable Development report.

The online annex of the Task Force (<http://developmentfinance.un.org>) provides additional data and analysis on progress in implementation of the Financing for Development outcomes, including the Addis Ababa Action Agenda and relevant means of implementation targets of the Sustainable Development Goals.

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# Foreword



The 2023 *Financing for Sustainable Development Report* describes a growing divide between countries that can access affordable financing for development, and those that cannot. Without urgent ambitious action, this gap will translate into a lasting development deficit for many countries — and a crisis in global trust and solidarity.

The world is fast running out of time to rescue the Sustainable Development Goals (SDGs). The prospect of a world in which everyone can benefit from health care, education and opportunities, decent work, clean air and water and a healthy environment is slipping out of reach.

The reasons are clear. The COVID-19 pandemic and the unequal recovery hit developing countries hard. Developed countries adopted expansionary fiscal and monetary policies that enabled them to invest in recovery, and have largely returned to pre-pandemic growth paths. But developing countries were unable to do so, in part because their currencies would collapse. Turning to the financial markets, they face interest rates up to 8 times higher

than developed countries (LDCs)—a debt trap.

The climate crisis continues unabated, with a disproportionate impact on least developed countries and small island developing States. While developed countries can afford to pay for adaptation and resilience, developing countries cannot. Without urgent action, the climate emergency could overwhelm all efforts to achieve the SDGs. Meanwhile, Russia's war in Ukraine has amplified and accelerated a global cost-of-living crisis, pushing tens of millions more people into extreme poverty and hunger.

Tighter global financing conditions have been devastating for countries with high debt levels. Over 40 per cent of people living in extreme poverty live in countries with severe debt challenges.

This report shows that without the means to invest in sustainable development and the transformation of their energy and food systems, developing countries are falling even further behind.

A two-track world of haves and have-nots holds clear and obvious dangers for every country. We urgently need to rebuild global cooperation and find the solutions to our current crises in multilateral action.

As a first step, I have urged the Group of Twenty (G20) to scale up affordable long-term financing for developing countries in need by at least US\$500 billion a year—a transformative SDG Stimulus package. This will enable all countries to invest in renewable energy, universal social protection, quality education, decent job creation, universal health coverage, sustainable food systems, infrastructure and the digital transformation.

The SDG Stimulus aims to address financing needs through a combination of concessional and non-concessional finance in a mutually reinforcing way, reflecting what can and must be done within the current arrangements.

Based on current quotas, of the \$650 billion in Special Drawing Rights (SDRs) allocated last year, developed countries received about \$420 billion, or 66 per cent of the total. Meanwhile, Africa received only 5.2 per cent, or \$34 billion, while LDCs received less than \$17 billion, or just 2.5 per cent.

We must end this injustice and ensure that meaningful SDRs reallocations go to those countries who need it the most, at concessional terms and with minimal conditionalities.

Implementing the SDG Stimulus and ending poverty will also require broader changes to the international financial architecture. We will not solve today's challenges by relying on the system that helped to create them. The 2023 *Financing for Sustainable Development Report* lays bare the ways in which our current systems are not fit for purpose.

Discussions on reforms of the international financial architecture continue, including within the G20, G7, and the Bridgetown Initiative. It is imperative that the current unsustainable pressures translate into reforms that bring about a coherent, coordinated and more inclusive global financial system that fully supports the achievement of the SDGs and the Paris Agreement.

The United Nations is the only institution that can convene all countries around these goals, ensuring a full range of views and expertise across economic, social and environmental issues. I urge all Member States to use this year's High-level Political Forum, SDG Summit, the High-level Dialogue on Financing for Development, the Climate Ambition Summit and the Ministerial Meeting for the Summit of the Future, for constructive dialogue, based on the findings in this essential report.

António Guterres





# Preface



Faced with a confluence of global shocks, the world is regressing on the SDGs. The 2023 *World Economic Situation and Prospects* projects that in 2023, world output growth will decelerate to only 1.9 per cent, one of the slowest rates of growth in recent decades. Slower growth, high inflation and rising debt challenges undermine sustainable development prospects and constrain the ability of many developing countries to invest in health, education, infrastructure, and the energy transition.

Without urgent action the poorest and most vulnerable will be left even further behind. Both international and domestic policy efforts are needed to expand financing for the SDGs and climate action, address debt risks, and achieve a sustainable, inclusive, and resilient recovery. The 2023 *Financing for Sustainable Development Report* puts forth policy recommendations to address the finance divide and to scale up sustainable financing and investment, particularly in the most vulnerable countries. Three key messages emerge from this year's report:

- **Immediate actions are needed to expand development cooperation and boost investments in the SDGs.** Recent global shocks have contributed to unprecedented demands on international development cooperation. Mounting sustainable development challenges require bold and new solutions from the international community. Providers of official development assistance must meet their commitments. The scaling-up of lending by multilateral development banks can also increase the availability of concessional resources. The international community should support the Secretary-General's SDG Stimulus to boost affordable and long-term financing for investments in sustainable development.
- **Gaps in the international financial architecture must be addressed.** While some institutional reforms are in progress, much more still needs to be done, in a timelier and coordinated manner. Efforts to address weaknesses in the current architecture must be comprehensive and aligned with the SDGs. Concerted action by all parts of the system is needed to make the international financial system fit for purpose to deliver sustainable development. The financing for development process at the United Nations provides a platform to bring together different discussions and workstreams to enhance policy effectiveness and coherence.
- **Countries need viable strategies to accelerate sustainable industrial transformations.** National policies to boost domestic investments in the SDGs are needed for countries to fully benefit from reforms to the global system. Investment incentives to facilitate the low-carbon transition, aligning tax and fiscal systems with the SDGs, and regulatory measures to boost long-term financing for sustainable development can all contribute to sustainable industrial transformations.

The United Nations, through the Financing for Development process, is uniquely positioned to move these reforms forward. It brings all stakeholders together on an equal footing, so that all voices and perspectives will be heard. And it can help ensure that these reforms make the international architecture fully aligned with and supportive of the SDGs.

Upcoming events, including the SDG Summit and the High-level Dialogue on Financing for Development in September 2023, and the Summit of the Future in September 2024 provide opportunities for such dialogues, and could serve to inform a 4th International Conference on Financing for Development in 2025.

The Financing for Sustainable Development Report is produced in collaboration with over 60 agencies of the United Nations system and other international organizations. It brings together a wide range of expertise and perspectives to provide recommendations for countries and the international community. The report begins with an assessment of the global macroeconomic context (Chapter I). The thematic chapter (Chapter II) explores how countries can finance sustainable industrial transformations through a new generation of sustainable industrial policies, in response to requests included in the outcome of the 2022 ECOSOC Financing for Development Forum. The remainder of the report (Chapters III.A to III.G and IV) discusses progress in the seven action areas of the Addis Agenda, and on data.

Additional material is available on the website of the Task Force (<http://developmentfinance.un.org>).

Li Junhua  
Under-Secretary-General for Economic and Social Affairs  
United Nations  
Chair of the Inter-agency Task Force





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# Inter-agency Task Force members

## Task Force coordinator and substantive editor



United Nations Department of Economic and Social Affairs (UN/DESA)

## Financing for development major institutional stakeholders



World Bank Group



International Monetary Fund (IMF)



World Trade Organization (WTO)



United Nations Conference on Trade and Development (UNCTAD)



United Nations Development Programme (UNDP)

## Regional economic commissions



Economic and Social Commission for Asia and the Pacific (ESCAP)



Economic and Social Commission for Western Asia (ESCWA)



Economic Commission for Africa (ECA)



Economic Commission for Europe (UNECE)



Economic Commission for Latin America and the Caribbean (ECLAC)

## United Nations system and other agencies and offices



Basel Committee on Banking Supervision (BCBS)



Committee on Payments and Market Infrastructure (CPMI)



Financial Stability Board (FSB)



Food and Agriculture Organization of the United Nations (FAO)



Global Environment Facility (GEF)



Green Climate Fund (GCF)




































International Association of Insurance Supervisors (IAIS)



International Atomic Energy Agency (IAEA)



International Civil Aviation Organization (ICAO)

-  International Development Finance Club (IDFC)
-  International Fund for Agricultural Development (IFAD)
-  International Labour Organization (ILO)
-  International Organization for Migration (IOM)
-  International Telecommunication Union (ITU)
-  International Trade Centre (ITC)
-  Joint United Nations Programme on HIV/AIDS (UNAIDS)
-  Office of the High Commissioner for Human Rights (OHCHR)
-  Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States (OHRLS)
-  Office of the Secretary-General's Envoy on Youth
-  Office of the Special Adviser on Africa (OSAA)
-  Organisation for Economic Co-operation and Development (OECD)
-  Principles for Responsible Investment (PRI)
-  Secretariat of the Convention on Biological Diversity (CBD)
-  South Centre
-  Sustainable Energy for All (SE4All)
-  The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)
-  The Global Alliance for Vaccines and Immunizations (GAVI)
-  UN Capital Development Fund (UNCDF)
-  United Nations Children's Fund (UNICEF)
-  United Nations Commission on International Trade Law (UNCITRAL)
-  United Nations Convention to Combat Desertification (UNCCD)
-  United Nations Educational, Scientific and Cultural Organization (UNESCO)
-  United Nations Entity for Gender Equality and the Empowerment of Women (UN Women)
-  United Nations Environment Programme (UNEP)
-  United Nations Forum on Forests (UNFFS)
-  United Nations Framework Convention on Climate Change (UNFCCC)
-  United Nations Global Compact (UNGC)
-  United Nations High Commissioner for Refugees (UNHCR)
-  United Nations Human Settlements Programme (UN-HABITAT)
-  United Nations Industrial Development Organization (UNIDO)
-  United Nations Office for Disaster Risk Reduction (UNISDR)
-  United Nations Office for Project Services (UNOPS)

-  United Nations Office for South-South Cooperation (UNOSSC)
-  United Nations Office for the Coordination of Humanitarian Affairs (OCHA)
-  United Nations Office on Drugs and Crime (UNODC)
-  United Nations Population Fund (UNFPA)
-  United Nations Research Institute for Social Development (UNRISD)
-  United Nations Technology Bank for Least Developed Countries (UN Technology Bank)
-  United Nations University (UNU)
-  United Nations World Food Programme (WFP)
-  World Health Organization (WHO)
-  World Intellectual Property Organization (WIPO)

# Overview and key messages



# Overview and key messages

**Global sustainable development prospects continue to diverge.** Two years ago, in the midst of the COVID-19 pandemic, the Inter-agency Task Force warned of a global divergence that could lead to a lost decade for development. By 2022, these risks had materialized—a great finance divide was translating into a development divide. Over the past 12 months, the war in Ukraine, sharp increases in food and energy prices and rapidly tightening financial conditions further exacerbated challenges for many countries, increasing hunger and poverty and reversing progress on the Sustainable Development Goals (SDGs). Despite some positive signs, the global macroeconomic outlook remains highly uncertain and particularly bleak for many of the poorest and most vulnerable countries faced with growing debt service burdens and tight fiscal constraints. Recent banking failures in the United States and Switzerland have once again highlighted gaps in financial regulatory and supervisory systems. In today's extremely challenging global macroeconomic context, financing and sustainable development prospects are diverging even more sharply.

**If left unaddressed, the finance divide will translate into a lasting sustainable development divide.** SDG financing needs are growing, but development financing is not keeping pace. There is a continued need for immediate and increased international support for vulnerable countries, including many least developed countries (LDCs), African countries and small island developing States (SIDS). At the same time, low levels of investment, particularly in many developing countries, are entrenching the development divide. Delaying investment in sustainable transformations would put the 2030 Agenda for Sustainable Development and climate targets out of reach and exacerbate financing challenges down the line.

**Delaying investment in transformation is thus not an option.** The multiple crises can shorten the time horizons for decisions—by policymakers, investors, businesses and

individuals. Yet, the crises once again underline the need for a long-term focus on resilient, sustainable and inclusive development. Delaying investments would put the 2030 targets out of reach and exacerbate financing and macroeconomic challenges down the line. Sustainable and productive investments today can transform and diversify economies and enhance resilience to shocks, including inflationary supply-side shocks, tomorrow. As laid out in the *2022 Financing for Sustainable Development Report*, such investments also enable countries to mobilize resources over time and better service debt. This is why the 2023 Task Force report focuses on sustainable transformations, including a roadmap for governments, along with changes in the way finance works.

**Both national and international actions are needed to scale up SDG financing.** National and global policy frameworks shape incentives, impact risks and influence financing needs and flows. Recent global shocks have placed enormous pressure on global institutions and governance. Enhancing relevant global policy frameworks is critical to enabling progress on financing. However, on their own, reforms to the international system will not deliver sustainable development. Countries need to chart their own paths to achieve the SDGs. This is embodied in the Addis Ababa Action Agenda and the revitalized global partnership for sustainable development, which gives each country primary responsibility for its own development but tasks the international community with providing a conducive international enabling environment and support.

**The series of global shocks and overlapping crises have increased the risk of further geoeconomic fragmentation and raised the urgency for reform.** But they have also led to momentum for reform and calls for rapid institutional change. In the face of a unique confluence of challenges, this report calls on the international community to take advantage of this moment and undertake concerted efforts to finance the

timely realization of the SDGs through: (i) immediate measures to scale up development cooperation and SDG investments; (ii) strengthening the international financial architecture; and (iii) national actions to accelerate sustainable industrial transformations, including through a new generation of sustainable industrial policies.

### *First, scale up development cooperation and SDG investment*

**Urgent action is needed to boost all forms of international development cooperation.** Demands on international development cooperation are higher than ever. Climate and debt-vulnerable countries require more concessional resources. Humanitarian aid and development assistance is needed to curb growing food crises. Climate finance is not keeping pace with the ratcheting impact of climate change. Official development assistance (ODA) providers need to meet their commitments, and all forms of development cooperation must be scaled up. There is also a need to quickly and adequately support countries in debt distress with the ultimate objective of reducing their debt stock and providing long-term relief.

**Concerted efforts are needed to scale up investment in the SDGs and climate action.** Public and private investment remains subdued compared to historical levels, especially in most developing countries. The significant scaling up of investment in the energy transition, a bright spot, has remained concentrated in developed countries and China. This dearth of financing motivated the United Nations Secretary-General's call for an SDG Stimulus to significantly increase affordable, long-term financing for development in areas such as infrastructure, education, social protection and sustainable structural transformation.

### *Second, enhance the international financial architecture*

**The international financial architecture is in flux, as countries seek to remake international organizations, norms, rules and frameworks.** The pandemic contributed to the urgency to revitalize the institutional architecture to match the ambitions of the 2030 Agenda. Discussions on reforms of the international architecture are ongoing throughout the international system, including in informal country groupings, such as the Group of 20 (G20), the Group of Seven (G7) and the Bridgetown Initiative. They are on the agenda of the World Bank and International Monetary Fund (IMF) boards, bodies based at the Organisation for Economic Co-operation and Development (OECD), and elsewhere. At the United Nations, they are part of Our Common Agenda discussions as well as the financing for development process. These efforts to remake the institutions and norms of the financial architecture and related issues range across the full set of action areas of the Addis Ababa Action Agenda, including:

- Creating internationally agreed sustainability norms for private investment and business activities (chapter III.B);
- Evolving the scale and mission of the development bank system (chapter III.C);
- Setting up a loss and damage fund on climate change after decades of discussion (chapter III.C);
- Urgently improving mechanisms for addressing debt challenges, such as through the Common Framework, state-contingent debt instruments and other mechanisms (chapter III.E);

- Scaling up and accelerating the channelling of the historic allocation of special drawing rights (SDRs) to countries in need, including through IMF funds and development banks (chapter III.F);
- Rewriting international tax norms, particularly rules for taxing digitalized and globalized business and digital assets (chapter III.A);
- Intensifying multilateral dialogue on current multilateral rules and agreements on investment, trade (chapter III.D) and technology (chapter III.G) to ensure a level playing field, balance national interests and reduce negative spillovers from national policies.

**These processes hold the potential to arrive at a more coherent and effective international architecture.** Discussions and institutional reform processes are ongoing and not complete. They have the potential to close some gaps in the international architecture, align it better with the needs of the twenty-first century, and scale up financing for the SDGs and climate action. However, if they proceed piecemeal, remain partial and do not take the SDGs fully into account, the architecture will remain fragmented and not fit for purpose to deliver sustainable development. The financing for development process at the United Nations provides an opportunity to bring these different strands together. In 2023, the Economic and Social Commission (ECOSOC) Financing for Development Forum will be followed by the SDG Summit and High-level Dialogue on Financing for Development, with the Summit of the Future and the Biennial Summit to take place in 2024. To make the most of these events, discussions should build on each other as part of one process aimed at ensuring the coherence of reforms, and fully aligning them with the SDGs and climate action.

### *Third, accelerate national sustainable industrial transformations*

**Reforms to the international architecture and a global investment push must be matched with and supported by coordinated national action.** The SDG Stimulus will only succeed if national policies reignite investment in the SDGs domestically. They are two sides of the same coin.

**Countries need to strengthen strategic approaches, including through a new generation of sustainable industrial policies and integrated financing frameworks.** Industrialization and structural transformation have been historic engines of growth, job creation and technological advancement. The current revival of industrial policies—a response to the climate crisis, the pandemic, but also geostrategic concerns—opens a window of opportunity for countries to pursue sustainable industrial transformations: to build the domestic productive capabilities to achieve low-carbon transitions and create decent jobs and gender equality, along with productivity and economic growth. On the national level, this includes:

- **A coherent sustainable industrial policy strategy aligned with a country's overall vision.** Sustainable industrial policies should be closely linked to national sustainable development strategies, which can be supported by integrated national financing frameworks. They need to be context-specific, responding to a country's binding constraints and institutional frameworks. Integrated planning and financing, e.g., through integrated national financing frameworks, is essential so that countries will be ready to tap into a revamped and more supportive global system.
- **Building a dynamic domestic business sector.** An enabling business environment is no longer sufficient; countries need to build an enabling

sustainable business environment, which includes investment in infrastructure, macroeconomic stability, overcoming credit constraints and getting carbon prices right to incentivize sustainable behaviour. It also requires targeted policies to support firms and address investment constraints.

- **A more expansive toolkit.** Because sustainable industrial transformations need to be directed to the SDGs, they require a more expansive toolkit to create and align incentives for investment in sustainable development.
- **Supporting vulnerable groups that may lose economic opportunities in transitions.** This underscores the importance of *universal social protection systems* as well as targeted support, training and related initiatives, and a focus on rural areas where many of the poor live.

Actions across the Addis Agenda to invest in sustainable industrial transformations can include:

- Creating investment opportunities, e.g., in activities critical to the low-carbon transition;
- Adopting regulatory measures to support development and adoption of technologies;
- Aligning of tax and fiscal systems with sustainable industrial transformation goals, while increasing revenue to finance public investment;
- Combining supply-side instruments such as investment incentives with demand-side strategic public procurement, as well as setting appropriate technology standards to encourage domestic firm development, sustainable innovation and, ultimately, competitiveness;
- Using public development banks and other public funds to support basic research and development, early-stage innovation and broader investment in the SDGs;
- Shaping the private financial sector through regulatory and other measures to encourage long-term financing and aligning it with sustainable development.

Many developing countries will need **capacity and financial support**. The international community can support countries' efforts through **project-specific support**, e.g., through blended finance instruments well aligned with national priorities, and capacity support.

### *The opportunity*

**The world is at a crossroads.** The risks are further geoeconomic fragmentation and an erosion of multilateralism and a rules-based order, with the most vulnerable and least powerful countries most affected. The opportunity is to reform and strengthen multilateralism through an international financial architecture that delivers on the ambitious global goals set out in 2015, along with national actions to invest in sustainable transformations.

**With many systemic reform processes ongoing, the international community needs to deliver on the outstanding promise of the Addis Ababa Action Agenda to create a coherent, mutually supporting world trade, monetary and financial system, while updating commitments to reflect the changing world.** This report identifies numerous steps that policymakers can take towards building a sustainable and just world.

### *About this report*

The Inter-agency Task Force's *2023 Financing for Sustainable Development Report* begins with an assessment of the global macroeconomic context (chapter I). It finds that the global economic outlook remains fragile amid a highly challenging environment, with recent shocks having the biggest impact on the most vulnerable. Task Force members are projecting a slow-down in global growth in 2023, but with a wider forecast range compared to the past.

The thematic chapter (chapter II) explores how countries can finance sustainable industrial transformations through a new generation of sustainable industrial policies, responding to requests included in the outcome of the 2022 ECOSOC Financing for Development Forum.

Chapter III.A on domestic public resources highlights that tax systems are foundational to building state capacity and the social contract in which taxpayers contribute resources and in return the government provides valuable public goods and services. It assesses progress in national tax policy and administration as well as how to create gender-responsive tax systems. The chapter recommends strengthening public financial management and expenditure alignment with sustainable development, including fiscal tools relevant for sustainable industrial transformations. It also provides updates on international tax cooperation and combating illicit financial flows.

Chapter III.B on private business and finance reviews measures to improve: i) the enabling environment for business; and ii) the use of policies and financial instruments to incentivize investment in developing countries based on the needs of different types of companies and their contributions to the SDGs. The chapter also discusses measures to make the financial system more sustainable and companies more accountable for their environmental and social impacts.

Chapter III.C on international development cooperation includes an update on the impact of the COVID-19 pandemic and the food, fuel and climate crises on ODA and other forms of development cooperation, including multilateral development bank lending and blended finance. It also covers progress on climate finance. The chapter concludes with a discussion on the development effectiveness agenda in a changed financial landscape.

Chapter III.D on international trade as an engine for development includes an analysis on trade and industrial policy links; trends in international trade, particularly the impact of the war in Ukraine; current issues in the multilateral trading system, including the landmark fisheries subsidy agreement; and strengthening synergies between trade and sustainable development.

Chapter III.E on debt and debt sustainability provides an update on key debt trends and vulnerabilities in the face of difficult global macroeconomic circumstances. It addresses policy issues around debt management and transparency; debt financing and fiscal space for SDG investments; and progress in the policy agenda around debt crisis resolution.

In Chapter III.F on addressing systemic issues, the Task Force provides updates on implementation of financial regulatory reform and reviews risks to financial stability from the non-bank sector. The chapter further discusses digital currencies, the interrelations between climate change and financial stability, macroeconomic management and crisis response, and institutional and policy coherence for sustainable development.



Chapter III.G on science, technology and innovation complements the thematic chapter in exploring how technologies can contribute to sustainable industrial transformation. The chapter further discusses several key emerging technologies, including updates on financial technology and relevant activities in the United Nations system.

In Chapter IV on data and monitoring, the main issues include the latest developments on data frameworks, including the global indicator framework for the SDGs, and beyond GDP metrics; strengthening financing for data and statistics; and data accessibility, discoverability and innovation.

The Task Force is made up of more than 60 United Nations agencies, programmes and offices, the regional economic commissions and other relevant international institutions. The report and its online annex draw on their combined expertise, analysis and data. The major institutional stakeholders of the financing for development process—the World Bank Group, the IMF, the World Trade Organization, the United Nations Conference on Trade and Development and the United Nations Development Programme—have a central role, jointly with the Financing for Sustainable Development Office of the United Nations Department of Economic and Social Affairs, which also serves as the coordinator of the Task Force and substantive editor of the report.





# The global economic context and its implications for sustainable development



Chapter I



# The global economic context and its implications for sustainable development<sup>1</sup>

## 1. Introduction

**The global economic outlook remains fragile amid a highly challenging environment.** While some of the clouds looming over the global economy may be lifting, the baseline outlook is subject to a high degree of uncertainty. Task Force members are projecting a slowdown in global growth in 2023, but with a wider forecast range compared to the past. On a market exchange rate basis, 2023 global growth forecasts by Task Force members range from 1.9 per cent to 2.4 per cent, following growth of 3.0 per cent in 2022. Downside risks include more persistent-than-expected inflation leading to a wage-price spiral, a sharp and disorderly tightening of global financial conditions and a further escalation of geopolitical tensions.

**While inflation is expected to have peaked, monetary policy will remain tight in most countries.** The moderation in global commodity prices and China's reopening are expected to ease global price pressures going forward. In recent months, weaker-than-expected inflation has driven expectations for a slower pace of monetary tightening, contributing to improvements in global financial conditions. However, headline inflation is expected to remain elevated in many countries, fuelling concerns that inflation expectations could still become de-anchored. In this environment, central banks are likely to maintain tight monetary policy stances.

**Countries are facing difficult monetary and fiscal policy trade-offs.** Elevated inflation has prompted central banks across the world to embark on aggressive monetary tightening despite incomplete economic recoveries from the COVID-19 pandemic. The rapid tightening of global financial conditions has also fuelled debt sustainability concerns in a number of developing countries (see chapter III.E). High borrowing costs will be particularly damaging for countries with already large

debt service burdens and foreign currency denominated debt. Public finances of countries that rely heavily on commodity imports have been particularly strained by the increase in food and energy prices. As fiscal consolidation pressures intensify, there is a risk of significant delays or cutbacks to investment in sustainable development, including in climate action. Moreover, fiscal retrenchment often entails cuts to social expenditure which disproportionately hurts the most vulnerable populations, including women and children.

**Recent shocks are threatening to further reverse progress on the Sustainable Development Goals (SDGs), especially for the poorest and most vulnerable countries.** The war in Ukraine and the pandemic have reversed years of progress across many areas of sustainable development, including poverty, healthcare and education. Some of the world's most vulnerable countries, including the least developed countries (LDCs) and small island developing States (SIDS), have been the hardest hit by the recent confluence of crises. Many of these economies also face the highest risk of losses and damage due to the increasing frequency and severity of climate-related shocks. The sharp rise in inflation has also caused real wage growth to turn negative in many countries, eroding the purchasing power of households with a stronger impact on low-income groups. Soaring food and energy prices have pushed tens of millions more people into extreme poverty and acute food insecurity. The highly challenging macroeconomic environment has also not been conducive to productive and sustainable investments, posing a setback to countries' pursuit of sustainable and inclusive structural transformation (see chapter II). As policy space narrows, many developing countries are at risk of falling into a vicious cycle of weak growth, unsustainable debt and austerity. Other ongoing structural shifts in

the global landscape, including the accelerated pace of digitalization and the changing nature of jobs (see chapter II), could exacerbate inequalities, leaving already disadvantaged segments of society further behind.

**Investment prospects in most developing countries remain weak, raising the risk of deeper and more protracted scarring.**

Since the onset of the COVID-19 pandemic, many developed economies have announced large fiscal packages, which include increases in public investment, in order to support their economic recoveries. In contrast, developing countries have been more constrained, with many of the poorest forced to cut spending in areas such as infrastructure and education. For the developing countries, a prolonged period of subdued investment is exacerbating already large climate and SDG investment gaps.

**On a national level, governments need to address the immediate needs of vulnerable groups and invest in the SDGs, while preserving fiscal sustainability.** Countries will need to strike a delicate policy balance to rein in inflation without derailing growth. They also need to address the immediate crisis while also investing in long-term productivity and the SDGs. Such investments can create jobs in the near term and lead to a virtuous cycle of increased growth and tax revenues, while improving long-term debt ratios (see previous *Financing for Sustainable Development Reports*). Domestic macroeconomic and financial policies should also be better aligned with the SDGs, while considering the growing interlinkages between economic, social and environmental risks.

**Stronger international cooperation is needed to mitigate the long-term impact of multiple crises and to promote a sustainable recovery.** Bold and decisive global policy efforts are needed to address the multitude of challenges faced by developing countries. This includes efforts to better manage spillovers from developed country policies, address looming debt distress risks, boost investment in the SDGs, accelerate climate action and support people affected by crises and hunger.

## 2. Outlook and risks for the global economy

### 2.1 Global and regional growth trends and outlook

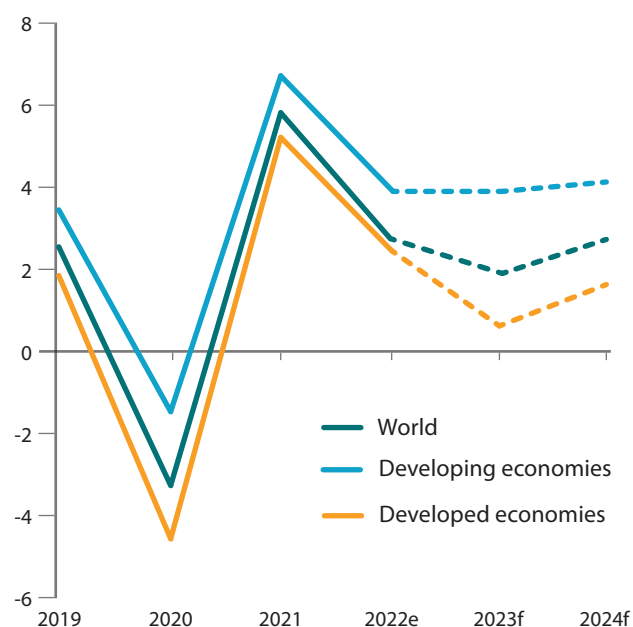
**The world faced a series of severe and mutually reinforcing shocks in 2022, causing the global economic recovery to lose momentum.**

World output growth slowed from 5.8 per cent in 2021 to 3.0 per cent in 2022. The war in Ukraine triggered a global cost-of-living crisis at a time when most economies were still struggling to recover from the pandemic. Acute supply disruptions drove up food and energy prices to record levels, impacting the most vulnerable populations the hardest. With global inflation reaching a two-decade high of 9.0 per cent in 2022, most central banks worldwide tightened their monetary policy stances in efforts to contain demand-side inflationary pressures. The rapid pace of interest rate hikes by the United States Federal Reserve generated strong spillovers on developing countries, with many experiencing bouts of sizeable capital outflows and currency depreciations during the year. Investor risk appetite was also dampened by the uncertain growth outlook, persistent inflation and continued geopolitical tensions. The sharp tightening of global financial conditions has increased balance of payment pressures and debt

vulnerabilities in many developing countries. By the end of 2022, nearly 60 per cent of all low-income countries were at high risk of or in debt distress (see chapter III.E).

**The global growth momentum is expected to weaken further in 2023 before rebounding modestly in 2024.** *The United Nations World Economic Situation and Prospects 2023* projects that global growth will decelerate to 1.9 per cent in 2023 (see figure I.1),<sup>2</sup> marking one of the lowest growth rates in recent decades. As some of the current global headwinds subside, world output growth is expected to pick up to 2.7 per cent in 2024. The outlook, however, remains highly uncertain, which is reflected in the differences in growth projections across the Task Force members. While downside risks, such as stubbornly high inflation, remain, there are also upsides to the global growth outlook. These include a more rapid pace of disinflation allowing for less monetary tightening, a more measured slowdown in domestic demand in Europe and the United States (in part due to the mild winter), and a stronger-than-expected recovery in China buoyed by the reopening of the economy. The projected slowdown in global growth in 2023 largely reflects the impact of synchronous monetary policy tightening on demand as well as the economic effects of the war in Ukraine. In developed economies, aggregate growth is expected to slow to 0.4 per cent in 2023, from 2.6 per cent in 2022. The United States and Europe are expected to experience slower economic activity as higher interest rates and lower real incomes constrain consumer spending and investment. In several European countries, continued energy supply disruptions will keep gas and electricity prices elevated, reducing the purchasing power of households and raising firms' production costs.

Figure I.1  
**Growth of world gross product**  
(Percentage)



Source: UN DESA.  
Note: e = estimates, f = forecasts.

**Recent shocks have had a differentiated impact on countries.** Growth in developing countries as a group is expected to be sustained at 3.9 per cent in 2023, but growth prospects vary significantly across regions and countries. Persistently high food and fuel prices will weigh on household expenditure in all regions to varying degrees. Elevated energy prices are projected to lend support to the economic recovery of energy exporters, including in Western Asia. Tighter global financial conditions and domestic monetary policy stances are expected to have the most pronounced effects on countries with pre-existing macroeconomic vulnerabilities. Net commodity importers, including many countries in Africa and South Asia, will continue to be affected by elevated global commodity prices. In China, domestic demand is projected to strengthen in 2023, buoyed by the lifting of pandemic restrictions and more accommodative policies. While this will benefit many of the East Asian economies, given deep trade and financial linkages with China, the region's trade prospects are dampened by weaker demand from the major developed economies. For many vulnerable developing countries such as the LDCs, recent global shocks will greatly exacerbate challenges towards sustainable development. Many of these countries face significant fiscal constraints and rising debt vulnerabilities, hindering their ability to mitigate the impact of shocks on their domestic economies.

**The global food crisis has hit vulnerable countries the hardest.** In the aftermath of the COVID-19 pandemic, global food prices were on an upward trend, buoyed by the recovery in global demand, higher prices of fertilizer and fuel, higher transportation costs and supply chain disruptions. In March 2022, global food prices soared to a record high as the war in Ukraine caused severe disruptions to global food production and distribution. The UN Food and Agriculture Organization's Food Price Index showed that food prices were 50 per cent higher in 2022 compared to 2019.<sup>3</sup> Over 90 per cent of developing countries experienced food price inflation of over 5 per cent, while a large number of countries in Africa, Latin America and the Caribbean, and South Asia are contending with double-digit food price increases. The number of people facing acute food insecurity has more than doubled compared to pre-pandemic levels, rising from 135 million in 2019 to a projected 345 million in 2023.<sup>4</sup> Although global food prices have been on a downward trend since the second half of 2022, they remain elevated compared to pre-pandemic levels. Food inflation affects low-income groups the most as up to half of their household expenditure is on food items. In addition to the devastating impact on human lives, the food crisis also entails large economic costs. In 2022, the world food import bill reached a record high, surpassing \$1.94 trillion. For the 48 countries most affected by the war in Ukraine, most of which are low-income countries, higher food and fertilizer prices are estimated to add \$9 billion to their import bills in 2022 and 2023, leading to a sharp deterioration in balance of payment positions.<sup>5</sup> International efforts such as the Black Sea Grain Initiative have helped to ease global food supply shortages, while the IMF's new food shock window has eased urgent financing pressures in some of the hardest-hit countries. However, weak global growth, persistent conflicts and the intensifying impact of climate shocks will continue to weigh heavily on the global food security outlook.

**The challenging global growth outlook will continue to set back progress towards higher living standards.** In per capita terms, global growth slowed from 5.0 per cent in 2021 to 2.1 per cent in 2022 and is projected to weaken further to 1.0 per cent in 2023. By region, per capita income losses compared to pre-pandemic projections have been the largest in South Asia (see figure I.2a). Given limited policy buffers and

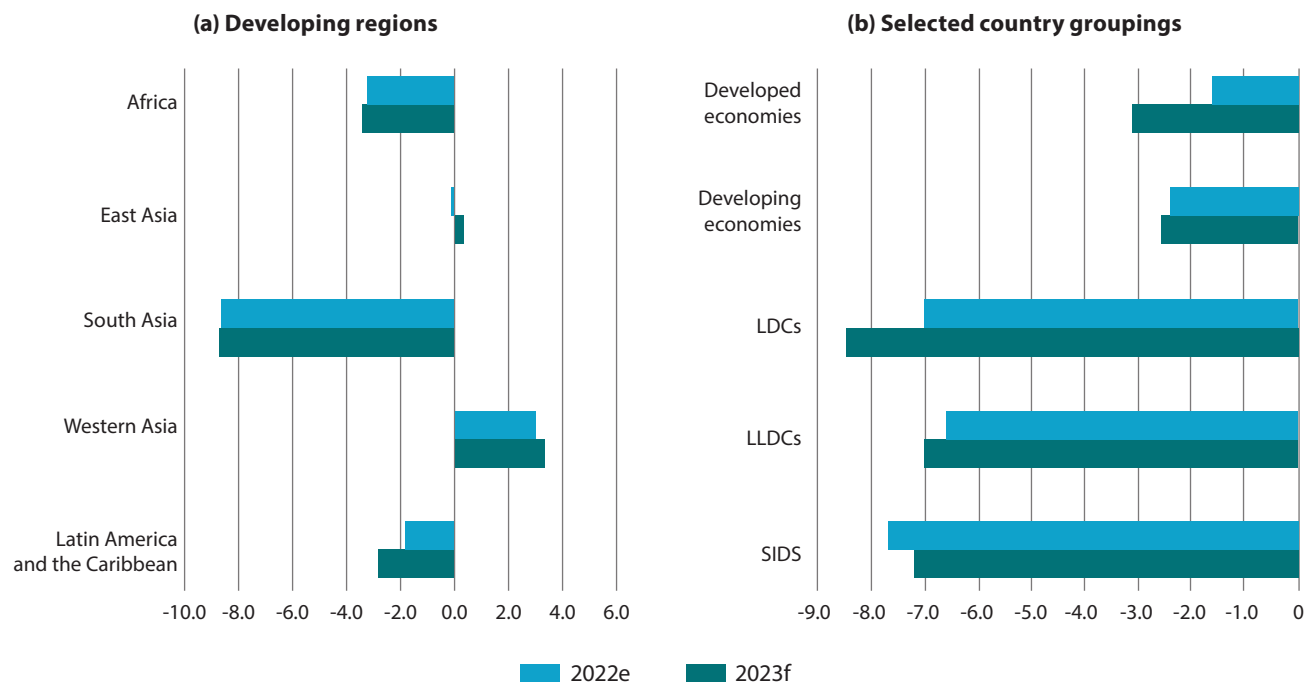
large external imbalances, shocks emanating from higher food and energy prices as well as rising interest rates have triggered economic crises in a few countries, pushing families into hunger and poverty for the first time. In contrast, income per capita in Western Asia has exceeded levels projected before the pandemic as higher-than-expected global oil and gas prices benefited fuel exporters. By country groupings, developed countries experienced smaller output-per-capita losses in 2022 compared to developing countries (see figure I.2b), due in part to larger fiscal support measures to buffer the impact of the pandemic and cost-of-living crises. In 2023, however, tighter monetary policies and elevated energy prices are expected to have a stronger impact on growth in the developed countries, resulting in higher output losses compared to developing countries. Importantly, such losses are expected to remain persistently high for the developing countries that were already lagging behind. Many LDCs, landlocked developing countries (LLDCs) and SIDS have been impacted by the sharp rise in global commodity prices, given their high dependence on imports of these items. These countries also remain highly susceptible to damage caused by natural disasters and extreme weather events. Country-specific shocks, including economic and political crises, have also dampened the growth outlook in a few countries. For the SIDS, international travel has yet to fully recover from the pandemic.

**Global progress towards poverty eradication has stalled.** The pandemic and the war in Ukraine have reversed almost three decades of progress in poverty reduction. A new report by the World Bank found that in 2020 alone, the global extreme poverty rate rose from 8.4 per cent to 9.3 per cent as the pandemic drove 70 million more people into extreme poverty.<sup>6</sup> In 2022, poverty reduction faced a stronger setback amid weaker global growth and elevated inflation. An additional 70 to 89 million people were living in extreme poverty in 2022, compared to pre-pandemic projections. Given current trends, 574 million people—nearly 7 per cent of the world's population—will still be living in extreme poverty in 2030. Against this backdrop, global inequality has also risen for the first time in decades.<sup>7</sup> In 2020, income losses of the poorest 40 per cent of the world's population were double that of the richest 20 per cent.

**The recovery in global labour markets is at risk given the challenging economic environment.** As pandemic-era restrictions were lifted, global hours worked rebounded in 2021 and early 2022 (see figure I.3). Amid weakening economic growth and sentiments, however, the recovery subsequently reversed, as reflected in lower vacancies and slowing employment growth in several countries, including the United States. Across countries, differences in the pace of labour market recovery remain large. In most developed countries, employment has reached or surpassed pre-crisis levels with employers facing labour shortages. In contrast, many developing countries have not yet recovered to pre-pandemic levels of hours worked. This is attributed, in part, to the lack of policy support, including job retention schemes and wage subsidies to help businesses and workers weather the multiple crises. Elevated inflation will continue to erode the purchasing power of workers, with global real wages falling by 0.9 per cent in the first half of 2022.<sup>8</sup> Minimum wage earners will be hit the hardest, while the number of working poor is expected to increase.

**The asymmetric impact of recent shocks on labour markets has also worsened inequalities within countries.** Recent crises have inflicted stronger and more long-lasting damage on already disadvantaged groups of workers, including women, youth and low-skilled workers.

Figure I.2  
**GDP per capita losses by region and development status**  
 (Percentage change between latest and pre-pandemic forecasts)

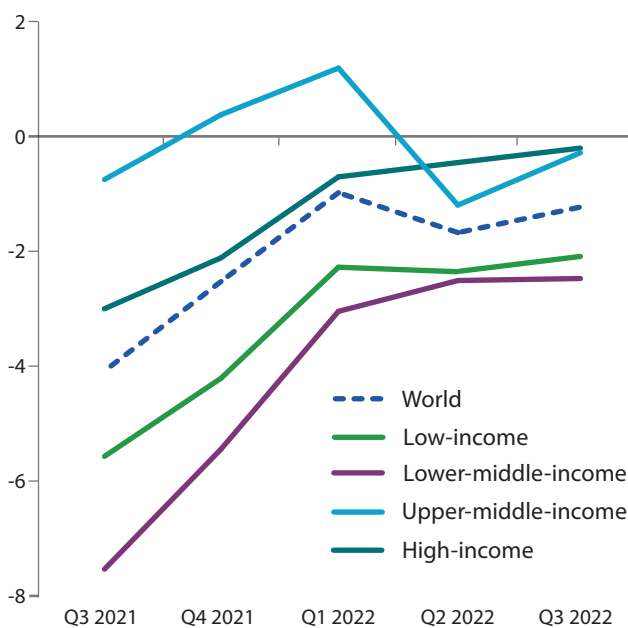


Source: UN DESA.  
 Note: e = estimates, f = forecasts.

In 2022, employment in many high-skilled jobs (including managers, professionals and technicians) had already surpassed pre-pandemic levels, but employment in many low- and medium-skilled occupations has yet to recover (see figure I.4). At the same time, informal employment, where workers often lack social protection, has been recovering at a strong pace, particularly in low- and low-middle-income countries. This could jeopardize the trend towards formalization that has been observed over the past 15 years.<sup>9</sup> While women experienced a stronger rebound in employment following the pandemic, this recovery has been mainly driven by informal employment. In 2022, four out of five jobs created for women were informal.<sup>10</sup> Meanwhile, young people continue to face significant challenges in securing decent employment. Youth employment was hit particularly hard during the pandemic and its recovery remains far behind that of adults, with more than one in five young people not in education, employment or training.<sup>11</sup>

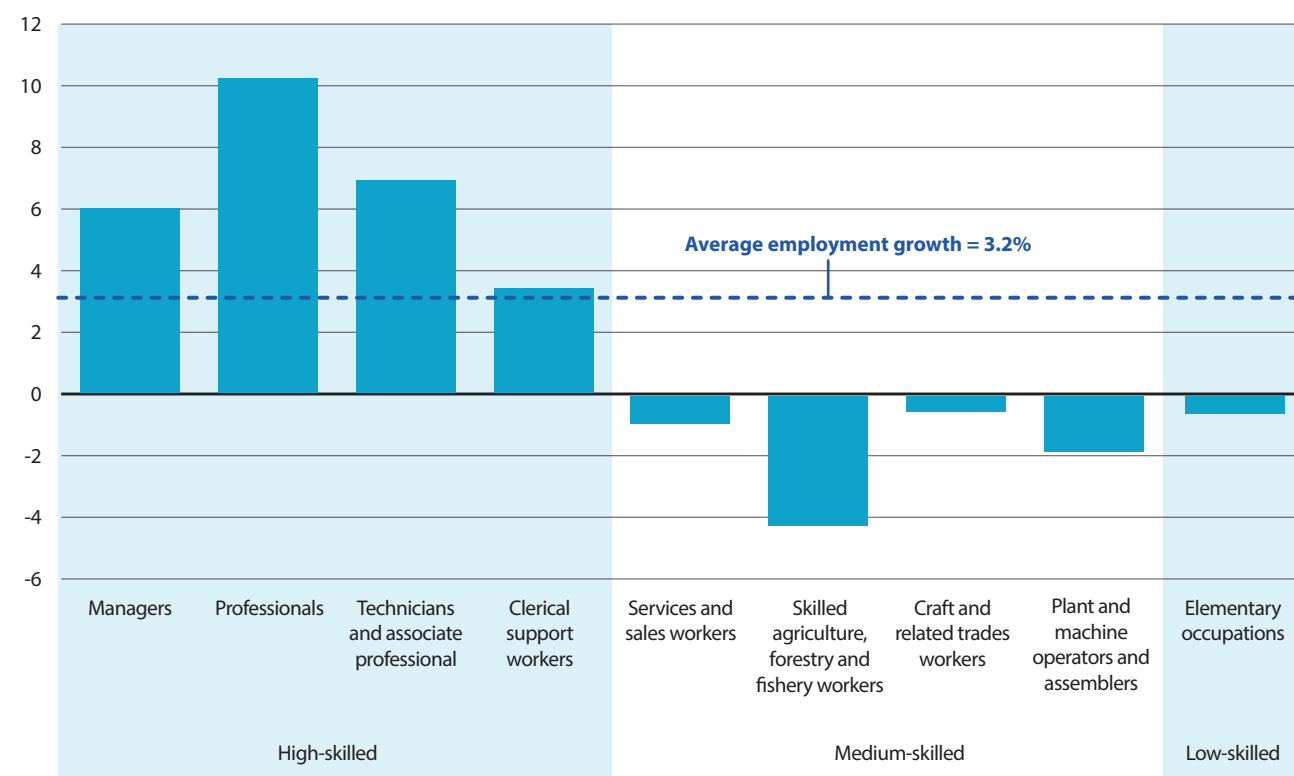
**The worsening effects of climate change pose a major risk to global development prospects.** According to the International Disaster Database,<sup>12</sup> climate and weather disasters over the last decade were over four times more frequent compared to 50 years ago. Fuelled by rising greenhouse gas concentrations, the past eight years have been the warmest on record.<sup>13</sup> Global carbon emissions continued to rise in 2022, exceeding pre-pandemic levels. Extreme weather events such as heat waves, floods and droughts have become more frequent and intense, leading to substantial human and economic costs. These costs are disproportionately higher for already vulnerable countries, particularly the LDCs and SIDS. The impact of climate-related disasters has also been pronounced

Figure I.3  
**Changes in hours worked by country income group**  
 (Percentage)



Source: ILO.

Figure I.4  
**Employment growth rates by occupation, 2Q 2019 - 2Q 2022**  
 (Percentage)



Source: ILO.

for countries that are reliant on the agriculture sector. Between 2008 and 2018, 26 per cent of the overall effects of climate change loss and damages affected the agriculture sector—including agriculture, forestry and fishery.

**Deepening interlinkages between environmental, social and economic challenges highlight the need for comprehensive policy action.** For example, the adverse impacts of climate change on economic outlooks have become evident. For the LDCs and SIDS, individual disasters can amount to multiples of GDP, while the return needed to compensate for the increased exposure to disasters raises their cost of commercial financing.<sup>14</sup> Climate shocks also deplete fiscal buffers and exacerbate debt burdens, leading to a higher risk of sovereign debt crises with substantial economic costs. At the same time, economic policy choices can affect environmental and social outcomes. In countries with rising poverty rates, there is a risk that people may be driven towards the use of cheaper but dirtier energy, posing major setbacks to the renewable energy transition. In addition, the deterioration in economic conditions, such as weakened income and job prospects, has the potential to trigger social unrest.

## 2.2 Monetary and financial stability risks

**Elevated inflation has prompted rapid and synchronous global monetary policy tightening.** Global inflation surged to 9.0 per cent in 2022, with headline inflation reaching multi-decade highs across regions and countries (see figure I.5). Global inflation has been fuelled by supply shocks, including disruptions to global supply chains and commodity

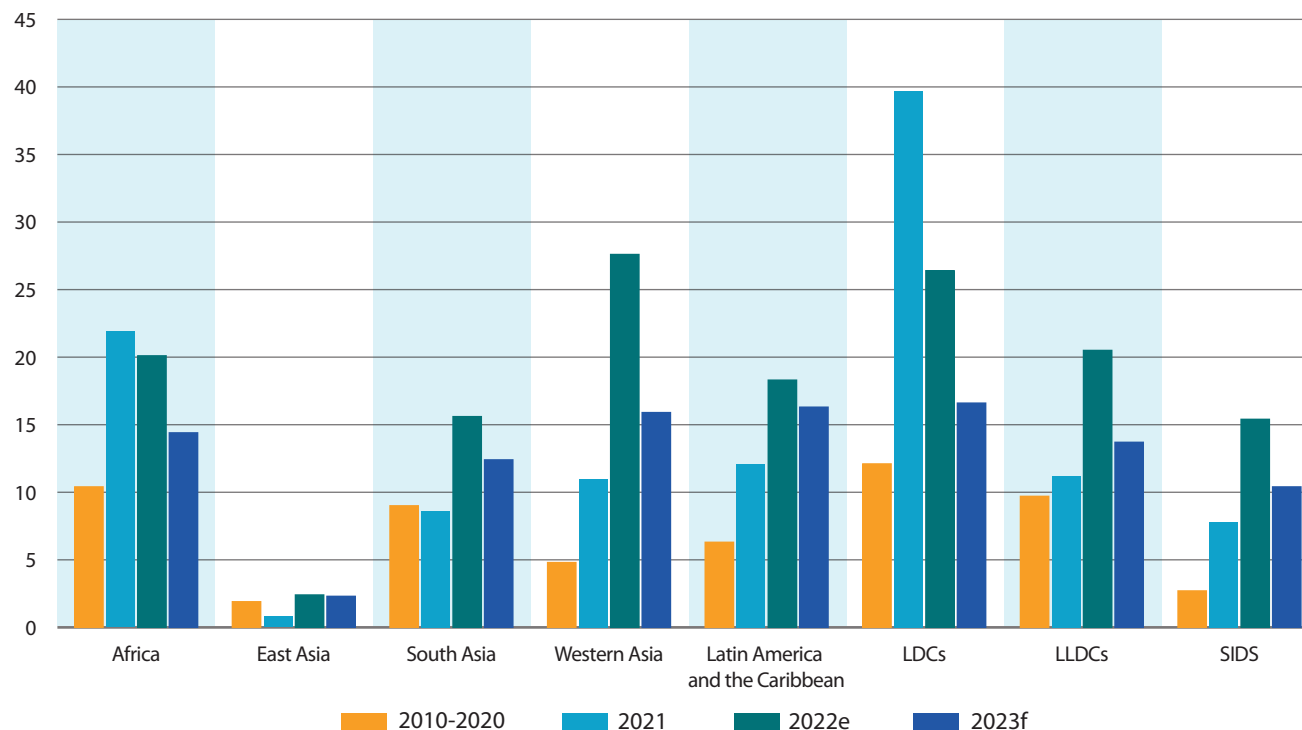
markets, as well as demand pressures, including from earlier policy support measures. To contain inflationary pressures and anchor price expectations, central banks worldwide have pivoted towards sharply tighter monetary policy stances. In 2022, central banks across the major developed economies hiked interest rates (see figure I.6a), with a main exception being the Bank of Japan. The United States Federal Reserve raised the federal funds rate from near zero to a target range of between 4.25–4.50 per cent, its highest level in 15 years. The cumulative 425 basis points rate hike also marked its most aggressive pace of monetary tightening since the 1980s. The Federal Reserve also accelerated its pace of balance sheet reduction, further tightening liquidity conditions. The European Central Bank increased its main refinancing operations rate by a cumulative 250 basis points in 2022 to 3.0 per cent and announced that it would begin to trim its holdings of bonds bought under its Asset Purchase Programme from March 2023 onwards.

**For many developing countries, capital outflows and currency depreciations compounded pressures to raise interest rates.**

Despite incipient recoveries from the pandemic, central banks in 85 per cent of developing economies hiked policy rates in 2022 (see figure I.6b). In addition to rising domestic inflation, developing country central banks also had to contend with cross-border spillovers from higher policy rates in the major developed countries. Narrowing interest rate differentials and higher investor risk aversion drove capital outflows and the weakening of domestic currencies, particularly in March 2022 when the Federal Reserve introduced its first policy rate increase in over three years. In October 2022,



Figure 1.5  
**Inflation in developing countries and selected country groupings**  
 (Percentage)



**Source:** UN DESA, based on estimates and forecasts produced with the World Economic Forecasting Model.

**Note:** e = estimates, f = forecasts. Data for Latin America and the Caribbean excludes the data for Venezuela (Bolivarian Republic of).

the United States dollar index rose to its highest level on record in nominal terms, but gradually retreated as the Federal Reserve's monetary tightening became less aggressive towards the end of 2022 and into 2023. However, as of 17 February 2023, the index is still 6.6 per cent higher than its 2021 average.

**The performance of financial markets differed considerably between developing countries as investors scrutinized each country's fundamentals.** Financial markets were subject to stronger pressures in commodity-importing countries, particularly those with inherent structural and policy weaknesses. For many of these economies, the weakening of domestic currencies against the dollar not only increases the burden of servicing debt denominated in foreign currencies, but also exacerbates challenges caused by higher international prices for food, fuel and fertilizer. In 2022, about one fifth of developing economies liquidated more than 15 per cent of their international foreign reserves to cushion the pressure on domestic currencies, with larger losses faced by countries with large macroeconomic imbalances and higher inflation.<sup>15</sup>

**As inflation is expected to have peaked in 2022, several central banks have slowed or paused monetary tightening.** The prices of many commodities have softened, while China's reopening is expected to ease global supply chain disruptions. However, headline inflation is expected to only moderate gradually and will remain elevated and above central bank targets in the near term. Given persistent risks to price stability, a few major developed country central banks have stated that policy rates will be kept higher for a longer period of time. Many developing country central

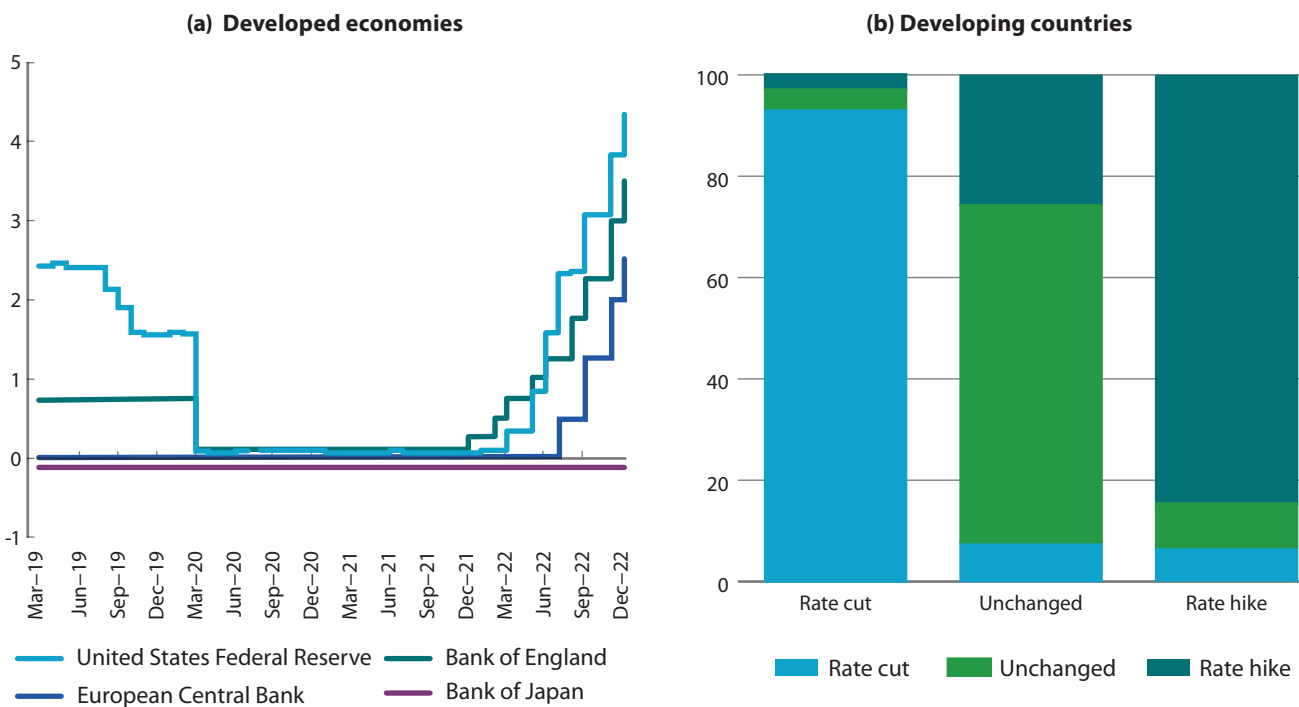
banks are also likely to maintain relatively tight monetary policy stances to prevent a de-anchoring of inflation expectations.

**The rapid withdrawal of monetary support has helped to rein in inflation, but has contributed to higher financial stability risks.**

Uncertainty over the magnitude of policy tightening exacerbated already weak investor risk sentiment generating intensified financial pressures for many developing economies. The 25 emerging economies tracked by the Institute of International Finance cumulatively experienced a reversal of non-resident portfolio flows for five consecutive months (see figure 1.7) in 2022. Trends, however, were mixed across regions and countries. China experienced large debt outflows, amid COVID-19 restrictions and slowing economic activity. At the same time, several Latin American and Western Asian economies benefited from high global commodity prices, while capital flows to a few other emerging economies were affected by domestic political and policy uncertainties.

**Tighter global financial conditions have further constrained the fiscal space of developing countries.** The increase in borrowing costs and broad-based strengthening of the dollar have exacerbated debt vulnerabilities for many developing country governments. In 2022, the local currency bond markets of emerging economies saw large net non-resident portfolio outflows, with yields surging to the highest in a decade.<sup>16</sup> Between January and November 2022, 20 emerging economies (excluding China) collectively experienced outflows of \$27.0 billion from local currency non-resident government debt, in contrast to the \$25.6 billion of inflows received in the previous year.<sup>17</sup> Hard currency yields of emerging market

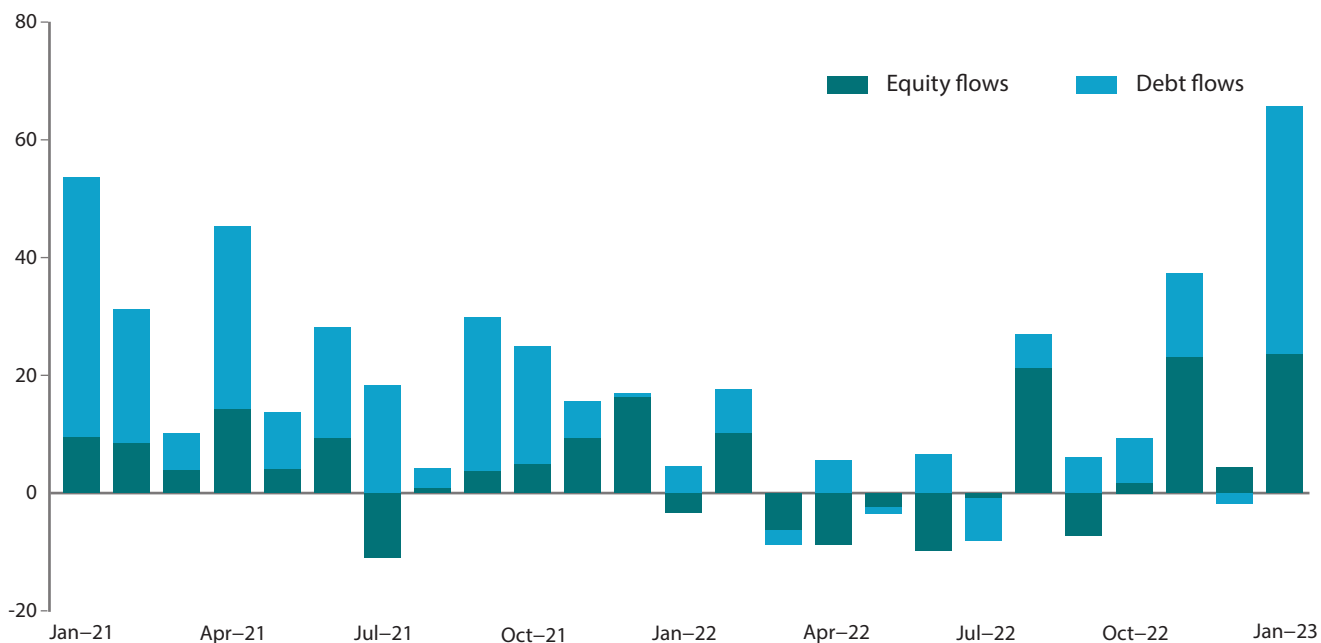
Figure I.6  
**Central bank policy rates**  
 (Policy rate, percent)



Source: CEIC.

Source: UN DESA, based on data from CEIC.  
 Note: Based on a sample of 45 developing countries across all regions.

Figure I.7  
**Non-resident portfolio flows to emerging economies**  
 (Billions of United States dollars)



Source: Institute of International Finance.

sovereign bonds have also increased, with 22 per cent of issuers trading on the secondary market with spreads above 1,000 basis points and 30 per cent having yields above 10 per cent<sup>18</sup> (see chapter III.E).

**Despite recent improvements, financial markets remain susceptible to renewed turbulence and stress.** Global financial conditions have eased somewhat in recent months as weaker-than-expected inflation drove expectations for a slower pace of future monetary tightening.<sup>19</sup> However, given high uncertainty and a fragile growth outlook, financial stability risks remain elevated (see box I.1). The protracted period of low interest rates since the 2008 world financial and economic crisis incentivized financial risk-taking and investors' "search for yield", contributing to the build-up of leverage in financial markets to record highs. However, amid the rapid increase in interest rates and deterioration in investor risk appetite, conditions in leveraged finance markets have deteriorated significantly. In the United States, corporate credit spreads widened sharply, and leveraged loan issuances dropped to post-global financial crisis lows during 2022.<sup>20</sup> A disorderly correction in global financial markets could destabilize domestic financial conditions while exacerbating vulnerabilities in developing countries. In this context, policymakers can deploy a range of policy tools, including macroprudential and capital flow management measures, to mitigate the effects of large and disruptive capital flows. Clear and transparent communication of monetary policy decisions by the major developed economies can also help to reduce adverse spillovers on developing economies. The increasing presence of financial technology (fintech) in the global financial landscape also presents both opportunities and risks. A case in point is the growing volatility of cryptoassets, which could be a source of systemic risk in the future (see chapter III.F).

**Central banks have to strike a delicate policy balance between reining in inflation and preserving growth.** Against this backdrop, risks of policy mistakes are high. The rapid and synchronized monetary tightening by major central banks led to a sharp withdrawal of liquidity from markets, generating significant negative spillovers on developing countries. An overtightening of monetary policy would drive the world economy into an unnecessarily harsh slowdown. This risk, however, could be mitigated if central banks consider the reciprocal impacts of similar rate hikes by others. The current environment of elevated global inflation has raised discussions over whether central banks should revisit strict inflation targets in order to enhance policy flexibility while ensuring the continued credibility of monetary policy. When doing this, however, clear and effective central bank communication is necessary so that price expectations remain well anchored.

## 2.3 Deterioration in public finances

**Soaring food and energy prices in 2022 drove governments to introduce a range of new fiscal measures to support households and businesses.** While pandemic-related stimulus has been gradually withdrawn, many countries rolled out new support measures in response to high inflation. In most countries, the new measures, which included tax cuts, subsidies and cash handouts, amounted to more than 0.5 per cent of GDP.<sup>21</sup> In many cases, however, support to households has been insufficiently targeted towards those most in need, leading to what some consider unnecessarily high spending and potentially adding to inflationary pressures.<sup>22</sup> The cost-of-living crisis has exerted further pressure on developing country governments whose budgets were already strained by

### Box I.1

#### Turbulence in the banking sector

Banking failures in the United States and Switzerland in March 2023 have once again highlighted risks in the financial sector, shortcomings in financial institutions' risk management practices and potential gaps in regulatory and supervisory systems. The past several *Financing for Sustainable Development Reports* warned about the risk rising interest rates could pose to financial sector stability. Maturity mismatches and leverage—which are inherent to the financial system—increased during the prolonged period of low interest rates and the search for yield among investors. How and where these risks would materialize was difficult to identify. Much of the analysis focused on risks in the non-bank financial sector, where institutions are generally subject to less prudential regulation (see chapter III.F).

Though the banks that failed each had unique weaknesses, common factors include inadequacies in both internal risk management and external supervision. Rising interest rates exposed balance sheet weaknesses and triggered depositor withdrawals, cascading into liquidity spillovers across the sector. Policymakers acted decisively to address the financial stability risks, including by dealing on a timely basis with the failing banks and enhancing the provision of dollar liquidity to banks and cross-border to other central banks.

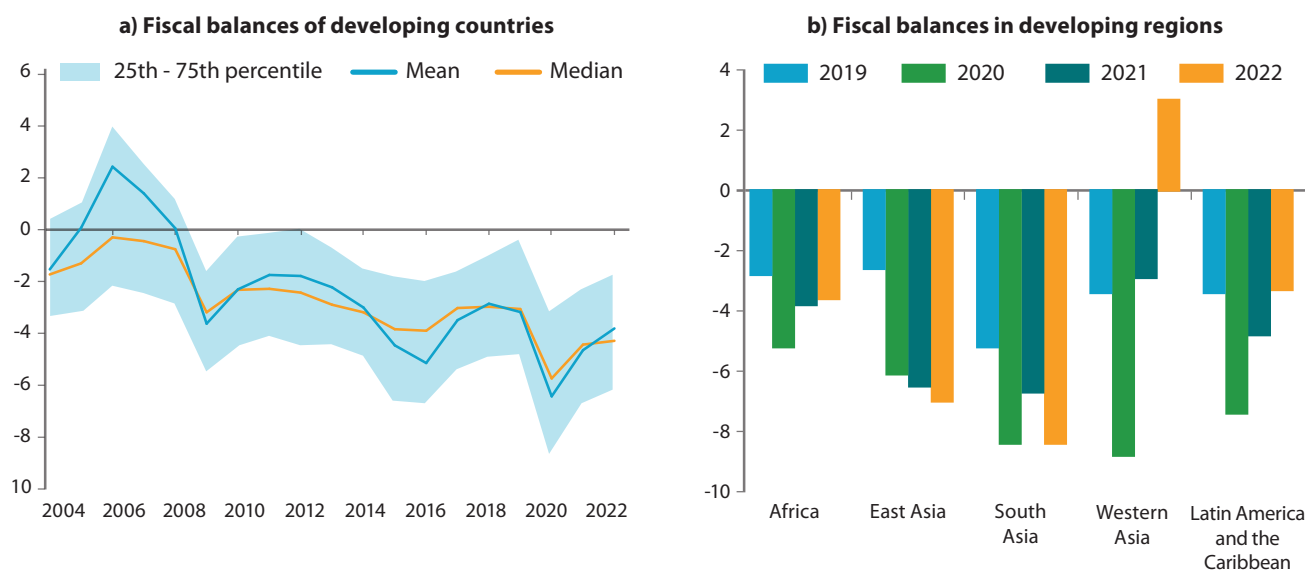
The recent developments have complicated monetary policy. Central banks are often mandated to maintain both price stability and financial stability. Interest rate hikes in pursuit of the first goal could cause further instability if not well managed. On the other hand, slowing down or abandoning interest rate hikes could risk de-anchoring inflation expectations.

Looking forward, economic growth prospects for developed economies face greater uncertainty and downside risks, which could impact global growth and implementation of the SDGs. While direct contagion to developing country banking sectors from the current financial market stress is not imminent, rising global interest rates have also amplified capital flow volatility and risks (such as those due to currency mismatches, see chapter III.F). It is also unclear if there are more pockets of risk that will be exposed by ongoing tightening of financial conditions, such as in the non-bank financial sector.

the pandemic, and many of which have seen a steady deterioration of fiscal balances since the 2008 world financial and economic crisis (see figure I.8a). In 2022, most developing regions continued to experience large fiscal deficits (see figure I.8b).

**The rapid tightening of global financial conditions has contributed to an increase in debt service burdens.** The increase in global interest rates and strengthening of the dollar have raised the debt service costs of developing countries, leading to an increase in refinancing and roll-over risks. As interest burdens rise, an increasing share of government revenues are being devoted towards debt service, reaching about 2 per cent of GDP and 10 per cent of public revenues in 2022 on average. Governments in about a dozen countries, including several large developing economies, were estimated to have spent more than 20 per cent of revenues on interest payments during the year. In Africa, debt servicing

Figure I.8  
**Fiscal balances**  
 (Percentage of GDP)



**Source:** UN/DESA, based on data from the IMF World Economic Outlook database, October 2022.

**Note:** Regional and country group averages for panel b) are unweighted averages across countries. Median values show similar trends.

on public and publicly guaranteed external debt rose from 3.1 per cent in 2011 to 10 per cent of government revenues in 2021. For a large number of developing countries, the increase in debt servicing costs is diverting resources away from crisis response and investments towards supporting a sustainable recovery (see chapter III.E).

**Debt distress risks have risen, particularly for developing countries that are already in vulnerable situations.** In 2022, rising interest rates and import bills pushed several countries into debt default, including a few middle-income countries. Amid volatile investor sentiment and weak revenue prospects, more countries may effectively lose access to international capital markets. The share of low-income countries that are at high risk of or in debt distress has more than doubled, from 27 per cent in 2015 to almost 60 per cent in 2022 (see chapter III.E).

**As fiscal space narrows further, governments are facing increasingly difficult trade-offs in prioritizing competing spending needs.** Trade-offs are particularly acute for countries with already elevated debt vulnerabilities and very limited fiscal space. Even in the immediate aftermath of the pandemic, many developing countries were constrained in their ability to effectively manage the health and economic crisis. In 2020 and 2021, total fiscal support of the developed economies amounted to \$12,200 per capita, in stark contrast to \$410 per capita in the developing economies and a mere \$20 per capita in the LDCs. Mounting fiscal pressures will constrain national capacities to invest in sustainable development, including in the areas of health, education, physical and digital infrastructure, and the energy transition.

**Nonetheless, fiscal austerity would disproportionately harm the poorest and most vulnerable.** As countries face rising fiscal pressures, there is a risk of a widespread shift towards fiscal austerity, which would be costly and potentially self-defeating. Fiscal consolidation tends to be

associated with lower social spending, disproportionately hurting the most vulnerable. Cuts to fiscal expenditure often entail the scaling down of programmes that benefit women more than men, resulting in income losses for women, restricting their access to healthcare and education, and increasing unpaid work and time poverty. Such impacts further exacerbate the already dire situation of those who have yet to regain employment due to the fragile economic recovery. In addition, further reductions to spending on education will inflict more harm on already disadvantaged students, widening learning inequalities. In 2022, the share of education in public budgets declined in low- and lower-middle-income countries, despite students still struggling with significant learning losses due to the pandemic.<sup>23</sup> This contrasts with the situation in developed economies where education as a share of government budgets in 2022 exceeded the 2019 level. In many developing countries, the channelling of financial resources towards pandemic response resulted in cuts to other healthcare services, including for the prevention and treatment of infectious diseases such as malaria, cholera, HIV/AIDS and tuberculosis.<sup>24</sup> As public finances become increasingly stretched, countries need to generate the fiscal space needed to support the SDGs but not at the expense of the already vulnerable. It is imperative that governments do not cut social protection programmes during periods of fiscal consolidation. Pro-growth fiscal measures include raising revenues from windfall taxes on fossil fuels and the removal of inefficient subsidies, and channelling this revenue towards strengthening social protection schemes as well as the provision of essential public goods and services (see chapter III.A).

## 2.4 Weak investment prospects

**Global investment growth is likely to remain subdued amid rising borrowing costs and high uncertainty.** In several developed countries, including the United States, the euro area and Japan, the growth of total

gross fixed capital formation in 2022 was dampened by a contraction in residential and non-residential investment. However, this was partially offset by increased investment in intellectual property products (see figure I.9). Looking ahead, heightened global uncertainty will continue to weigh on private investment in developed economies. However, investment growth in several major economies, including the United States and euro area, will be supported in part by government policies to boost infrastructure and green investments.

**Weak investment prospects in developing countries follow a widespread slowdown in investment growth over the past decade.**

Foreign direct investment (FDI) in developing countries is also projected to extend its weakness into 2023,<sup>25</sup> further hindering capital accumulation. The recent succession of global shocks has disproportionately affected investment flows to the poorest countries, with FDI flows to the LDCs contracting by 30 per cent in 2022.<sup>26</sup> The subdued investment outlook follows a trend of stagnating investment in many developing countries over the past decade. Between 2010 and 2021, gross fixed capital formation in per capita terms stagnated in Africa and declined by almost 20 per cent in Latin America and the Caribbean (see figure I.10). Weak fiscal positions were already a constraint on public investment even prior to recent crises. In the five years before the pandemic, about half of the countries in Latin America and the Caribbean and one third in Africa experienced a decline in public investment in real terms.

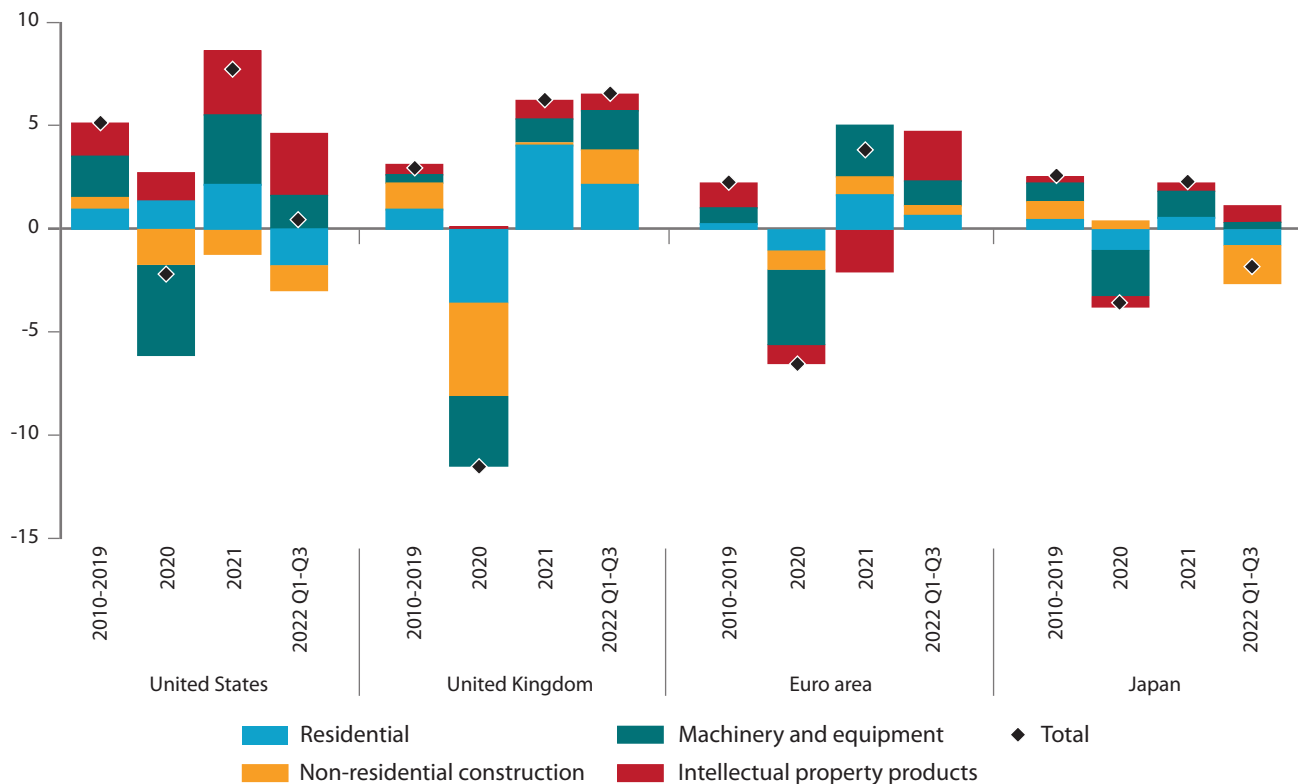
**A prolonged period of subdued investment will dampen productivity growth, contributing to deeper and more persistent economic scarring.**

While developed economies were able to roll out large fiscal stimulus packages to support their recoveries from the pandemic-induced recessions, many developing countries are faced with protracted scarring to potential output, amid larger cumulative investment and output losses.<sup>27</sup> Recent overlapping shocks have further exacerbated already wide investment gaps in many developing countries, threatening to further derail progress towards sustainable development. A strong push towards productivity-enhancing structural reforms is needed to mitigate the scarring effects from the pandemic and other recent shocks. These include sustainable industrial and financial policies which are key to boosting the necessary public and private investments for countries to progress towards sustainable and inclusive structural transformation (see chapter II).

**Countries' efforts to bolster energy security drove two competing trends in energy investment, with implications for the green transition.**

In 2022, investment in clean energy is estimated to have exceeded \$1.4 trillion, accounting for almost three quarters of the growth in overall energy investment (see figure I.11). While this is an important step in the right direction, it is still well short of what is required to hit international climate goals. Moreover, the increase in clean energy investment has been concentrated in developed economies and China. Excluding China, clean energy spending in developing economies remains stuck at

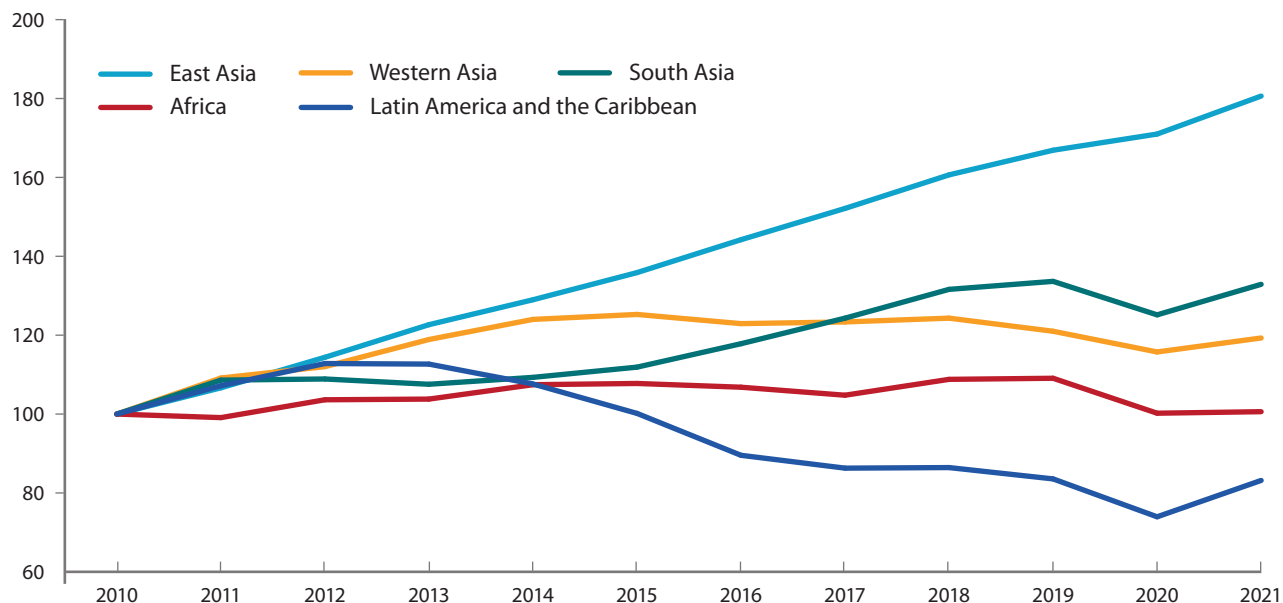
Figure I.9  
**Annual investment growth in selected developed economies, by asset type**  
(Percentage)



Source: UN DESA, based on data from CEIC and EuroStat.

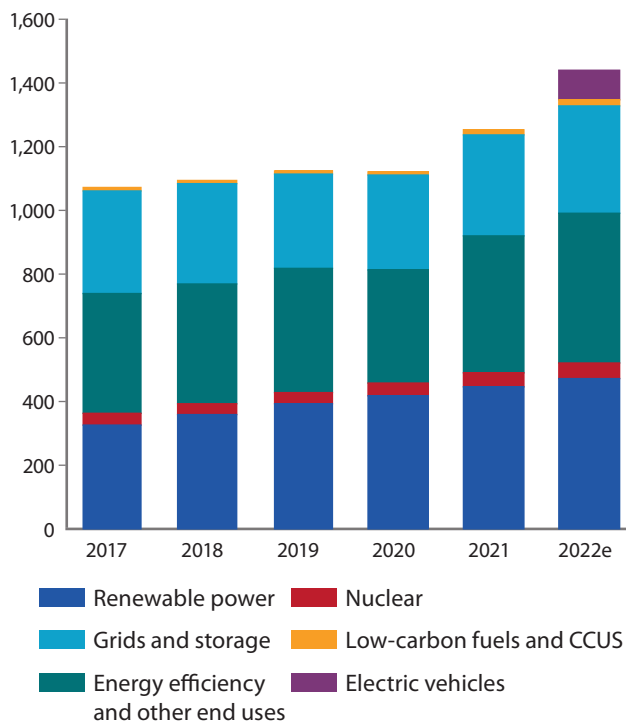
Note: Figures are in constant prices. Data for the United Kingdom, euro area, and Japan refers to total investment, data for the United States refers to private investment.

Figure I.10  
**Gross fixed capital formation per capita in developing regions**  
 (Constant United States dollars, index 2010 = 100)



Source: UN DESA.  
 Note: Regional averages are population weighted.

Figure I.11  
**Annual clean energy investment**  
 (Billions of United States dollars)

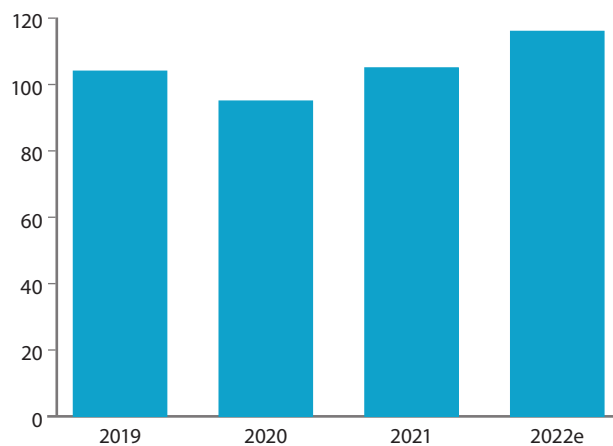


Source: IEA.  
 Note: e = estimate. CCUS refers to carbon capture, utilisation and storage.

2015 levels. The high costs of capital and rising borrowing costs threaten to undercut the economic attractiveness of capital-intensive clean technologies in many developing countries. At the same time, investment in fossil fuels continued to rise in 2022 (see figure I.12).

**Large-scale, rapid actions are needed to avert a climate catastrophe and invest in sustainable and inclusive structural transformation.** Despite growing calls for countries to revisit and strengthen their 2030 climate mitigation targets, progress has been slow

Figure I.12  
**Coal supply investment**  
 (Billions of United States dollars)



Source: IEA.  
 Note: e = estimate.

and inadequate.<sup>28</sup> To achieve these ambitious targets, massive investments are required to accelerate transformations, including in electricity supply, industry, farming, transportation and buildings. Stronger international cooperation, particularly in the areas of financing as well as the transfer and scaling-up of low-emission technologies, will be crucial.

### 3. Policies for a stronger recovery

**Beyond urgent actions in response to the overlapping crises, policymakers must ensure that they do not lose sight of longer-term sustainable development objectives.** Proactive fiscal policies geared towards promoting inclusive and sustainable industrialization can drive progress across many areas of sustainable development (see chapter II). Financing policies can help to enhance domestic revenue mobilization (see chapter III.A) and increase the private sector's role (see chapter III.B)

in expanding the resources available to support crisis recovery efforts. There needs to be a massive boost in public and private investment geared towards strengthening resilience to shocks and supporting the SDGs, including in climate action (see chapters III.A, III.B and III.C). Stronger policy actions by the international community are needed to help vulnerable countries to mitigate the effects of recent shocks and avert a lost decade for sustainable development (see chapters III.C and III.E).

**The Addis Ababa Action Agenda provides a comprehensive framework for countries to consider policies that can support a resilient, inclusive and sustainable recovery.** The subsequent chapters of this report provide progress updates on the implementation of each of the Addis Agenda's action areas. They also lay out the policy options at both the national and international levels for countries to make stronger progress towards the SDGs in the context of a highly challenging macroeconomic environment.

## Endnotes

- 1 This chapter is based on the following reports: *World Economic Situation and Prospects 2022*; *World Economic Outlook Update, January 2022: Rising Caseloads, A Disrupted Recovery, and Higher Inflation*; *World Economic Outlook, October 2021: Recovery during a Pandemic*; *Trade and Development Report 2021: From Recovery to Resilience: The Development Dimension*; and *Global Economic Prospects, January 2022*.
- 2 The United Nations *World Economic Situation and Prospects* (WESP) report forecast of 1.9 per cent global growth for 2023 is based on market exchange rates, which is in line with the forecast of the World Bank's *Global Economic Prospects* report. When adjusted to reflect market exchange rates, the IMF's *World Economic Outlook*'s projection is for global output to expand by 2.4 per cent for 2023, which is higher than the WESP. This is due mainly to the WESP's less optimistic growth projections for the United States, the euro area, and China.
- 3 Food and Agricultural Organization of the United Nations (FAO). 2022. *FAO Food Price Index*. Rome: FAO.
- 4 World Food Programme. 2023. *2023: Another year of extreme jeopardy for those struggling to feed their families*. Available at [www.wfp.org/global-hunger-crisis](http://www.wfp.org/global-hunger-crisis)
- 5 Björn Rother, Sebastian Sosa, Lukas Kohler, Gaëlle Pierre, and others. 2022. *Tackling the Global Food Crisis: Impact, Policy Response, and the Role of the IMF?* IMF Note 2022/004, International Monetary Fund, Washington, DC.
- 6 World Bank. 2022. *Poverty and Shared Prosperity 2022: Correcting Course*. Washington, DC: World Bank
- 7 Ibid.
- 8 International Labour Office (ILO). 2022. *Global Wage Report 2022–23*. Geneva: ILO, 2022.
- 9 ILO. 2023. *World Employment and Social Outlook: Trends 2023*. Geneva: ILO, 2023.
- 10 Ibid.
- 11 Ibid.
- 12 International Disaster Database. Available at [www.emdat.be](http://www.emdat.be).
- 13 World Meteorological Organization. 2023. *Past eight years confirmed to be the eight warmest on record*. Available at <https://public.wmo.int/en/media/press-release/past-eight-years-confirmed-be-eight-warmest-record>
- 14 World Bank. 2023. *Global Economic Prospects, January 2023*.
- 15 Ibid.
- 16 International Monetary Fund. 2022. *Global Financial Stability Report – Navigating the High-Inflation Environment*. Washington, DC, October.
- 17 International Monetary Fund. 2022. *EM Local Currency Bond Holdings Monitor*. 30 November 2022. *Global Markets Analysis: Monetary and Capital Markets*.
- 18 International Monetary Fund. 2023. *Emerging and Frontier Markets Issuance*. 7 February 2023. *Global Markets Analysis: Monetary and Capital Markets*.
- 19 International Monetary Fund. 2023. *World Economic Outlook Update*. Washington, DC, January.
- 20 International Monetary Fund. 2022. *Global Financial Stability Report – Navigating the High-Inflation Environment*. Washington, DC, October.
- 21 International Monetary Fund (IMF). 2022. *Fiscal Monitor: Helping People Bounce Back*. Washington, DC: IMF, October.
- 22 World Bank. 2023. *Global Economic Prospects, January 2023*.
- 23 United Nations Educational, Scientific and Cultural Organization (UNESCO) and World Bank. 2022. *Financing for Education Stagnant or Declining Despite Chronic Learning Needs Post-COVID-19*. Press release, 28 June. Washington, DC: UNESCO and World Bank.
- 24 After declining for many years, the total number of malaria cases increased in 2020 amid disruptions to health services during the pandemic. With a shortage of vaccines, a record number of cholera outbreaks occurred, including in Africa, Western Asia, South Asia and the Caribbean. Sources: World Health Organization. 2021. *World Malaria Report 2021: Tracking Progress Against Malaria*. Geneva: WHO; World Health Organization. 2022. *Shortage of Cholera Vaccines Leads to Temporary Suspension of Two-Dose Strategy, As Cases Rise Worldwide*. News release, 19 October. Geneva: WHO.
- 25 UNCTAD. 2023. *Global Investment Trends Monitor, No.44*. Geneva, January.
- 26 UNCTAD. 2023. *Global Investment Trends Monitor, No.45*. Geneva, January.
- 27 World Bank. 2021. *Global Economic Prospects, January 2021*.
- 28 United Nations Environment Programme (2022). *Emissions Gap Report 2022: The Closing Window – Climate crisis calls for rapid transformation of societies*. Nairobi.





# What will it take? Financing sustainable industrial transformation



## Chapter II



# What will it take? Financing sustainable industrial transformation\*

## 1. Introduction and key messages

**Scaling up investment in sustainable industrial transformation can be a key to rescuing the SDGs.** Industrialization and structural transformation have been historic engines of economic and productivity growth, job creation and technological advancement—and have laid the foundation for poverty reduction and a sustained mobilization of domestic resources. A vibrant domestic private sector engaged in dynamic activities has been at the heart of sustained progress and development in most countries. At the same time, countries' policy efforts to spur industrial transformations have a mixed record, not least in their impacts on equity, the environment and sustainable development more broadly; many lessons can be learned from both failures and successes.

**In response to a series of major shocks and crises, the state of domestic productive capacities has become a central concern of policymakers around the world again.**

The 2008 world financial and economic crisis, the ongoing climate crisis, the COVID-19 pandemic, and, most recently, the fallout from the war in Ukraine have all contributed to a revival of industrial policies. Countries have taken steps to support low-carbon transitions, create decent jobs, promote digitalization and enhance the resilience of their economies to economic and non-economic shocks. Industrial policy measures more than doubled between 2009 and 2019, with much of the growth in developed countries.

**The revival of industrial policies provides an opportunity to achieve sustainable industrial transformations.**

The SDGs give today's efforts at industrial transformation a desired direction: such transformations must be underpinned not only by economic growth, but by growth that can be sustained over time, is inclusive, creates decent jobs, is environmentally sustainable and supports rapid decarbonization. A new

generation of sustainable industrial policies has to reflect these sustainable development priorities.

**Sustainable industrial transformations require scaled up, coordinated and "targeted" public and private investments.**

Sustainable transformations require investments by the private sector in innovation, energy transition and other areas, and affordable access to finance to fund these investments. Sustainable transformations also require public investments in sustainable infrastructure, human capital and other public goods to overcome supply side bottlenecks and crowd in private investment, and the fiscal space to maintain such investments. Because sustainable industrial transformations are "directional", they also require *a more expansive toolkit* to create and align incentives for sustainable investment: public leadership and coordination to create investment opportunities, for example in activities critical to the low-carbon transition, demand-side or regulatory measures to support development and adoption of desirable technologies, and the alignment of tax and fiscal systems and all other relevant policy frameworks with the SDGs.

**Sustainable industrial and financing policies, both national actions and international support, are key to facilitate such transformations.**

This chapter discusses relevant policy options, with a particular focus on financing policies that are pertinent to the action areas of the Addis Ababa Action Agenda. Several key messages emerge:

- Countries should have strong ownership over the industrial policy formulation process, and relevant stakeholders—private business, labour, civil society and others—should be involved in inclusive consultation and decision-making processes. Sustainable industrial transformations depend on the buy-in and coordinated actions of many stakeholders;

\* This chapter has benefited from inputs from many Task Force members. It puts forward ideas for governments to consider; however not all Task Force members are endorsing all the proposals in the chapter.

- Policymakers need to develop a coherent *sustainable industrial policy strategy* that is aligned with a country's overall vision. Sustainable industrial policies should be closely linked to national sustainable development strategies and plans, which can be supported by integrated national financing frameworks. They need to be context-specific, responding to a country's binding constraints and institutional frameworks;
- Countries must provide support to vulnerable groups that may lose economic opportunities during industrial transformations. This underscores the importance of *universal social protection systems*;
- To reduce the cost of capital for firms, countries should continue to improve domestic enabling environments (thus reducing investment risks) and financial sectors (to lower the cost of capital domestically), and adopt supportive macroeconomic policies;
- Public development banks are a major source of long-term financing and can help to address financing gaps for sustainable transformation. They can provide funding for new, smaller or innovative firms, or for priority sectors. Public development banks also develop specific expertise and market intelligence—they can fill both knowledge and resource gaps;
- Investment incentives remain the most prevalent sustainable industrial policy instruments and can be complemented by demand-side measures and appropriate technology standards to spur development and adoption of sustainable production processes. They also need careful policy design to manage fiscal impacts and avoid capture by special interests, for example by linking support to success criteria;
- Many developing countries will need capacity and financial support. The international community can support countries' efforts through systemic reforms in the international financial architecture and project-specific support, for example through blended finance instruments well aligned with national priorities;
- Developing countries also need to preserve existing and, in some areas, regain lost policy space to pursue sustainable industrial policies. There are risks of rising fragmentation in the global economy, and to a fair and open trading regime. Efforts to tackle climate change and the SDGs, and recent industrial policy announcements in some major economies, have led to calls to increase multilateral dialogue and potentially adapt current multilateral rules. An unlevel playing field and the "finance divide" must not undermine the ability of developing countries to achieve sustainable industrial transformations.

## 2. Why now? Sustainable industrial transformation and the SDGs

### 2.1 Industrialization and structural transformation as a historic engine of development

**Historically, most countries that have achieved sustained economic development and improvements in living standards have done so through structural transformation.** Structural transformation involves the reallocation of capital and human resources

from low- to high-productivity activities and sectors through economic diversification and strengthening productive linkages in the economy.<sup>1</sup> A more diversified economy enables higher per capita incomes,<sup>2</sup> lower volatility, poverty reduction and better long-term growth prospects.<sup>3</sup> The impacts of structural transformation also extend beyond economic growth. They often include increased migration from rural areas to urban centres, usually combined with a reduction in birth rates, greater participation of women in the workforce and deep political and sociocultural changes.

**Manufacturing sector growth and industrialization have historically been central to structural transformation.** Because of several unique properties, manufacturing activities were often at the heart of sustained growth episodes, with structural transformation typically involving a rapid increase in the share of industry and a corresponding decline in agriculture in economic activity.<sup>4</sup> First, technological advances often originated in the manufacturing sector, and diffused from there to other sectors. Manufacturing firms in developing countries were often able to import and adapt these technologies and achieve rapid productivity growth even when broader institutional capabilities and skills were still comparatively scarce in their host economies.<sup>5</sup> Technological and organizational learning in these firms triggered significant economic and knowledge spillovers to the rest of the economy. Second, many low-skilled workers found employment in manufacturing, at least until recently. In this, manufacturing differs greatly from other high-productivity sectors such as finance; it allowed developing countries to attract investment, import technology and capital goods, and combine it with low-skilled labour. And third, manufacturing products are tradeable, and hence growth is not limited by the small size of domestic markets in many developing countries.<sup>6</sup>

**Improvements in agricultural productivity were usually a precondition for industrialization.** Improvements in agricultural productivity allowed agriculture to produce food needed to feed urban industrial workers, release labour for employment, supply raw materials to support the industrial sector, including agro-industries, increase exports to pay for industrial investments, and enhance the domestic market for industrial products.<sup>7</sup> Today, some agro-industries and knowledge-intensive services have proven to be technologically dynamic, with high potential for productivity growth (see boxes 1 and 2),<sup>8</sup> while some manufacturing activities have become "commodified", limiting their potential to support upgrading and learning.<sup>9</sup>

**Throughout history, countries have provided targeted support to domestic firms to enter dynamic sectors, with policies evolving over time in response to changes in the global economy.** Structural transformation is underpinned by the expansion of productive, technological and organizational capabilities at the firm and industry level. Firms generally acquire these capabilities in the process of production ("learning by doing"), but this learning process is fraught with uncertainty (see box 6). Countries have long provided support for domestic firms, often in specific industries, with a view to shaping comparative advantages.<sup>10</sup> The interpretation and debates around industrial policies have emphasized different aspects at different times: the protection of infant industries in the 19th century; structural change and the role of a dynamic manufacturing sector after World War Two; and market failures, technological and organizational learning and the industrial policy design to address governance challenges at the end of the 20th and beginning of the 21st centuries.<sup>11</sup> The industrial policy toolbox changed accordingly: While protectionist

trade policies and tariffs were the most common tools in earlier phases, low interest loans, financial grants (for example R&D subsidies or investment grants) and trade financing are now more prevalent.<sup>12</sup>

**While the industrial policy record is mixed, there are lessons that can be learned from both successes and failures.** The contributions of industrial policies have often been contested. In part, this is because such policies are difficult to assess due to static costs but dynamic benefits, and also because such policies can be open to corruption and state capture. Recent research, taking advantage of “natural experiments” has, however, confirmed positive and long-lasting impacts of historical industrial policies.<sup>13</sup> At the same time, there is no shortage of failed interventions, with a mixed policy record overall and significant variations in their impact on sustainability and equity across countries. From these experiences, key policy lessons emerge on both policy design and state-business relations, including the need for:

- **A clear vision with specific objectives and political accountability:** A clear vision must be translated into specific near- and medium-term objectives that tackle clearly defined challenges, and against which policies can be assessed and revised if needed; political accountability against such targets has also been important;
- **Context-specific strategies:** Industrial transformation is typically a gradual process and leapfrogging is rare. Strategies must identify current and dynamic comparative advantages and take into account firms’ existing capabilities and their potential to learn and acquire additional ones, to avoid policy failures;<sup>14</sup>
- **Policy coherence:** Many industrial policy strategies become undone because macroeconomic, financing, trade or other policies were not aligned with their objectives; often this is a symptom of the industrial policy strategy not being consistent with the broader national vision and/or not fully backed by the country’s leadership, which may have competing or conflicting interests.<sup>15</sup> If relevant stakeholders do not participate in the policy formulation process, implementation and impact are often limited;
- **Addressing political economy and governance challenges head on:** Policymakers need a good understanding of private sector challenges, and hence a close relationship with the business sector; but this relationship also heightens risks of policy or regulatory capture, with temporary subsidies turning into permanent support for underperforming or uncompetitive firms.<sup>16</sup> In some cases, structural transformation policies were discredited and abandoned for decades as a result of misuse of public funds. Policies need to be designed to mitigate against risks of capture;
- **Managing sustainable development impacts:** To ensure that industrial transformations are inclusive and sustainable, proactive policies are needed to support (and compensate) those at risk of being left behind and to ensure environmental sustainability.

## 2.2 The role of industrialization and structural transformation in the sustainable development agenda

**Structural transformations and industrial policies have to be sustainable and inclusive.** Achieving the SDGs requires rapid

### Box II.1 Rural economies and the potential of agro-industry

In the absence of inclusive rural transformation in many least developed countries (LDCs), low-productivity agriculture continues to dominate rural economic activity, and rural poverty remains high. When increasing urbanization is not supported by growth in manufacturing, people leaving agriculture move mostly into the informal service sector, which is also characterized by low productivity.

Successful structural transformations in such cases rely on strengthening rural–urban linkages, by better connecting agriculture to urban manufacturing and service sectors. Agro-industries could play a productive role and provide a viable path for sustainable industrial transformation in “late transforming” countries. In sub-Saharan Africa, for example, agro-industries account for a significantly higher share of total manufacturing employment than in other regions. Agro-industries and services along the agri-food value chain have the potential to absorb labour that leaves primary agriculture. As such activities are geographically spread and dominated by small- and medium-sized enterprises (SMEs), they also create employment opportunities in small- and medium-size cities and towns, preventing migration to megacities. They could also provide the springboard for other forms of manufacturing and services through technology spillovers, improved management skills and capital accumulation.

For this potential to materialize, the industry needs to overcome bottlenecks for financing and expansion—including the fact that many firms in the sector are small, family based, scattered and lacking economies of scale.

**Source:** FAO.

### Box II.2 “Connected services” and their contribution to industrial transformation

International supply chains rely on four services sectors—financial services, information and communication technologies (ICT), transport and logistics, and business and professional services—for their functioning. Together with digital technologies, these services connect businesses within their supply chains.

These service sectors have also become major sources of employment creation, exports, foreign direct investment (FDI), and innovation. Through linkages to other sectors, their presence also enhances the competitiveness of firms in other sectors. For example, in regions with high-quality connected services, 44 per cent of all companies are engaged in export, compared with 19 per cent of firms where such services are weaker. Seizing their full potential depends on reforming trade, investment and competition policies, combined with training to upgrade worker and firm competencies and technology adoption.

**Source:** ITC, based on ITC. 2022. SME Competitiveness Outlook 2022: Connected Services, Competitive Businesses. Geneva.

transformations of production processes. As countries seek to decarbonize the economy, create decent jobs and address deep-rooted inequalities emanating from the productive sphere, policymakers are again looking to industrial policies to tackle these challenges.<sup>17</sup> The SDGs are giving structural transformation a desired direction: Such transformation has to be underpinned by economic growth that not only can be sustained over time by building the required technological and other capabilities, but that is also inclusive, creates decent jobs, is environmentally sustainable and supports rapid decarbonization.<sup>18</sup>

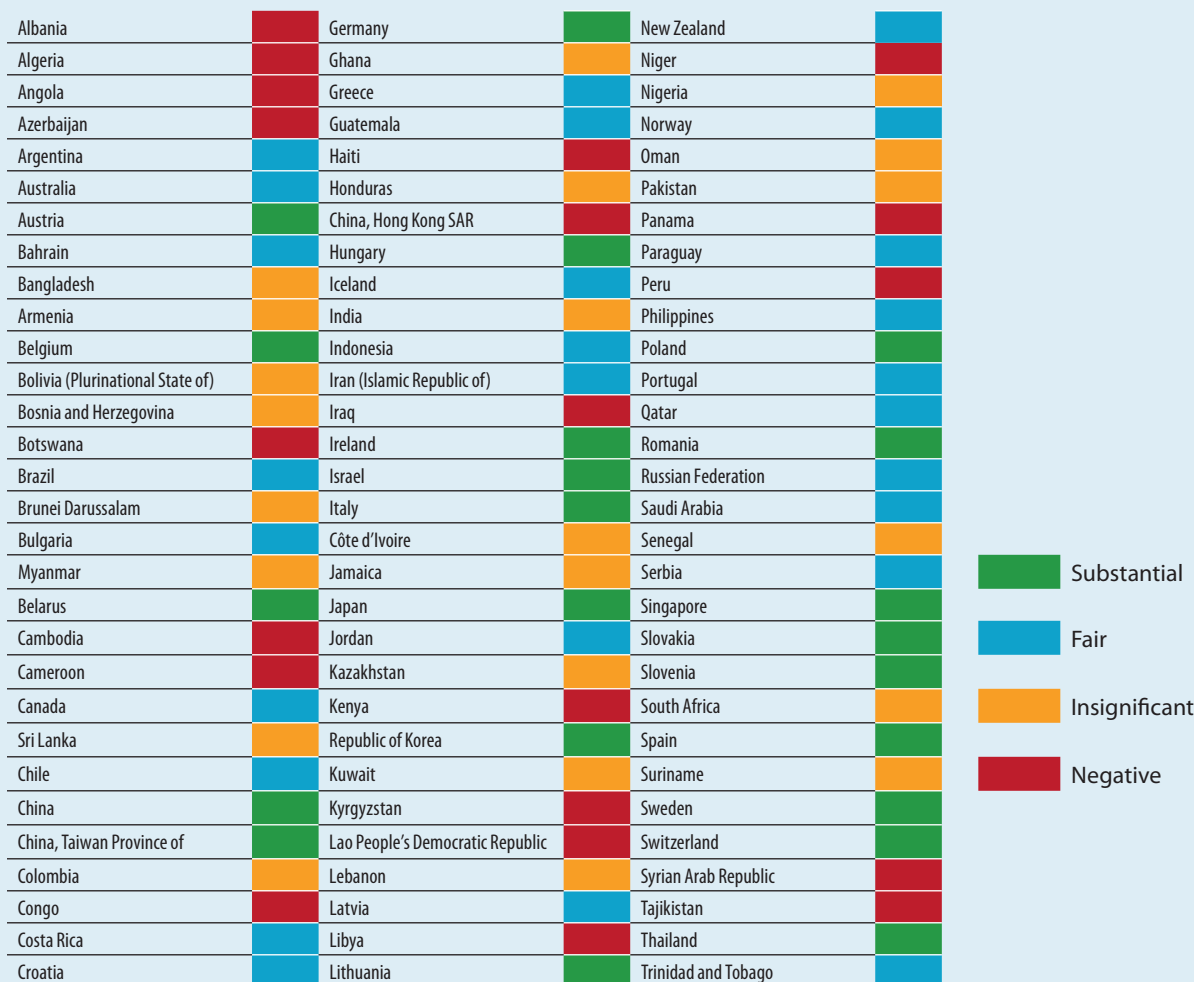
**Sustainable and inclusive industrialization is a core element of the Addis Ababa Action Agenda and the 2030 Agenda.** The

importance of industrial development is recognized in the Addis Agenda, where countries commit to “invest in promoting inclusive and sustainable industrial development to effectively address major challenges such as growth and jobs, resources and energy efficiency, pollution and climate change, knowledge-sharing, innovation and social inclusion.”<sup>19</sup> The 2030 Agenda “reintroduced the notion of development as a process of change in the productive structure of an economy”, which had been a less prominent aspect of the Millennium Development Goals.<sup>20</sup> In regard to SDG 9, countries commit to “build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation”. At the current pace of progress the world will not achieve SDG9, with developing economies facing significant challenges (see box 3).

**Box II.3**  
**Progress on SDG 9**

*The world is lagging behind in achieving industry-related SDG 9 targets.* While there is tangible progress in some countries, particularly developed countries, there are stark regional and country-level differences. Several large, middle-income countries have achieved substantial progress, while LDCs in Africa record a clear regression (figure 1). Key data gaps also remain.

Figure II.1  
**Year-on-year growth rates of manufacturing output by country group**



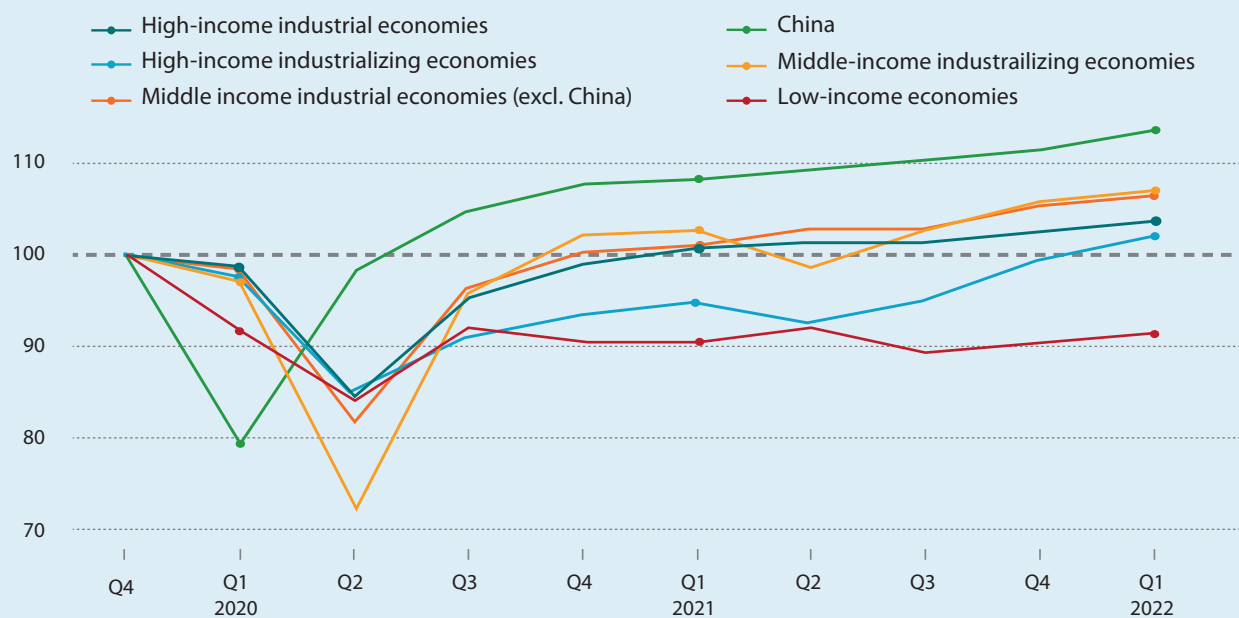
Cuba	Luxembourg	United Arab Emirates
Cyprus	North Macedonia	Tunisia
Czechia	Malaysia	Turkey
Denmark	Malta	Ukraine
Ecuador	Mauritius	United Kingdom
Egypt	Mexico	United Republic of Tanzania
El Salvador	Mongolia	United States of America
Eritrea	Republic of Moldova	Uruguay
Estonia	Montenegro	Uzbekistan
Ethiopia	Morocco	Venezuela (Bolivarian Republic of)
Finland	Mozambique	Viet Nam
France	Namibia	Yemen
Gabon	Nepal	Zambia
Georgia	Netherlands	Zimbabwe

Source: UNIDO elaboration.

Note: The scores in the figure are based on the index proposed by Kynčlová et. al (2020) and refers to the SDG 9 targets 9.2.1a, 9.2.1b, 9.2.2, 9.4.1 and 9.b.1.

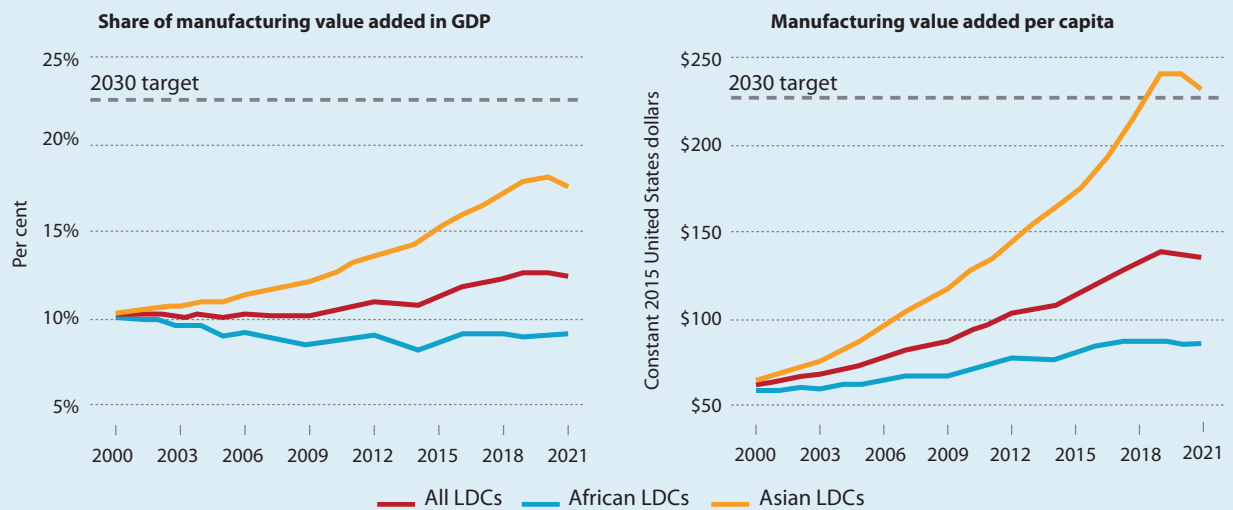
*The pandemic and uneven recovery have had a strong negative impact on SDG 9 achievement.* Recovery from the COVID-19 pandemic has been incomplete and unequal, including in manufacturing employment. While firms and households in high-income countries benefited from substantial policy support, manufacturing in LDCs stagnated due to limited support measures coupled with subdued and volatile global demand and tighter domestic conditions (see the 2022 *Financing for Sustainable Development Report*). While manufacturing output in most country groups had returned to pre-pandemic levels by the end of 2021, this was not the case for LDCs and other low-income economies (figure 2). SDG 9 targets such as 9.2 (industry share in output and employment) are in jeopardy, particularly for African LDCs (figure 3), which have mostly stagnated over the last 20 years.

Figure II.2  
Year-on-year growth rates of manufacturing output by country group  
Index (Q4 2019=100)



Sources: UNIDO International Yearbook of Industrial Statistics 2022.

Figure II.3  
Prospects of least developed countries achieving SDG target 9.2 by 2030



Sources: UNIDO International Yearbook of Industrial Statistics 2022.

a Kynčlová, Petra, et al. 2020. Composite index as a measure on achieving Sustainable Development Goal 9 (SDG-9) industry-related targets: The SDG-9 index. Applied Energy 265.

**Industrialization and structural transformation must be managed to contribute to progress across the SDGs and ensure that progress is inclusive and sustainable.** Industrialization impacts economic growth as well as socioeconomic and environmental objectives (see figure 4). The specific links between structural transformation and other

SDGs have played out differently in different historic and country contexts. They are contingent on policy choices, hence the critical importance of pursuing sustainable and inclusive industrial policies (see box 4 for some examples of interlinkages).

Figure II.4  
Contribution of sustainable industrialization to the SDGs



Sources: UNIDO.<sup>21</sup>

## Box II.4 Sustainable industrialization and the SDGs—some examples

### *SDG 1—poverty eradication, and SDG 10, reducing inequality:*

Greater (formal) employment opportunities and higher wages paid in manufacturing jobs can support the eradication of poverty, help to build a middle class and reduce inequalities. At the same time, the interactions between structural transformation and inequality are complex—Kuznets' famous proposition was that the shift of labour from agriculture to industry would initially increase inequality, only for it to fall over time (the Kuznets curve). Empirically, country experiences have been heterogeneous, with some countries managing benign transitions that combine structural transformation with stable or falling inequality, and others struggling with challenging trade-offs.<sup>a</sup> This suggests a strong role for policy to shape transformation pathways.

*SDG 2—ending hunger:* Strengthening rural-urban linkages, which connect agriculture and the food system to the manufacturing and service sectors, supports further increases in agricultural productivity and that of rural activities, and facilitates the generation of marketable surpluses, the diversification of production patterns and livelihoods, and better access to public services and infrastructure in rural areas.<sup>b</sup> In countries that have substantially reduced rural poverty, inclusive rural transformations additionally created income-generating opportunities in the rural non-farm sector, e.g. in rural services and small-scale manufacturing. Agro-industries and agro-processing, which create jobs in rural areas, are a promising source of employment but require public efforts to address working conditions and lack of social protection in small-scale informal firms.<sup>c</sup>

*SDGs 12, 13, 14 and 15—impacts on the environment:* Industrial development can be both the source of, and contribute to resolving, environmental challenges. Historically, industrialization has been a main contributor to global greenhouse gas emissions and other environmental damages even as emission intensity typically decreases as countries industrialize. Appropriate policy and regulatory frameworks are needed

to mitigate and reduce the environmental impacts of manufacturing industries, for example to ensure the efficient use of resources and responsible management of waste and pollutants (SDG 12), and to support the transition towards more environmentally sustainable production models and decarbonization in manufacturing. At the same time, manufacturing plays a key role in innovation and the efficient production of environmental products, such as wind turbines, solar panels, insulation materials for buildings and electric cars.

*SDG 5—gender equality:* Structural transformation and industrialization have interacted with gender equality in complex ways. For example, it was often the lower wages of female workers that enabled labour-intensive, export-led industrialization strategies, and women have often been excluded from “good jobs” as economies and sectors upgrade.<sup>d</sup> These inequalities persist: Women represent less than 40 per cent of employment in manufacturing; within manufacturing, they are overrepresented in sectors with lower profit margins, low technology intensity and low wages, such as the food, garment, textiles and leather sectors.<sup>e</sup> The majority of new jobs generated in the transition to low carbon and circular economies will also be created in sectors that are currently male dominated. Hence, for women to equally benefit from the transition to green economies and industries, specific measures to reduce gender inequalities are needed; in turn, greater gender equality can support structural transformations through both positive impacts on aggregate demand and supply-side impacts on the labour force.<sup>f</sup>

<sup>a</sup> Alisjahbana, Armida, et al. 2022. *The Developer's Dilemma: Structural Transformation, Inequality Dynamics, and Inclusive Growth*. Oxford University Press.

<sup>b</sup> Timmer, Peter. 2014. Managing Structural Transformation: A Political Economy Approach. WIDER Annual Lecture 18.

<sup>c</sup> Wilkinson, John and Rudi Rocha. 2009. Agro-Industry Trends, Patterns and Development Impacts. Agro-industries for development.

<sup>d</sup> Tejani, Sheba and David Kucera. 2021. Defeminization, Structural Transformation and Technological Upgrading in Manufacturing. *Development and Change* 52 (3).

<sup>e</sup> United Nations Industrial Development Organization. 2020. *Industrial Development Report 2020. Industrializing in the Digital Age*. Vienna.

<sup>f</sup> Seguino, Stephanie. 2020. *Industrial Policy and Gender Inclusivity*. Oqubay, Arkebe, et al. (ed.) *The Oxford Handbook of Industrial Policy*.

## 2.3 Sustainable development and the industrial policy revival

**In recent years, industrialization has re-emerged as a key priority for policymakers.** An analysis of national policies recorded in the Global Trade Alert initiative found that industrial policy measures more than doubled between 2009 and 2019, and that by 2019, nearly half of all policies recorded in the database could be classified as industrial policies, up from only 20 per cent in 2009. There are several reasons behind this surge:

- Industrial policies have been resurgent since the 2008 world financial and economic crisis, in response to an **increase in inequality and the decline of decent jobs** tied to the decline in manufacturing sectors in some countries. One prominent example are policies targeting productive development and **job creation** in underperforming regions (place-based policies). The localized effects of green transitions have also increased interest in regional and local development policies;
- To accelerate the **development and deployment of low-carbon technologies** and the energy transition, many countries have also adopted “green industrial policies”. Such policies are extremely common in both developed and developing countries—almost 170 countries have targets for the deployment of renewable energies and around 100 countries use tax incentives, public investment and/or tendering procedures to achieve these targets.<sup>22</sup> Many countries go further and use green industrial policies to support domestic production through various forms of incentives, with a view to creating additional local economy benefits such as job creation and domestic innovation;
- With recent **inflation driven in part by supply-side shocks** such as the disruption of global supply chains and labour shortages (see chapter I), there has also been a recognition that industrial policies can play a positive role in addressing macroeconomic challenges;
- The COVID-19 pandemic revealed **vulnerabilities in medical supply chains**. Countries with domestic manufacturing capabilities proved



more resilient thanks to the ability to produce essential goods critical to the pandemic response domestically.<sup>23</sup> This has rekindled debates around reshoring. Vulnerabilities in food supply chains, particularly food processing and distribution, contributed to rising food prices, especially in urban centres;

- **Rising geopolitical tensions** are providing an additional geostrategic impetus to “avoiding external dependencies”, particularly in sectors that are deemed strategically important, such as semiconductors, other high-tech sectors and energy.<sup>24</sup> This has also raised concerns over fragmentation and the risk of technological decoupling and potential impacts on economic efficiency and innovation.

What all these efforts have in common is a focus on building domestic productive capacities to respond to economic, social, environmental and national security concerns, and a willingness to expand the economic policy toolkit to support such structural change.<sup>25</sup>

**While both developed and developing countries have been using industrial policies, their use is far more prevalent in developed countries.** Four out of the five countries with the largest number of industrial policies are developed countries.<sup>26</sup> For example, the European Union’s Green New Deal prominently includes an industrial strategy to support the digital and green transitions of European industry. Climate, health, resilience and national security considerations have led to an industrial policy revival in the United States, with the CHIPS and Science Act allocating over \$50 billion to support domestic manufacturing capacity in semiconductors, and the Inflation Reduction Act committing around \$370 billion to support investments in clean energy and climate mitigation. It includes tax incentives for clean electricity and energy investments, with extra credits for use of domestically manufactured components; for clean vehicles made in North America; and for domestic clean energy manufacturing of solar panels, turbines or batteries.

## 2.4 A changing and challenging global environment

**The new generation of industrial policies has to respond to a changing and challenging global environment.** The rise of global value chains (GVCs), rapid technological change and digitalization, the impacts of financial globalization and changes to global rules have made industrial transformation more challenging in recent decades. This has coincided with the geographic concentration of manufacturing activities in a few large countries and so-called “premature deindustrialization” in many developing countries.

- **Manufacturing has been less effective as a “development escalator”.** As economies grow and per capita income rises, the share of labour employed in manufacturing tends to first rise and then fall. Since the 1980s, this turning point has arrived at ever lower levels of per capita income.<sup>27</sup> With workers moving from agriculture to services such as trade and hospitality rather than manufacturing or modern services, productivity growth has declined, with working conditions characterized by widespread informality;<sup>28</sup>
- **The rise in GVCs has created opportunities for firms in developing countries to participate in global production networks, but has also made it more challenging to upgrade to higher value-added activities and build productive linkages to domestic firms.** Since the 1950s, large firms have taken advantage of

lower costs in other geographical regions through cross-border supply chains. The intensity increased markedly in the 1990s, when lead firms increasingly organized production in GVCs. Their impact on developing countries’ industrialization prospects has been ambiguous: GVCs have enabled countries to attract investment based on their labour cost advantages and have opened up opportunities for firms even in the absence of locally available inputs or other complementary factors. GVCs also enable learning and transfer of tacit knowledge through the interactions between lead firms and suppliers.<sup>29</sup> Overall, GVCs can contribute to boosting growth, creating jobs, and reducing poverty, if supported by enabling industrial policies.<sup>30</sup> However, GVCs also limit opportunities for “upgrading”, that is, entering higher value-adding activities within a value chain, with lead firms retaining the most profitable tasks;<sup>31</sup>

- **Technological changes and digitalization have “raised the bar” for developing countries and may limit employment creation opportunities.** Advances in ICT were a precondition for rapid globalization in the 20th century. Today, the emergence and diffusion of advanced digital production technologies is creating new opportunities for developing countries, for example in the export of services; but it is also threatening to undermine traditional development pathways. First, production of new technologies is still very much concentrated in a few leading economies (see chapter III.G).<sup>32</sup> Second, automation enabled by digital technologies has undermined job creation in some industries: As more tasks become automated, labour accounts for a smaller share of production costs. Third, advanced production technologies also raise the bar for competitiveness: demands on the quality of infrastructure, logistics and connectivity, as well as educational and skills requirements, will rise, making it more difficult for countries without appropriate infrastructure or capacities to compete;<sup>33</sup>
- **Financial liberalization and globalization have had the unintended effect of limiting access to credit for some firms.** The policy mix of successful “late industrializers” typically included “interventionist” financing policies: channelling resources to selected firms through the publicly controlled banking system combined with “financial repression”, which kept interest rates low to support high investment rates; regulations on external financing and capital flows; and competitive exchange rates.<sup>34</sup> The current context is very different, with financial markets more liberalized, financial flows intermediated more commonly by markets, and a smaller role for state and development banks. While the growth of financial inclusion has brought financial services to a much greater proportion of the population, bank lending, especially to micro-, small- and medium-sized enterprises (MSMEs), is still hindered by the limited information that banks have on borrowers and other impediments (see chapter III.B). Financial globalization context has also put developing countries in a very different macroeconomic as more large corporations, such as commodity exporters, are able to borrow from markets, including in dollars or euros—sometimes creating currency mis-matches and making them vulnerable to global financial cycles.<sup>35</sup> In addition, in more financialized economies, financing for real economic activities is sometimes at the expense of high yielding and highly leveraged financial investments;
- **Changes in global rules have limited the policy space of developing countries.** Global rules related to financing, trade, investment

and technology aim to strike a balance between providing countries with sufficient policy space to address societal concerns and avoiding the negative spillovers of such policies on other countries. Since the mid-1990s, global, regional and bilateral trade and investment rules have limited (though usually not entirely ruled out) the use of several commonly used industrial policy tools, including tariffs, quantitative restrictions on imports and exports, subsidies, and performance or domestic content requirements (see chapter III.D).<sup>36</sup>

### 3. What will it take? Industrial and financing policies for sustainable industrial transformation

**Sustainable industrial transformation requires scaled up, coordinated and “targeted” public and private investments.** Sustainable transformations require large-scale public investments in sustainable infrastructure and other public goods, and the fiscal space to maintain such investments. They require significant investments by the private sector in innovation, energy transition and other areas, and access to finance on the right terms for firms to fund these investments. Public actions are needed to enable and incentivize private investments that are fully aligned with economic, social and environmental objectives. Both public and private actors need to build up relevant capabilities and step up their cooperation.

**Sustainable industrial and financing policies, both national actions and international support, are therefore key to facilitate such transformations.** The sustainable industrial policy toolbox is large, as it can be defined to include any policies directed at changing the structure of the domestic economy in support of strategic goals such as climate action and the SDGs. The remainder of the chapter will discuss how national policies and international actions can facilitate sustainable industrial transformation, with a particular focus on financing policies and actions covered in the Addis Agenda.

#### 3.1 The role and purpose of sustainable industrial policies

**Sustainable industrial policies aim to provide targeted support to firms (e.g. for learning) in priority sectors and create an enabling environment, while ensuring that social and environmental goals are supported and concerns are fully taken into account.** As discussed in section 2 above, the objective of this new generation of industrial policies is not only to spur sustained economic growth and build the necessary capabilities in the domestic private sector to innovate and enhance productivity, but also to “shape” growth, ensuring that it creates decent jobs and provides opportunities for all and is environmentally sustainable. Such transformations are unlikely to unfold, and firms are unlikely to invest sufficiently in desired activities (such as innovation or green technologies), without public policy and action.

**Sustainable industrial policies aim to overcome several distinct but related challenges that stand in the way of sustainable structural transformation.** For individual firms, whether or not to make an investment that has public policy benefits is a business decision—the risks that inevitably come with a new venture may be too high compared to the

expected returns, and returns may not be competitive with alternative investment opportunities. But the decision to forego the investment may be due to a number of underlying reasons, including high risks, low returns and other bottlenecks. While challenges will always be country-specific, understanding which of them are most “binding” (that is, are the biggest hurdles to investment) is critical to formulate an effective policy response. Such obstacles can be categorized into four overlapping, broad areas:

- Challenges internal to the firm—namely, a lack of capabilities to be competitive in dynamic or desirable (e.g. green, employment-creating) activities;
- Challenges external to the firm—such as poor infrastructure or macro-economic instability (lack of an enabling environment);
- Externalities both negative (pollution or carbon emissions) or positive (positive spillovers from a firm’s R&D or training efforts on the rest of the economy)—which mean that the firm’s incentives are not well aligned with the public good, unless corrected by policies; and
- Coordination challenges, when investments will only be profitable if other public or private investments take place in parallel—this includes investment in project-specific infrastructure (such as transport or digital), relevant business services or other inputs that have to be procured locally. Coordination is a central challenge for sustainable transformations that have a “direction”, where the public sector often has to lead in creating investment opportunities and coordinating public and private resources around a vision.

To support the overall vision for the economy and address coordination challenges, policies and instruments are typically brought together in a strategy that creates policy certainty and guides public and private investment and action (see box II.5 for details).

#### 3.2 Strategic approaches

**Countries need to develop coherent strategies to align the actions and incentives of all actors with public policy objectives.** Sustainable structural transformations depend on the buy-in and coordinated actions of many stakeholders—within government and across ministries, between public and private actors, and over time.<sup>37</sup> To this end, countries need a clear direction for policymakers, firms and investors, typically spelled out in an industrial development strategy that brings together different actors, instruments, policies and tools in a coordinated manner.<sup>38</sup> Such strategies can be part of and/or should be closely linked to a country’s national sustainable development strategy, with integrated national financing frameworks a useful vehicle to align financing policies with structural transformation objectives.

**Strategies need to be context-specific and countries should have strong ownership over the industrial policy formulation process.** Strategies need to respond to key country-specific challenges, binding constraints and opportunities, which can be identified through a national assessment process. Based on these assessments, countries can spell out prioritized and sequenced actions and initiatives. While external parties, such as foreign experts and consultancy firms, may be able to provide useful advice, they cannot replace the country’s own discovery process of studying challenges and opportunities, consultations with stakeholders, inter-ministerial coordination and creating consensus. Unless there is a

## Box II.5 Sustainable industrial policies—a conceptual perspective

*Firms often lack technological, organizational and managerial capabilities to be competitive in dynamic sectors.*<sup>a</sup> Acquiring the capabilities to successfully compete in technologically dynamic sectors and activities is costly and risky and depends to a significant extent on “learning by doing”. Technologies cannot just be acquired; tacit knowledge has to be absorbed and adapted to specific local contexts.<sup>b</sup> Firms initially usually operate at a loss in activities new to the economy (if not to the world), with profitability highly uncertain, which typically also makes it difficult to secure financing. When the capability gap for international competitors is large, this can lead to so-called “learning traps”, with firms instead pursuing investment opportunities in sectors that require lower capabilities, such as real estate or import trade; but these often have lower productivity growth and fewer positive spillovers and impacts on the rest of the economy.<sup>c</sup> In response, sustainable industrial policies can **support and incentivize firm learning and innovation** by providing firms with concessional financing during the learning period, subsidizing other production inputs, supporting demand, and managing competition and other means (see section 3.3).

Firms are also faced with significant **external constraints**. Workers in a country may not have the required skills, particularly in activities new to the local economy; required infrastructure may be poorly developed or absent; the cost of finance is typically high, reflecting not only high risks associated with new activities but also underdeveloped financial markets or macroeconomic instability; and access to other critical inputs may be constrained, e.g. because of underdeveloped local markets and/or lack of foreign exchange. The **creation of a broader enabling environment and provision of relevant public goods** is thus an important part of this effort. This includes investments in infrastructure, education and health, stable and growth-oriented macro-policies and exchange rates, measures to improve access to finance, and good governance more broadly. Because private investments typically have impacts on the broader economy and society that are not reflected in market prices or returns to investment for an individual firm, an enabling environment for sustainable industrial transformation also requires corrective policy intervention to **“internalize” the externalities**. Such externalities can be positive (the spillover effects from investments in R&D, the “cost discovery” that pioneering firms achieve in their domestic

economy, paving the way for imitators), or negative (most prominently, pollution), and corrected through subsidies for investment in R&D, taxes (e.g. carbon taxes) or regulations (section 3.4).

There are also often major **coordination failures** that inhibit investment in sustainable transformation. Often, projects require several simultaneous, large-scale investments—e.g. in targeted infrastructure necessary for a specific project, industry-specific services or provision of other inputs. Individual investors would not proceed with investments without having some assurance that complementary upstream or downstream investments will also be made, or relevant infrastructure built and public institutions set up.<sup>d</sup> Coordination challenges can also be exacerbated by powerful incumbent actors (e.g. fossil fuel interests, commodity exporters), who may fiercely resist policy changes they perceive to be against their interest, which could undermine policy coherence and coordinated actions.<sup>e</sup>

Coordination challenges abound in the context of SDG-aligned transformations, climate action and other **“mission-oriented” policy** efforts. For example, to achieve rapid decarbonization, many parallel public and private investments and interventions are needed that go far beyond “fixing market failures”, but also aim for technological, behavioural and systemic changes in land use, transportation, housing, energy, industry, and so forth. Such efforts require public leadership (to help develop new technologies, build relevant institutions and create entirely new markets and investment opportunities).<sup>f</sup> To tackle such challenges, countries need an overall vision, e.g. an SDG-aligned transformation plan linked to long-term objectives (such as carbon reduction targets), which can then guide all public policies and investments and provide policy certainty for firms and investors (see section 3.2).

<sup>a</sup> Khan, Mushtaq. 2019. Knowledge, skills and organizational capabilities for structural transformation. *Structural Change and Economic Dynamics*, Vol 48.

<sup>b</sup> Cimoli, Mario, et al. 2020. *Industrial Policies, Patterns of Learning, and Development*. Oqubay et al. (ed.) *The Oxford Handbook of Industrial Policies*. Oxford University Press, Oxford.

<sup>c</sup> Whitfield, Lindsay and Nimrod Zalk. 2020. *Phases and Uneven Experiences in African Industrial Policy*. Oqubay et al. (ed.) *The Oxford Handbook of Industrial Policies*. Oxford University Press, Oxford.

<sup>d</sup> Rodrik, Dani. 2004. *Industrial Policy for the Twenty-First Century*. Harvard KSG Faculty Research Working Paper

<sup>e</sup> Andreoni, Antonio and Ha-Joon Chang. 2019. *The Political Economy of Industrial Policy: Structural Interdependencies, Policy Alignment and Conflict Management*. *Structural change and economic dynamics* Vol. 48.

<sup>f</sup> Mazzucato, Mariana, et al. 2020. *Challenge-Driven Innovation Policy: Towards a New Policy Toolkit*. *Journal of Industry, Competition and Trade* Vol. 20 (2).

high level of ownership over and commitment to industrial policy formulation, implementation tends to be ineffective and inconsistent across various policies and over time.

**Countries need to take into account existing and potentially competing interests of powerful actors.** Structural transformations tend to create winners and losers. Overcoming the resistance of powerful groups (for example fossil fuel interests) is critical, as is the provision of support and retraining to workers who may be left behind. In developed country contexts, the capacity to plan and then coherently implement transformation policies against the resistance of particular interests may be the fundamental constraint to achieving sustainable and inclusive

transformations—more binding than the availability of financial and technical resources, which exist in abundance but are often not aligned with these objectives.<sup>39</sup> Building broad coalitions for change—including through transparent consultations with stakeholders as noted above—can provide political support. Identifying and giving political voice to the “winners” can help to balance resistance from vested interests and should be considered in the sequencing of initiatives.<sup>40</sup> Policymakers can also identify “champions” of reform efforts, for example by assigning responsibility to a high-level political figure.<sup>41</sup> Social protection systems that enable workers and households to better manage the risks of such transitions and provide a safety net can also build support.

**Countries also need to carefully manage public sector relations with the private sector.** In cases of successful industrial policies, public actors were able to build close working relationships with private partners (which help governments to elicit relevant information), but at the same time retain the capacity to implement policies that investors advocate against and to withdraw support when necessary.<sup>42</sup> Getting policy design right is critical but challenging; policies should have success criteria linked to broader development objectives, clear accountability lines and political leadership at a high level. Policies should also be transparent and support to firms linked to performance requirements and containing sunset clauses.<sup>43</sup>

**Strategies likely need to make use of a more expansive toolkit in the context of sustainable transformations.** Because sustainable industrial transformations are “directional”, these actions and initiatives are likely to be more expansive than the traditional industrial policy toolkit. For example, rather than being technology-neutral, strategies should aim for the rapid uptake of low-carbon technologies. To this end, supply-side policies to push down the costs of production for desirable technologies (e.g. subsidies) and targeted public investments (including in basic research) can be complemented by the use of technological standards and regulatory frameworks that reduce technology uncertainty, as well as by demand-side measures that create further economic incentives for technology adoption.

### 3.3 Support to build capabilities of firms

**Sustainable industrial policies can support and incentivize firms to build technological and organizational capabilities to be competitive in dynamic sectors.** To overcome so-called learning traps, policymakers can use a wide range of tools—providing firms with concessional financing during the learning period, subsidizing other production inputs, supporting demand, managing competition, or other means. The intention is to make initial investments more attractive to support “learning by doing” in priority sectors and activities, with the ultimate objective of creating competitive firms. Since learning is costly for firms and difficult for the state to monitor, firms may be tempted to invest their energies in keeping subsidies and protections in place rather than in achieving competitiveness. To avoid this fate, successful industrial policy interventions often combine “carrots” with “sticks”, for example in the form of performance requirements that are tied to policy targets or sunset clauses.<sup>44</sup>

#### *Fiscal instruments*

**Fiscal instruments such as subsidies and tax incentives remain the most prevalent sustainable industrial policy instruments.** Fiscal instruments can be used to incentivize and/or share the costs of risky or uncertain investments or reduce the cost of initial investment (i.e. tax credits or rebates for capital expenditure). Their effectiveness depends on sound design and how well they are embedded in a broader strategic approach, as discussed above.<sup>45</sup> Investment incentives are often tied to performance requirements. In addition to R&D, training or minimum investment requirements, incentives can focus on job creation. To strengthen the development of productive linkages between foreign investors and domestic firms, matchmaking activities and other support for local suppliers can be used.

**In the pursuit of “directed” transformation, demand-side instruments such as strategic public procurement have become more prominent.** Public procurement is a significant part of public expenditure and is increasingly used to achieve sustainable development objectives, such as promoting innovation, sustainability and social inclusiveness, for example through green procurement (see chapter III.A). Strategic public procurement can encourage the development, innovation, and ultimately the competitiveness, of domestic firms, for example through outcome targets aimed at creating a level playing field for local MSMEs, combined with capacity support, or through “innovation procurement”.

#### **Fiscal instruments can be costly and require careful policy design.**

Tax incentives both to enterprises and households have been estimated to amount to over 5 per cent of GDP in foregone tax revenues in some developing countries.<sup>46</sup> This underlines the importance of effective planning and policy design, including: analysis of the total cost of the fiscal tool vs. the long-run benefit, along with a comparison of the cost of other tools to achieve the same goal; tying support to performance; and careful targeting of interventions to support priority activities. In addition, international support can play an important role in countries that are fiscally constrained, including, for example, for interventions that target global priorities such as decarbonization (see chapter III.C).

#### *Financial instruments*

**Public development banks can provide long-term funding for structural transformation.** Public development banks can fill both knowledge and resource gaps.<sup>47</sup> They have been a major provider of long-term and affordable finance for firms (see the *2022 Financing for Sustainable Development Report*). Many also provide funding for new, smaller or innovative firms, and for priority sectors or activities linked to broader transformation objectives. In addition, they can also develop specific expertise and market intelligence relevant to policymakers, such as for the initial assessment of binding constraints and market failures (see also box II.6).

**Regulatory measures can also contribute to increasing the availability of financing for desired activities.** In addition to direct lending by public development banks, countries have also “directed” or incentivized commercial lending through risk-sharing mechanisms and regulatory requirements. For example, loan guarantee programmes are widely used to support green technology development. On the regulatory side, quantitative tools were common historically, including ceilings or quotas for bank lending to targeted sectors; they have largely been replaced by price-based measures. These include, for example, the green refinancing tools of central banks, which incentivize credit provision for environmentally friendly activities through cheaper refinancing.<sup>48</sup> Central banks have also tied terms of access to lending windows to minimum shares of SME loans in banks’ lending portfolios.<sup>49</sup>

**Blended finance from international partners can also support sustainable industrial transformation when it is in line with national strategies and plans.** The international community has looked to blended finance instruments to bring down the financing costs of private investments in developing countries by sharing risks. Blended finance uses public funds to crowd in private finance, with a view to unlocking investment that the private sector would not have done on its own in support of national development priorities. Blended finance makes use of instruments

similar to those in the industrial policy toolbox, such as guarantees, concessional loans or equity investments, and it predominantly targets sectors that are core to structural transformation, particularly clean energy and industry (see chapter III.C). Blended finance, mostly provided by international development finance institutions, could thus be an important complement to national efforts, particularly if the projects and sectors supported align with the national strategies of recipient countries. Embedding blended finance in national industrial policy efforts, for example through an integrated national financing framework, could enhance such alignment and recipient country ownership of blended finance approaches, which has been a challenge to date. “Just energy transition partnerships” could be a promising model of coordinated support by multiple development finance institutions and other partners for country-led transitions (see box III.C.4).

#### *Other measures to strengthen the capabilities of firms*

**There is a wide range of additional measures that policymakers can consider to strengthen the capabilities of firms.** These include training activities for technological and entrepreneurial skills and support for producer associations or public technology intermediaries, such as public research centres. Public research centres, which are often underfunded, can provide technology and national quality infrastructure and also work directly with firms through consultancy, training and market opportunity analysis.<sup>50</sup>

**Supporting upgrading and linkages has also been the main objective of strategic trade policy.** Tariffs to protect “infant industries” from international competition, and local content requirements were once the main instruments of industrial policy to allow firms time to develop

“learning by doing”. With deeper trade integration, such policies have to be nimbler—targeting upgrading in specific activities and value chains rather than entire sectors and using import protections more prudently, based on a sound understanding of targeted value chains and lead firms’ strategies.<sup>51</sup>

### 3.4 Creating an enabling environment for sustainable industrial transformations

**To address the external constraints faced by firms, policymakers need to invest in the creation of an enabling environment for sustainable industrial transformation.** This includes creating a general enabling business environment incorporating: regulatory frameworks (including competition policies); investments in infrastructure, education and health; credit constraint solutions; stable and growth-oriented macro-policies and competitive exchange rates; and good governance more broadly (see chapter III.B). These are sometimes referred to as “horizontal” policies because they benefit most firms and are not explicitly targeted at specific sectors. In practice, countries do not have sufficient resources for all infrastructure investments and are “doomed to choose” in how they prioritize public investments. Even such horizontal policies should therefore be coordinated with industrial policies and related structural transformation objectives.<sup>52</sup> They also have to “internalize” pervasive externalities that hamper sustainable transformations—fiscal systems have to set the right incentives for private actors, e.g. through carbon taxes, the removal of fossil fuel subsidies or of biases in the tax code against labour, along with accompanying regulatory measures (such as energy efficiency standards).

#### Box II.6

#### **A spotlight on development banks—mobilizing resources, balancing risks and rewards and eliciting information**

The history of public development banks is closely linked to industrialization. The first “prototype” development finance institutions were set up in 19th century continental Europe to fund rapid industrialization; the setting up of such institutions peaked in the decades after World War Two, with efforts from developing countries across the world to achieve rapid structural transformation.<sup>a</sup>

Most development banks seek to maximize sustainable development impact (depending on their specific mandates), while also maintaining financial viability. Throughout their history, development banks have provided four functions undersupplied by markets. They have: i) extended credit countercyclically, stabilizing financial markets in times of crisis; ii) funded strategic developmental investments, e.g. in public goods such as infrastructure; iii) provided financing for innovations to SMEs that cannot fund such investments from their balance sheets; and iv) funded major public policy plans (“missions”), such as energy transitions in Germany or China.<sup>b</sup> Development banks generally take into account factors beyond financial viability in their lending decisions. For example, the Korean Small and Medium Business Corporation (SBC) assesses the technological and business viability and growth potential of SMEs in its corporate evaluations.<sup>c</sup>

Public development banks that are able to retain equity in their investments (or design equity-like instruments) are particularly well placed to finance investments in innovation because of their ability to diversify across investments. Public banks (or public or semi-public venture capital funds) can capture the upside of successful investments, which can help to compensate for losses to be expected in a risky and highly uncertain innovation investment portfolio.<sup>d</sup>

Development banks can also help to identify market failures through their routine activities of loan-screening and lending and can use this information to provide inputs for the design of other structural transformation policy instruments. This orchestrating role can accompany their more traditional function in addressing financial constraints and crowding in a diverse set of financing actors.<sup>e</sup>

<sup>a</sup> Xu, Jiajun, et al. 2020. Mapping 500+ Development Banks. The Institute of New Structural Economics at Peking University. Beijing.

<sup>b</sup> Mazzucato, Mariana and Penna, Caetano. 2018. National Development Banks, and Mission-Oriented Finance for Innovation. The future of national development banks.

<sup>c</sup> Chang, Jung-moh. 2015. The Republic of Korea’s Financial Support for Small and Medium-Sized Enterprises and Venture Businesses. Development and Modern Industrial Policy in Practice. Edward Elgar Publishing.

<sup>d</sup> Griffith-Jones, Stephany, et al. 2023. Matching Risks with Instruments in Development Banks. Development and Public Banks.

<sup>e</sup> Fernández-Arias, Eduardo, et al. 2020. Smart Development Banks. Journal of Industry, Competition and Trade Vol. 20 (2).

**Efforts to strengthen the overall enabling environment for business and investment should be aligned with sustainable transformation objectives.** Investment and trade facilitation are key aspects of industrial policy packages. Investment facilitation measures typically focus on transparency and better information provision for potential investors, addressing administrative hurdles for investors, or a more predictable and stable policy environment.<sup>53</sup> Trade facilitation aims at more efficient border procedures and improvements in trade-related infrastructure. Such measures should be supportive of sustainable transformation objectives, for example by taking priority sectors and activities into account in the sequencing of policy actions. Countries have increasingly used these principally horizontal tools to prioritize facilitation efforts in specific sectors or to promote technological upgrading.

**Public investments in sustainable infrastructure, education and R&D are key for overcoming supply-side bottlenecks.** In most countries that have achieved sustained, rapid industrial growth, public investment played a crucial role in crowding in private-sector investment.<sup>54</sup> This includes investments in sustainable infrastructure, education, skills development and training, and public R&D. The public sector is typically a main and direct funder of investment in basic and applied research, and public investment in this area has also facilitated the pursuit of public policy goals—mission-oriented institutions have made critical contributions to technological breakthroughs, for example in renewable energy; labour-augmenting technologies could be made a priority in publicly funded research<sup>55</sup> (see chapter III.G).

**Public expenditure should also ensure that transformations are inclusive and leave no one behind.** For poor and vulnerable households, industrial transformations may be associated with an increased risk of marginalization rather than growing economic opportunities, unless such households receive support. Education and training programmes should aim to not only build relevant skills for new sectors and occupations, but also focus in particular on those workers who may lose jobs in the context of transformation processes. They should also strive to remove barriers to education for women, migrants and other marginalized groups. Social protection systems can also play a key role in this regard by providing a safety net for those who may have lost income opportunities while

also enabling people to take up potentially risky opportunities in new sectors and activities. This calls for the strengthening of social protection systems as well as targeted efforts—for example for rural populations and rural-urban migrants (see box II.7).<sup>56</sup>

#### *Financial sector development and macroeconomic policies*

**Lack of access to long-term finance is a key constraint facing firms, particularly when investing in innovation and/or new sectors and activities critical to sustainable transformation.** Many investments that are critical to the growth of enterprises, such as purchases of fixed assets or equipment, are long-term investments, hence the need for long-term financing.<sup>57</sup> Accessing financing on such terms can be a major challenge. The financial sector tends to have short-term incentives (see box II.8); lenders are reluctant to provide credit to borrowers about whom they have very limited information (SMEs, investments in innovation); and neither commercial banks nor capital markets are likely to provide sufficient financing for investing in entirely new markets or for specific “mission-oriented” projects due to the lengthy time horizons involved, the public benefit which generally cannot be monetized and intrinsic uncertainty about future returns.<sup>58</sup>

**These challenges are exacerbated in developing countries, resulting in more firms either excluded from external financing or else subject to expensive borrowing terms.** Even countries with deep financial markets face critical gaps, for example in funding for investment in basic R&D or in SME lending. But this is exacerbated in developing countries with underdeveloped financial markets. For example, small manufacturing enterprises could play an important role in sustainable industrial transformation, but in sub-Saharan Africa and LDCs only 15.7 per cent and 17 per cent of these enterprises, respectively, have access to financial services, well below the global average (SDG indicator 9.3.2) (see chapter III.B). This divide is also visible in the terms of finance that are available. Banks provide significantly more long-term lending in developed countries than they do in low-income countries and LDCs.<sup>59</sup> And financing is more expensive: Economy-wide costs of capital have been estimated to be up to seven times higher in developing countries than in the United States and Europe.<sup>60</sup> In addition to specific and targeted instruments to

### **Box II.7** **Structural transformation needs to be just and inclusive—Global Accelerator on Jobs and Social Protection**

Structural transformation is inherently a process of creative destruction that needs to be carefully managed to ensure inclusive outcomes and a just transition. This entails coherent policy action that creates new, productive jobs and expands social protection coverage for those who risk being left behind in the transition. To be actionable, these policies will need to be financed, through national efforts and international development cooperation. The institutional structures at the country level will also need to be strengthened to manage the transition in partnership with international and multilateral institutions.

These pillars of policy coherence, financing frameworks and multilateral

cooperation constitute the core of the Global Accelerator on Jobs and Social Protection for Just Transitions launched by the United Nations Secretary-General in 2021. The ambition of the Global Accelerator is to bring together member States, international financial institutions, social partners, civil society and the private sector to help countries create 400 million decent jobs, including in the green, digital and care economies, and to extend social protection coverage to the 4 billion people currently excluded, many of whom are migrant workers in the informal economy.

The Global Accelerator provides a vehicle for putting plans into action by supporting the design, implementation and monitoring of integrated national strategies and policies that combine investments in decent jobs, sustainable development and universal social protection. At the initial stage, the Global Accelerator will be implemented in a selected number of pathfinder countries.

**Source:** ILO.

## Box II.8 Has “financialization” undermined real capital formation and industrial transformation?

Financialization is typically defined as the increasing size and influence of the financial sector relative to the economy, as well as an increase in financial transactions such as speculative investments by corporations, governments and households.<sup>a</sup> Financialization is most visible in developed countries, with the picture varying widely in the developing world. But its impacts are felt globally through financial globalization: changes from bank-based finance towards liquid capital markets, which allows for greater leverage; the significant growth of international capital markets stimulated by the growth of institutional investors; and the liberalization of cross-border financial flows.

There is increasing evidence that above a certain threshold, financial sector growth increases inequality and financial instability<sup>b</sup> and, critical for sustainable transformations, lowers real capital formation and growth prospects,

- Financialization may negatively impact the **productive investment** and operational activities of companies. For example, instead of reinvesting in business development, companies have used share buybacks to boost stock prices, with buybacks exceeding capital expenditure in some years in the United States.<sup>c</sup> In developing countries, greater external vulnerability and macroeconomic volatility provide motives for more liquid holdings by firms.
- In addition, in countries with liquid capital markets, elevated returns on highly leveraged financial assets can divert productive investment to financial investment. In periods of low interest rates, long-term investment is backed by short-term borrowing (or leverage), which increases the return for every dollar invested as long as market prices rise. As a result, even so-called long-term investors such as pension funds may limit purchases of illiquid assets (such as

infrastructure) since they want to be able to sell assets when interest rates rise and the leveraged position is no longer profitable.

- There is evidence that increased short-termism reduces **investments in innovation and R&D**, with firms engaging in less radical innovation and achieving fewer breakthroughs.<sup>d</sup>
- Boom and bust cycles of capital flows can also undermine the development of high value-adding, export-oriented activities because of unfavourable **exchange rate dynamics**. Manufacturing employment, manufacturing’s share of GDP and economic complexity contract during periods of strong net capital (non-FDI) inflows, particularly in developing countries.<sup>e</sup>
- In developing countries, this is exacerbated by volatile capital flows, making the financial system overall more prone to short-termism and less likely to finance long-term investment.<sup>f</sup> In countries vulnerable to capital flight, and especially in conditions of tight global liquidity, even public development banks may find it hard to provide patient capital domestically.

**Source:** UN/DESA, based on Bonizzi, Kaltenbrunner, Powell (2023)<sup>69</sup> and the 2019 FSDR.

- <sup>a</sup> Mader, Philip, et al. 2020. *Financialization: An Introduction*. London: Routledge.
- <sup>b</sup> Furceri, Davide, et al. 2019. *The Aggregate and Distributional Effects of Financial Globalization: Evidence from Macro and Sectoral Data*. *Journal of Money, Credit and Banking* Vol. 51.
- <sup>c</sup> Davis, Leila. 2018. *Financialization and Investment: A Survey of the Empirical Literature*. *Analytical Political Economy*.
- <sup>d</sup> Dosi, Giovanni, et al. 2016. *Financial Regimes, Financialization Patterns and Industrial Performances: Preliminary Remarks*. *Revue d’économie industrielle*, vol. 154.
- <sup>e</sup> Botta, Alberto, et al. 2021. *Productive Development, Structural Change and International Capital Flows: The Role of Macroprudential Policy for Transformative Post-Covid Recovery*. DA-COVID 19 Project paper 13/21. ECLAC.
- <sup>f</sup> Bortz, Pablo and Annina Kaltenbrunner. 2018. *The International Dimension of Financialization in Developing and Emerging Economies*. *Development and Change*, vol. 49 (2)

bringing down the cost of capital discussed above, financial sector development and macro-policies can help to address these challenges.

**Bringing down the cost of capital requires domestic and international action.** Higher costs of capital in part reflect the greater (perceived and actual) risks that investors are exposed to in developing countries, including political risks, poor contract enforcement, limited information about clients’ creditworthiness, and macroeconomic risk. Tackling these underlying challenges—improving the domestic enabling environment—is an important aspect of financial sector development and expanding the availability of long-term finance. But domestic factors alone cannot fully explain risk premia. As discussed in the *2022 Financing for Sustainable Development Report*, developing countries have historically faced high sovereign credit spreads (interest costs above US Treasuries) for their borrowing in international markets, even after adjusting for defaults and risks (as measured by volatility). With sovereign rates usually providing a “floor” for firms’ borrowing costs, this translates into higher costs of capital for corporate and project financing (see also the *2022 Financing for Sustainable Development Report*, chapter III.B). As global factors have become increasingly important in determining capital flows and their volatility, policy

actions are needed at the global level (see box II.8 and chapter III.E); they also provide an additional rationale for scaling up international concessional lending (see chapter III.C).

**The macroeconomic environment is a major determinant of the cost of capital and of prospects for sustainable transformation; macroeconomic policies should thus be aligned with and supportive of transformation objectives.** Investment-centred macro-policy frameworks geared towards facilitating sustainable industrial transformations should target both stability and the balanced expansion of supply capacities and aggregate demand.<sup>61</sup> Such approaches can build on recent developments. In response to growing systemic risks, including from the pandemic and climate change, there has been a greater appreciation of macroeconomic policy frameworks that support inclusive growth and productive employment, address inequality and climate change, and are better prepared for shocks (see the *2022 Financing for Sustainable Development Report*). Fiscal and monetary policy toolkits are being expanded accordingly, with countries considering additional fiscal measures for climate investments and incorporating climate risks into monetary policies.

**The specific elements of such a pro-structural transformation macroeconomic policy framework will vary depending on country circumstances.** Policies will differ depending on country needs and

circumstances and shifting political, economic, environmental and social realities. Box II.9 presents some options.

### Box II.9 Macro-policy options to support sustainable industrial transformations

Periods of sustained growth in developing countries have often coincided with undervalued real **exchange rates**, which facilitated reallocation of resources towards dynamic tradable sectors.<sup>a</sup> Non-competitive exchange rates are a challenge in natural resource-rich developing countries in particular;<sup>b</sup> dependence on resource exports undermines prospects for diversification, which in turn exacerbates vulnerability to terms of trade shocks and macroeconomic volatility.<sup>c</sup> To achieve a stable and competitive real exchange rate, countries can try to smooth boom and bust cycles in external financing, for example through macroprudential policies. Macroprudential measures help to dampen both domestic financial cycles and capital flow volatility. “Pre-emptive” and countercyclical measures aimed at dampening excessive portfolio inflows during boom times can lower the risk of sudden stops during crises and reduce exchange rate volatility<sup>d</sup> (see chapter III.F). Commodity exporters can also manage commodity price fluctuations, e.g. through stabilization funds.<sup>e</sup>

Managing exchange rate volatility has become more challenging in an era of financial globalization. The build-up of foreign exchange reserves can provide a degree of self-insurance for countries in addition to supporting competitive exchange rates, but it is costly and may be insufficient to reduce vulnerability to the volatility of international capital flows.<sup>f</sup> This underlines the **importance of international action**: further strengthening the international financial safety net, the monetary policy coordination of major central banks and their greater consideration of macroprudential financial sector regulations (see chapter III.F).

Where possible, **fiscal policies** should support scaling up public investments and the provision of public goods, e.g. by targeting minimum levels of productive public investments. Investments should be sequenced to prioritize high sustainable development impact and the alleviation of critical supply constraints.<sup>g</sup> This could include, for example, employment-intensive public investment in resilient infrastructure. To be fiscally sustainable, such expansion of public investment must go hand in hand with increasing the effectiveness of public investment, the mobilization of additional domestic resources (see chapter III.A) and, for many developing countries, concessional financing.

Fiscal policies should also overcome “procyclicality traps”. Countercyclical fiscal policy should work in tandem with monetary policy to both stabilize economic activity and support growth and sustainable development in the longer run. For example, unemployment insurance

and social protection are countercyclical measures because they support demand during economic slowdowns. Capital expenditure tends to be particularly procyclical, rising during booms and falling during economic slowdowns when investment is most needed. Protecting green and other productive investments through business cycles is key to enhancing supply capacity over time; through pre-approved public investments, capital spending could be expanded during downturns.

Many **central banks** already have dual policy mandates, such as price stability *and* full employment, and set policy rates accordingly. The United States Federal Reserve System has had such a mandate since 1978. The mandate of the Reserve Bank of New Zealand includes “maximum sustainable employment” in addition to price stability. While not explicit mandates, several central banks in developing countries, including in Asia (for example Bangladesh, Bhutan, Fiji, Pakistan, the Philippines and Thailand), in addition to their primary mandate, also identify the broader objectives of supporting inclusive economic growth, financial inclusion or development in their vision or mission statements.<sup>h</sup> In developing country contexts, inflation is commonly driven by external shocks and other cost factors rather than by excessive demand. Policy responses may, for example, need to include supply-side measures.<sup>i</sup>

More recently, many central banks have taken steps to “**green**” their **monetary policies**, in recognition of the risks that climate change poses for price and financial market stability. This has led to explicit consideration of climate risks in monetary policies, e.g. by taking into account carbon intensity in asset purchasing programmes, or through collateral rules that incentivize green lending by providing cheaper refinancing to banks for such lending (see also chapter III.F).

<sup>a</sup> Rodrik, Dani. 2008. The Real Exchange Rate and Economic Growth. Brookings papers on economic activity.

<sup>b</sup> Reda, Cherif, et al. 2016. Breaking the Oil Spell. IMF.

<sup>c</sup> Guzman, Martin, et al. 2018. Real Exchange Rate Policies for Economic Development. World Development Vol. 110.

<sup>d</sup> Das, Mitali, et al. 2022. Preemptive Policies and Risk-off Shocks in Emerging Markets. National Bureau of Economic Research.

<sup>e</sup> Ocampo, Jose Antonio. 2020. Industrial Policy, Macroeconomics, and Structural Change. Oqubay et al. (ed.) The Oxford Handbook of Industrial Policies. Oxford University Press, Oxford.

<sup>f</sup> Rey, Helene. 2015. Dilemma Not Trilemma: The Global Financial Cycle and Monetary Policy Independence. National Bureau of Economic Research.

<sup>g</sup> Strauss, Ilan. 2021. Towards a Transformative Macroeconomic Policy Framework for Employment Generation in Africa. ILO, Geneva.

<sup>h</sup> UNESCAP. 2022. Economic and Social Survey of Asia and the Pacific 2022. Economic Policies for an Inclusive Recovery and Development. Bangkok.

<sup>i</sup> Nissanke, Machiko. 2019. Exploring Macroeconomic Frameworks Conducive to Structural Transformation of Sub-Saharan African Economies. Structural Change and Economic Dynamics Vol. 48.



### 3.5 Additional enablers—state capabilities, international enabling environments and international support

#### *State capabilities*

**Effectively supporting industrial transformations requires specific technical, operational and political capabilities in the public sector. Developing relevant skills in public agencies is an important feature of structural transformation strategies.** In so-called “developmental states”, bureaucracies were often organized around a central leading entity, led by an elite corps of civil servants with significant autonomy, such as the Ministry of International Trade and Industry in Japan.<sup>62</sup> In lower-capability settings, industrial policy coordination and delivery has often succeeded by creating “pockets of effectiveness”. These could be agencies outside the regular bureaucracy that are able to attract highly skilled personnel, such as development banks, or delivery units under the direct authority of high-level officials. Such delivery units can follow up on implementation, prioritize, assess, flag bottlenecks and solve problems in dialogue with all relevant actors.

**State capability constraints can be partially addressed through smart policy design.** All countries already have a variety of financing policies in place, along with areas of expertise and competence in existing institutions. Interventions should be designed to build on these existing capacities. Industrial transformation policies can also be designed to mitigate against existing constraints. One way to do this is to reduce the “failure dimensionality” of policies, by keeping the number of components of a specific initiative or policy package low and/or by focusing on key binding constraints such as managerial abilities or access to long-term financing.<sup>63</sup> Phased approaches can also be considered, especially in countries with more limited managerial skills.

**Countries should aim to develop “dynamic capabilities”—to continue to learn from initial efforts.** To achieve sustainable transformations and shape and create new markets, policymakers will “discover” policy solutions, learn from failures and allow for policy experimentation, evaluation and revision.<sup>64</sup> This is a challenge in both developed and developing countries, as public institutions are typically not set up to experiment. But some institutions may be better placed than others and could be prioritized for capacity support: Public development banks, public-private consultation bodies or entities specifically set up to engage with the private sector may have more flexible rules and more capacity to experiment, learn and adapt.<sup>65</sup>

#### *International enabling environments*

**Countries need to preserve existing and, in some areas, regain lost policy space to pursue sustainable industrial policies.** Trade, investment and technology policies typically have spillovers across national borders. The international rules and agreements that aim to balance national interests and negative spillovers have come under scrutiny in response to changes in trade relations and technologies and new challenges such as climate change and the SDGs.

**Trade-related industrial policies** can have both positive (for example diffusion of innovation across borders) and negative spillovers (for example firms relocating production in response to trade barriers or

subsidies). International trade agreements and rules aim to balance the right to pursue domestic policy objectives with avoidance of negative spillovers. This is embodied in World Trade Organization principles such as non-discrimination, transparency and market-based resource allocation, combined with policy space for addressing societal concerns (see also chapter III.D). At the same time, emerging global issues such as tackling climate change and achieving the SDGs, the rise of global value chains, different roles of the state in economies, as well as recent announcements of new subsidy programmes in some major economies covering key sectors such as electric vehicles, renewable energy and semiconductors, have led to calls to increase multilateral dialogue and potentially adapt current multilateral rules, for example in regard to subsidies. The strong agglomeration effects observed in a digitalized economy have provided additional weight to these calls. While these questions should be urgently addressed at the global level to ensure level playing fields, it is also important to note that many policies remain permissible even under current rules.<sup>66</sup>

**International investment agreements (IIAs)** are treaties to regulate conditions for cross-border investments and grant foreign investors certain protections and benefits, with a view to attracting investment. While they typically do not target specific sectors or activities, IIAs can support broader industrial policy efforts, for example by improving the investment policy framework. At the same time, they can restrict the use of typical industrial policy instruments such as performance requirements or subsidies. In recognition of the need for countries to use their regulatory space to pursue the SDGs and climate action, reform of the investment treaty regime is accelerating and newly concluded IIAs feature many reformed provisions, including provisions on gender equality, human rights and climate action (see also chapter III.D). The latter in particular has increased the urgency of IIA reform, with investors using agreements to challenge climate action and green industrial policy measures.<sup>67</sup>

**Intellectual property rights (IPR)** increase returns on, and thus should provide economic incentives for, investment in innovation but they can constrain diffusion of technologies.<sup>68</sup> As most developing countries import technologies, they would tend to benefit less from strong IPR regimes that increase costs for follow-on inventors. Their legislation should thus make full use of the flexibilities in international agreements to allow reverse engineering and technological diffusion (see chapter III.G). At the international level, cooperative IPR arrangements, such as patent pooling, cross-licensing and technology-standards agreements, have been used in the health sector and should also be considered for low-carbon and other SDG-critical technologies that can be considered global public goods. Global research collaboration efforts should be strengthened (see also chapter III.G).

#### *International support*

**Developing countries, and LDCs in particular, will also require capacity development and financial support.** To build public sector capabilities, capacity development efforts should be further scaled up. Knowledge exchange and South-South cooperation could play an important role, with the training of functionaries and their observation of practices in other countries a potentially cost-effective measure. Financial support is also critical—long-term concessional financing for developing

countries to carry out public investments in sustainable transformations must be scaled up significantly as recognized, for example, in the SDG Stimulus put forward by the Secretary-General. Multilateral development banks are uniquely positioned to facilitate such investments with their ability to provide long-term financing with interest costs significantly below commercial rates; financing provided on such terms is particularly suitable for investments in sustainable transformations, which can stimulate growth, generate employment and ultimately enhance countries' fiscal capacity and improve debt sustainability. Blended finance can also play a productive role in this regard when tied to national priorities and plans (see box II.10 for the role of migrants and chapter III.C).

### Box II.10 The role of migrants and the diaspora

Developing countries could also look to tap the financial, economic and social capital of its migrants and diaspora. The diaspora can establish new businesses and pass on capabilities they acquired in the countries of their workplace through skills mentoring and knowledge transfer, allowing countries to establish a foothold in new, productive industries and establishing trade links between countries of origin and destination. Policymakers can facilitate diaspora investment through the provision of specialized accounts, dedicated support by inward investment agencies, as well as an enabling policy and business environment.

Source: IOM.

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## Domestic public resources



## Chapter III.A



# Domestic public resources

## 1. Key messages and recommendations

**Financial and economic stress, high debt burdens and tight fiscal space have stretched public finances in most countries; domestic public resources remain the main way that governments can support the Sustainable Development Goals (SDGs).** People's well-being and livelihoods are linked to the ability of the State to raise resources from domestic taxation and spend them effectively. The vast sums mobilized and spent by governments worldwide and the minutiae of domestic policymaking or international tax norm setting often obscure the impacts on people's welfare. Domestic public resources contribute directly to the achievement of the SDGs through the financing of public goods and services. They also contribute by reducing inequality via redistribution, changing the behaviours of households and businesses by setting incentives, and smoothing the macroeconomic cycle through countercyclical policy. The fiscal system is an essential tool of sustainable structural transformation.

**Tax system capacity and the broader capacity of the public sector generally reinforce each other, strengthening the social contract.** Domestic tax systems are foundational to the social contract in which taxpayers contribute to society and governments provide valuable public goods and services. A virtuous circle can be sustained: investment in tax capacity supports increased spending on public goods and improved services, which contributes to voluntary compliance by taxpayers. By building trust through effective governance of revenue and expenditure systems, governments will also be better able to realize other public policy goals. For example, efforts to deliver on sustainable structural transformations, as discussed in chapter II, will be advanced by effective public sectors with strong capacity. These efforts take time and sustained political will to bear fruit.

**Recent changes to the global environment, particularly the spike in energy prices, may suggest adaptations to revenue policies.** High fossil fuel prices, driven by the war in Ukraine, are creating windfall profits.

- Given the imperative to tackle climate change, governments should allow high energy prices to incentivize a reduction in fossil fuel use while compensating poorer households;
- Windfall profit taxes can be part of effective tax systems; realized resources can help to address equity challenges from high prices, including by assisting the vulnerable.

**Tax systems and public spending are powerful instruments to incentivize and support sustainable development, including inclusive sustainable industrial transformation.** Accomplishing a sustainable structural transformation will require active public policies and interventions. Most tax instruments impact behaviour; the challenge is to align incentives with sustainable development and national goals.

- Budgets and tax policies should be aligned with sustainable development priorities with coherence across policy areas to be achieved, for example through the use of integrated national financing frameworks;
- Transparency in tax expenditures, procurement and budgets can contribute to accountable public finance and enhance the effectiveness of public resources towards the SDGs;
- Tax expenditures can be used strategically but should be tied to performance, time-bound and re-evaluated regularly and in light of new global minimum taxes;
- Procurement policies should aim to promote SDG achievement and include effective monitoring and enhanced governance to prevent corruption.

**Countries should continue to strengthen efforts on gender-responsive budgeting, while also developing gender-responsive tax systems, including analysing the implicit gender biases of their tax policies and systems.**

Tax systems have significant gendered impacts. The fiscal system should be analysed in its entirety to understand the full gender impact of fiscal policy.

- Given gendered wealth gaps, capital income should be taxed at least at the same rate as labour income;
- The international system can be called upon to develop methodologies and guidelines for analysing implicit gender bias in tax policies and systems, which can be incorporated in planning tools;
- Fine-grained studies of specific taxes, the tax mix and tax administration can help to identify gender-specific barriers and gender-responsive approaches;
- Taxpayer information should be collected in ways that allow disaggregation to facilitate more comprehensive analysis of gender impacts of tax systems and specific tax policies.

**Policymakers should address the tax-related risks and opportunities of digitalization across three different dimensions to maximize effectiveness and fairness.**

- Digital technology can simplify and improve tax administration, for example through compliance-by-design approaches, easier e-filing and e-payment, and strengthening risk identification and analysis;
- Tax policy should be coherent with national approaches to digital assets, including coordinating with central banks on the design of central bank digital currencies (CBDCs) to enhance information available to revenue administrations for tax compliance while respecting desired privacy levels;
- Each country should decide on its approach to taxing digitalized business models, which could include using automated digital service taxes or adopting Organisation of Economic Co-operation and Development (OECD)/G20 Inclusive Framework Pillar One, based on their national context and the potential revenue and economic impact.

**The international tax system and financial integrity policies should serve all countries.** To remedy the challenge of developing countries being left out and suffering from illicit financial flows (IFFs):

- International tax and financial transparency instruments should focus on the needs and realities of developing countries, with mechanisms to ensure that the least developed can benefit from international cooperation such as more capacity-building and non-reciprocal information exchange;
- All countries should come together to consider good mechanisms to enhance fully inclusive and effective international tax cooperation;
- States should speedily adopt tools that can assist all to prevent and combat IFFs, such as creating verified registries of beneficial ownership information for all legal vehicles.

**Continued progress in domestic resource mobilization requires investment in improved tax administration and consistent efforts to build citizen trust in the State.** The cost of administrative improvement is not very high and has large financial returns; donors can increase support in this areas for the poorest countries.

- Governments should ensure that tax administrations have sufficient resourcing, autonomy and independence from political interference;

- Tax administrations should institute accountability and transparency practices, particularly in providing services to taxpayers and executing enforcement; a rules-based decision-making framework with high levels of integrity is needed;
- Administrations need effective managers, agile management models and sound organizational designs for effective delivery of strategies, and sound results-based management approaches;
- Sustained political will is needed for successful tax reform.

## 2. Revenue mobilization trends

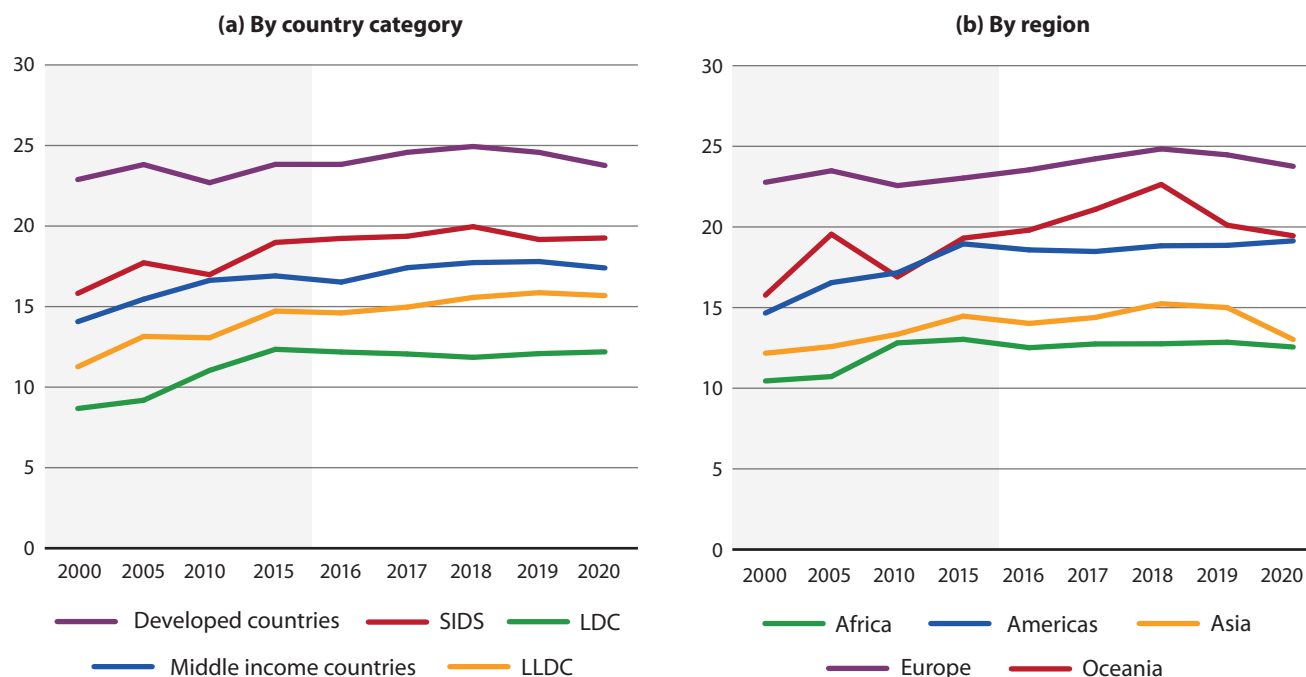
**The challenging global economic context underscores the importance of long-term efforts to mobilize domestic public resources, which can also strengthen the social contract.** In 2021 and 2022, fiscal deficits fell sharply from their peak in 2020 in most countries but remain larger than pre-pandemic levels. Fiscal space shrank as global financial conditions tightened (see chapter I), especially for high-debt countries where responses to the COVID-19 pandemic exhausted their fiscal space.<sup>1</sup> Yet investment needs are large. Increasing domestic revenues by several percentage points of GDP usually takes several years of dedicated reforms but it remains the most sustainable way to raise public resources.

### 2.1 Taxation trends

**While the COVID-19 pandemic hit tax revenues in 2020, the impact on tax-to-GDP ratios was mixed.** Comprehensive administrative data shows that about 70 per cent of countries saw declines in their tax-to-GDP ratios in 2020, with almost 50 per cent experiencing declines of more than 0.5 percentage points. Nominal taxes fell even more as GDP also declined in most countries. Three quarters of least developed countries (LDCs) saw declines in their tax-to-GDP ratios from 2019 to 2020, though, as a group, LDCs saw a small increase in the median ratio, reflecting the greater decline in GDP than in taxes. Similarly, 60 per cent of small island developing States (SIDS) saw declining tax-to-GDP ratios, while the median ratio for the group increased slightly. The median ratios fell in all geographic regions except the Americas (see figure III.A.1).

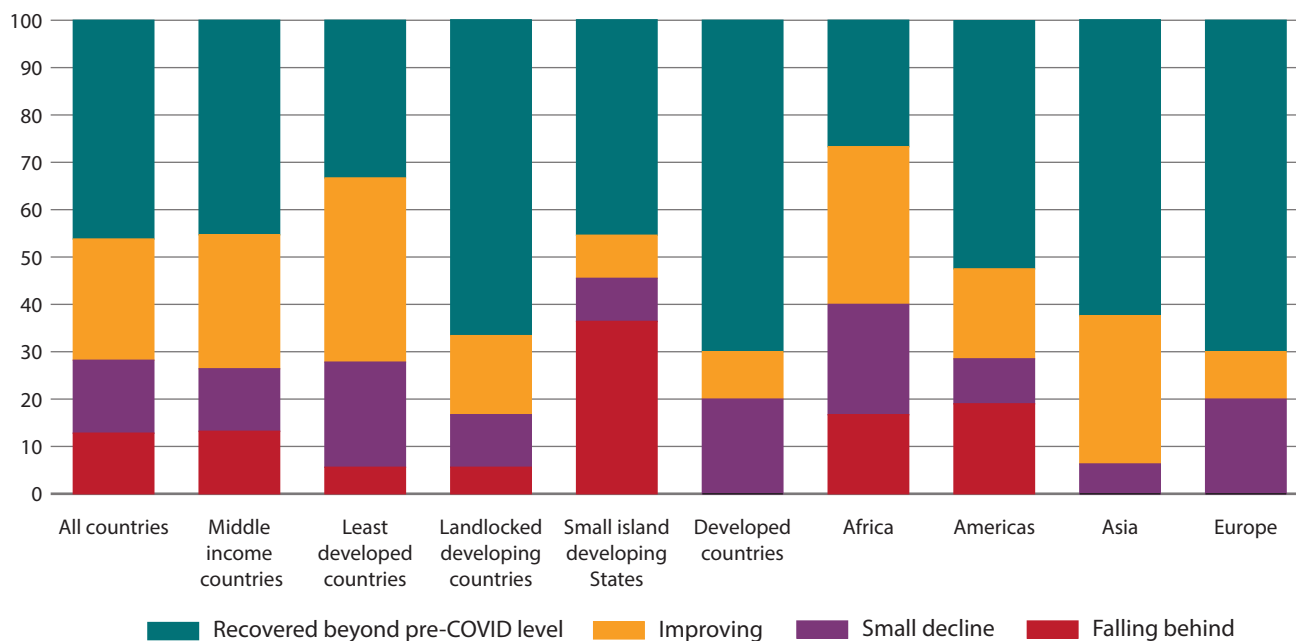
**There were large disparities in how countries' tax collection recovered after the pandemic, with some African countries and SIDS lagging behind.** While full global data for 2021 is not yet available,<sup>2</sup> for the majority of European and Asian countries, tax-to-GDP ratios recovered in 2021, with ratios higher in 2021 than in 2019 (see figure III.A.2). However, for 40 per cent of the 30 African countries where data is available, 2021 tax-to-GDP ratios remained below 2020 levels. Similarly, for 36 per cent of SIDS (only 11 countries with data), tax-to-GDP ratios were more than 1 percentage point below their 2020 ratios. Structural differences in tax systems, with SIDS being more reliant on indirect taxes and revenue from tourism and less reliant on personal income taxation, may partially explain this pattern.<sup>3</sup> Most countries have long-term tax buoyancy ratios larger than 1, which implies that a 1 per cent increase in GDP will lead to more than a 1 per cent increase in revenue.<sup>4</sup> Conversely, falls in GDP may lead to even larger falls in revenue, which will not recover until growth increases. Additionally, many of the revenue mobilization challenges facing countries before the pandemic remain unresolved and, if anything, have only been exacerbated by lockdowns and the stop-start aftermath of pandemic control measures.<sup>5</sup>

Figure III.A.1  
**Median tax revenue, by country groups, 2000–2020**  
 (Percentage of GDP)



Source: UN/DESA calculations based on IMF WoRLD.  
 Note: General government tax revenue as a percentage of GDP, M49 geographic groupings.

Figure III.A.2  
**Post-COVID-19 recovery of tax-to-GDP ratios, by country groups, 2021**  
 (Percentage of countries)



Source: UN/DESA calculations based on IMF WoRLD.  
 Note: In the 78-country sample, countries listed as: "Recovered" have 2021 tax-to-GDP ratios higher than in 2019; "Improving" have 2021 ratios greater than 2020, but not yet at 2019 levels; "Small decline" have 2021 ratios less than 1 percentage point below 2020 levels; "Falling behind" have 2021 ratios more than 1 percentage point below 2020 ratios.



## 2.2 Tax administration trends and challenges

### **As part of the social contract, States and their citizens have reciprocal obligations; citizens provide resources through taxation and the State delivers public goods.**

In the Addis Ababa Action Agenda, Member States committed to “a new social compact”, including social protection for all and high-quality services supported by the improved fairness, transparency, efficiency and effectiveness of their tax systems. Tax administrations, a key governmental contact point for citizens, thus play an essential role in the citizen-State relationship. Perceptions of the legitimacy of the tax administration appear to have a significant impact on willingness to pay tax.<sup>6</sup> Willingness is influenced by a combination of trust in the tax administration, ease of compliance, quality of taxpayer service, the risk of audit and enforcement activities, taxpayers’ perceptions on whether others are paying their fair share, the effectiveness of public spending and government transparency.<sup>7</sup>

**Tax administrations can act to improve taxpayers’ perceptions of fairness.** Strengthening fairness, equity, accountability and reciprocity can lead to greater compliance and higher revenues as well as build state capacity.<sup>8</sup> To build a positive relationship with taxpayers, a number of administrations have launched communication, public awareness and education campaigns. These include events to celebrate compliance, teaching students about the concept of the social contract, and initiatives to explain how participation in the tax system can facilitate access to support and benefits from the State.<sup>9</sup> Risk-focused tax policy decisions can complement the efforts of tax administrations to cultivate the feeling that the tax system is fair, such as creating simplified regimes for small taxpayers.

**Increasing trust and improving communication were identified as the most important factors for building voluntary compliance, especially from large businesses.** There is evidence of relatively low levels of trust between tax administrations and businesses.<sup>10</sup> While a number of businesses have committed to voluntary tax compliance principles in recent years, there is little empirical evidence on compliance improvement. Discussions between tax administrations and businesses identified potential solutions in four categories: i) introducing and strengthening compliance and audit strategies (e.g., cooperative compliance and risk-based approaches to audit); ii) setting expectations/accountability for behaviour (e.g., guidelines, taxpayer charters); iii) improving communication between the administration and taxpayers (e.g., increasing use of local languages); and iv) building capacity in both tax administrations and businesses.<sup>11</sup>

**Building tax capacity, including effective use of data, is critical to ensuring an efficient tax system and coping with shocks such as COVID-19.** Tax capacity refers to the State’s capacity to collect tax revenue compared to potential revenue. It comprises policy, institutional and technical abilities, including tax administration, well-staffed tax policy units, third-party information availability and increased efficiency from reliance on digitalization. Although greater standardization can increase efficiency, revenue administrations must adopt a tiered (differentiated) approach to mitigate tax compliance risks. This could include dedicated units for large taxpayers and mandatory audits or other actions based on business size, type of economic activity or professional occupation. Identifying and managing risks and tailoring actions based on specific compliance risks requires effective use of data. Revenue administrations need broad

powers to compel information, in whatever form, from taxpayers and third parties (e.g., financial institutions, e-commerce platforms) to assist in the determination of tax liability and the collection of tax. They also need the means to safeguard the data collected.

**To increase the efficiency of service delivery, countries need to strengthen the institutional structure based on a holistic approach to service provision and compliance management.** Revenue administration encompasses both tax and customs administrations, with the institutional relationship between the two varying by country. Modern tax administrations perform enforcement actions and instigate cooperative compliance. They must combine and balance preventive, detective and corrective actions. Among other elements, tax and customs administration requires appropriate legislation on administration and procedures. Routine or primary functions require clear policies for managing core tax and customs obligations, which are the proper assessment and collection of taxes and duties.

**Administrations should work to simplify registration and other aspects of compliance to help encourage timely filing and payment.** They should build automatic compliance into the taxation system through “compliance-by-design” approaches. The filing of tax returns by the due date is one of several indicators of levels of voluntary compliance. The on-time filing rates reported by tax administrations in developing countries lag behind those in developed countries, especially in respect of corporate and personal income taxes (see figure III.A.3).

**Many tax administrations have introduced electronic service channels, particularly electronic filing and payment, which can reduce the compliance burden, simplify tax administration and improve voluntary compliance.** There has been consistent growth in the uptake of electronic channels by both individual taxpayers and businesses. Average electronic filing rates across tax types among countries participating in the International Survey on Revenue Administration (ISORA) was over 90 per cent in 2019, while electronic payment rates neared 75 per cent in 2020 (see figure III.A.4 for specifics on personal income tax). Tax administrations are also increasingly using third party data to pre-fill tax returns, another technique to reduce the tax compliance burden and thus encourage voluntary compliance. Pre-filing returns is currently mostly practiced in developed countries, although there has been growth in pre-filing of personal income tax returns among administrations in developing countries. One side effect of the pandemic has been the acceleration of digitalization in tax administration, though developing countries remain less advanced in enacting full digital transformations where taxation becomes embedded in financial processes, making compliance largely effortless for the taxpayer.<sup>12</sup> As administrations digitally transform, they should continue to include those who struggle to use digital services.

**The speed of the digital transition has created opportunities for tax administration.** In addition to increasing the efficiency of tax administration, digitalization can assist in speedier and easier detection of tax evasion, as the revenue agency can use software to automatically cross-check accounts and information to find misreporting.<sup>13</sup> The Inventory of Tax Technology Initiatives—created in 2022 by the OECD in partnership with the IMF, the ADB and regional tax administration organizations—contains information on technology tools and digitalization

Figure III.A.3

**Average on-time tax filing rates, ISORA reporting countries by country groups, 2020**

(Percentage of expected tax returns)



Source: UN/DESA calculations based on ISORA data.

Note: Unweighted average of country rates. CIT = corporate income tax, PIT = personal income tax, VAT = value added tax.

solutions implemented by tax administrations worldwide.<sup>14</sup> An Executive Program on Tax and Digital Transformation—created in 2021 by the World Bank, Asian Development Bank, 10 tax administrations and leading technology firms—provides training in digital change management efforts.<sup>15</sup>

## 2.3 Emerging trends and risks affecting taxation

### 2.3.1 Digitalization of money

**The increased importance of digital transactions and digital assets has created new challenges for tax policy and tax administration.** Digital transactions that flow through public and private payment systems typically provide ample sales data that can assist tax administrations that are seeking to verify tax filings. However, the types of transactions are becoming more varied, as peer-to-peer digital transfers proliferate, and the medium of exchange is also diversifying as traditional central bank money is being complemented by other types of e-money (e.g., private mobile money) and cryptoassets. Cryptoassets have particularly broad implications for tax policy because of their potential to be used both as speculative investments and a means of payment.<sup>16</sup>

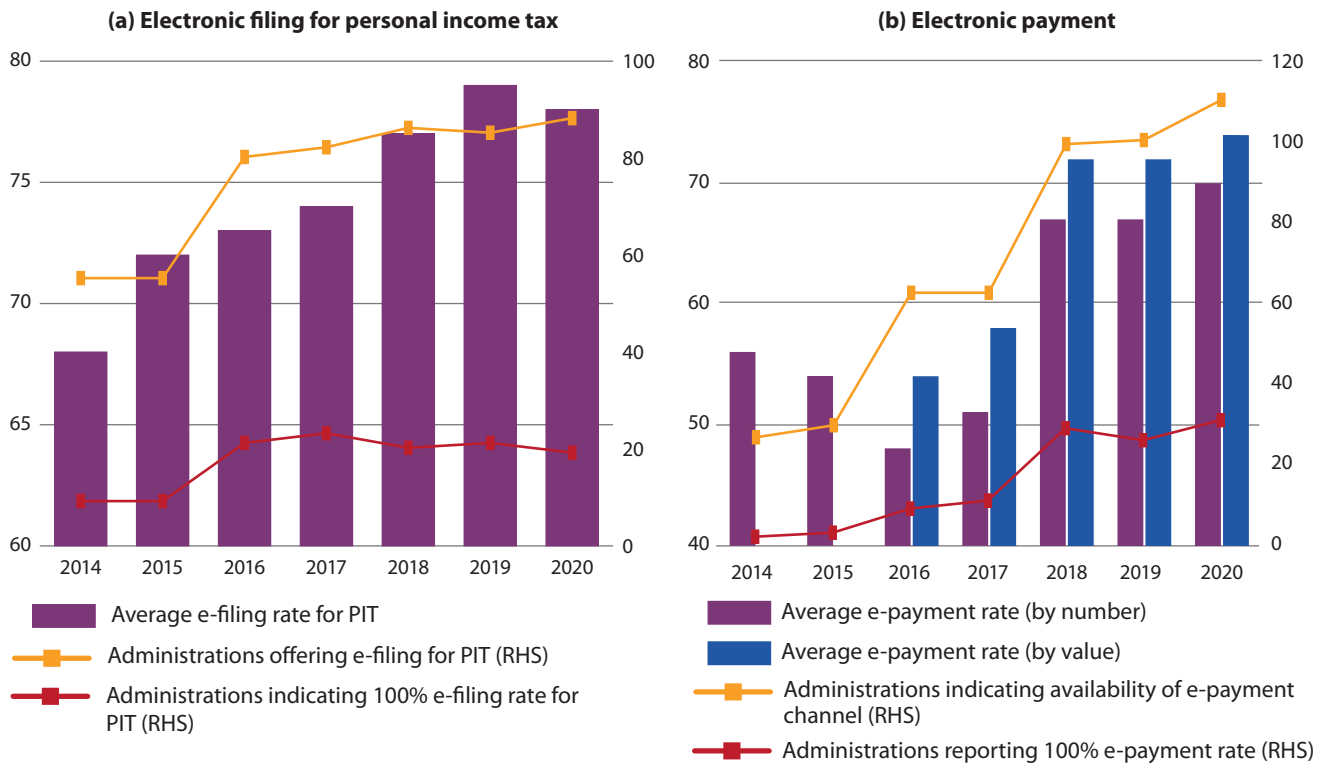
**Cryptoassets create challenges for how tax administrations ensure compliance with reporting and tax payment obligations, including for international cooperation purposes.** Cryptoassets can be transferred and held without interacting with traditional financial intermediaries and without any public body having visibility on the transactions or the location of cryptoasset holdings. The anonymity of accounts and weak oversight make cryptoassets attractive tools for those seeking

to avoid tax obligations,<sup>17</sup> and the low visibility on activities makes it difficult for policymakers to verify whether tax liabilities associated with cryptoassets are appropriately reported and assessed.

**Countries should consider clearly defining how tax laws and policies apply to private cryptoassets.** Policymakers may choose to implement new laws and policies for cryptoassets or provide guidance on how existing tax laws and policies apply to these assets. Among other issues, tax policymakers may want to define the tax accounting of cryptoassets, including tax treatment of the creation of cryptoassets (whether through mining/forging, token offerings, forks or other mechanisms), whether gains or losses are defined as capital income or other income, how valuation should be assessed for reporting, whether any transaction or indirect taxes apply, and whether losses may be deducted.<sup>18</sup> A key consideration is whether countries should consider cryptoassets as similar to other financial assets (such as securities) or foreign currencies for tax purposes. Policymakers should take this decision in line with both the existing use of cryptoassets in their jurisdiction, their public policy goals related to the development of financial innovations (see chapter III.G) and anti-money-laundering requirements. That decision should influence how governments apply or adapt the reporting requirements that they apply to other financial institutions, such as banks or securities dealers. Domestic reporting regimes have important international implications, and countries are working to implement new international reporting frameworks (see section 5). Regardless of the approach to cryptoasset taxation, policymakers should continually review the technological and market developments in their jurisdictions and adapt or update policies.

Figure III.A.4

**Average electronic filing and payment rates, ISORA reporting countries, 2014–2020**  
(Percentage, number of tax administrations)



**Source:** IMF calculations based on ISORA 2016, ISORA 2018, ISORA 2020 and ISORA 2021; CIAT, IMF, IOTA and OECD, <https://data.rafit.org>  
**Note:** PIT = personal income tax.

**The development of CBDCs will also have both compliance and incentive implications for tax administrations.** Central banks around the world are increasing their work on CBDCs, with some having already rolled out a CBDC (see chapter III.F). While there has been significant discussion on the macroeconomic and financial stability effects of CBDCs and their compatibility with anti-money-laundering compliance regimes, relatively less work has been done on the implications for revenue authorities. Models tend to assume that CBDCs will displace cash transactions, which could lower the probability of tax evasion.<sup>19</sup> There is scope for tax administrations to be able to better audit businesses that accept CBDCs for payment. However, the exact implications of a CBDC will depend on the CBDC design, such as the degree of anonymity or pseudonymity that a CBDC provides to users, the amount of information that authorities can access, the use of intermediaries, and incentives provided to CBDC users (such as interest provided on CBDC balances).<sup>20</sup>

**Central bank authorities should work with tax policymakers to design CBDCs so that they appropriately balance privacy considerations with potential revenue gains.** Authorities can consider designing CBDC frameworks with a variable level of privacy based on the size of transaction or other characteristics. This could allow small-scale transactions and peer-to-peer transactions with high levels of anonymity, while progressively more of the transaction details (e.g., sender, recipient, location, purpose) could be visible to tax authorities as the transaction value increases. The level of transaction anonymity could also depend on

the model of the CBDC’s involvement of financial intermediaries, either as transaction service providers or account opening agents. Particularly for the purposes of compliance of retail businesses with goods and services taxes, such as value-added taxes, the tax administration may wish to have access to additional data on transaction volumes and values without information on the identity of the sender. Managing the anonymity over time, for example by adjusting thresholds or increasing the data available to authorities for those taxpayers with a history of poor tax compliance, could allow authorities to ensure that CBDCs are contributing to efforts to reduce tax evasion.

### 2.3.2 Tax policies to address high energy costs

**The surge in fossil fuel prices in early 2022 generated substantial windfall profits in the energy sector.** The scale of extraordinary profits is only becoming clear in early 2023 as publicly listed companies file earnings reports (though extraordinary profits are likely to be temporary as fuel prices have declined). While higher prices, driven by disruptions in energy markets primarily due to the war in Ukraine, were paid by all energy users worldwide, the gains mostly went to fossil fuel companies. Firms that extract fossil fuels were the primary beneficiaries, but, in some cases, profits increased elsewhere in the energy sector, such as oil refining and power. Windfall profits, which refer to profits that arise from an unanticipated event that is unaffected by the actions or decisions of investors or managers, are a form of economic rent.

### Windfall profits from fossil fuels should be taxed fairly to support equitable outcomes and align the response to high fuel prices with the SDGs.

High fossil fuel prices provide incentives to reduce fuel use, which can have positive effects for climate change mitigation and energy security. Many countries have responded to the potential negative effects on people's well-being by regulating prices or cutting or suspending fuel duties. Instead, countries can allow high fuel prices to curb fossil fuels while using policies to ensure improved access to sustainable energy through direct financial support to households. This may entail fiscal costs, which governments may be able to offset by taxing the excess profits being generated in the energy sector. A well-designed tax on economic rents in the energy sector can provide governments with additional revenue.<sup>21</sup>

### Windfall profits taxes should be part of the permanent tax mix.

Windfall profits taxes aim to raise revenue without reducing investment or increasing inflation because they target economic rents, rather than economic activity.<sup>22</sup> Governments should consider introducing well-constructed permanent taxes on windfall profits, not only from fossil fuel extraction but from all sectors where external shocks might lead to higher prices on consumers and affect productivity while generating windfall profits (as defined above) for a small number of firms. There are multiple instruments and design considerations for windfall taxes (see table III.A.1 for examples in the fossil fuel industry). Predictability is important to investors; thus it is preferable to have rent-targeting fiscal instruments in place in advance of investments. While windfall profits can be easily defined in economics, it is challenging for tax administrations to practically differentiate windfall profits from profits due to ordinary price fluctuations in commodity markets. Authorities need to consider project-level versus entity-level taxation. For the energy sector, taxes may aim to target the upstream extraction rather than downstream products and services—such as electricity, refined petroleum products or distribution—as taxes on those may be more readily passed on to consumers and may include non-fossil-fuel-related providers that are not reaping the windfall gains. Windfall profits taxes can be tied to public goals, for example linked to achieving improvements in energy access and development of clean energy.

### There are international legal barriers to overcome in designing and implementing windfall profits taxes, and countries should

### take measures to align their legal environments with SDG-related policy priorities.

The design of a windfall tax needs to consider the tax and investment treaty environment. As windfall taxes could take different forms in different countries, there is a risk of double taxation, which may or may not be relieved by tax treaties. Many concession agreements between developing countries and private sector extractive companies contain a “stabilization clause” which prevents the host State from unilaterally changing the regulatory or tax environment. If countries implement policies that adversely affect investors, the companies can usually recoup losses or forgone earnings through mandatory binding arbitration (see chapter III.D). In the past, companies have used these clauses to successfully challenge the taxation of excess profits.<sup>23</sup> Extractive industries have also been cited as highly prone to profit shifting (see section 5), complicating efforts to impose rent-targeting taxes in developing countries.<sup>24</sup> The *UN Handbook on Selected Issues for Taxation of the Extractives Industries by Developing Countries* provides guidance on navigating these constraints and successfully implementing windfall taxes.<sup>25</sup>

### While windfall profits taxes help to redistribute the gains from external shocks, such as the impact of the war in Ukraine on energy prices, receipts are not necessarily realized in locations facing the greatest burdens from energy price increases.

The ability to raise windfall taxes is not evenly distributed, as extraordinary profits are usually generated in commodity-producing countries but booked in investment hubs or the home nations of extractive companies. In some countries, extractive industries are dominated by state-owned enterprises, meaning windfall profits ultimately accrue to the public sector and windfall taxes may be less relevant. Elsewhere, extractive industries are privately run or only partially state owned, and profit shifting often leaves relatively low levels of profit in commodity-exporting countries. Given the complexity of applying the instruments, the success of windfall profits taxation also depends on the capacity of the State.<sup>26</sup> In response to the 2022 price spike, one developed region has already coordinated across borders to agree to implement windfall taxes. The energy price spike has left developing countries that do not produce energy commodities with higher costs and no windfall profits to tax; their poorest households are typically the worst affected. Developed countries that are putting in place windfall taxes could consider channelling resources to those countries that cannot raise taxes on windfall profits, for example through development assistance.

**Table III.A.1**  
Overview of rent-targeting fiscal instruments applied to fossil fuel extraction

Tax type	Ability to target rents	Administrative complexity	Scope
Cumulative-rate-of-return-based cash flow tax	<b>High</b> , taxes only rents (i.e., investment-neutral) if the uplift rate is at or above the investor's required return. The cash flow tax delays payments until rent is realized, making it slightly more efficient than the uplift-on-capital expenditure option	<b>Medium</b> , requires oversight and auditing of project-level revenues and costs; uplift rate is contentious. The uplift-on-capital-expenditure option requires determination of which capital cost categories qualify for uplift	<b>Project level</b> , difficult to apply to existing projects
Project-level tax with uplift on capital expenditure			<b>Project level</b> , more easily applied to existing projects
R-factor-based progressive “profit oil” sharing	<b>Medium</b> , the R-factor does not take into account the time value of money so is not a direct measure of rents and makes setting the minimum threshold more difficult		<b>Project level</b> , difficult to apply to existing projects
Supplementary tax rate on corporate profits	<b>Low to medium</b> , loss-making and non-extraction activities remove a portion of project-level rents from the tax base	<b>Low</b> , calculated and audited using existing corporate income tax return information	<b>Corporate level</b> , applies to existing projects
Variable royalty rate linked to commodity prices	<b>Low</b> , does not take into account the project's cost structure and increases the variable cost of production so can trigger early project cut-off	<b>Low</b> , calculated and audited using existing royalty information	<b>Project level</b> , easy to apply to existing projects

Source: Vernon and Baunsgaard. 2022. “Taxing Windfall Profits in the Energy Sector”. IMF Notes.

### 3. SDG alignment of tax systems

**Well-designed tax policy and administration promote inclusive and sustainable development.** Mobilizing sufficient tax revenue to finance public goods and services and provide social protection is the fundamental way tax systems promote achievement of the SDGs. Because the tax system also sets incentives for the whole economy, it is one of the most important tools available to governments as they seek to promote sustainable development. The *2022 Financing for Sustainable Development Report* discussed in depth, specific tax instruments to address health, inequalities and environmental sustainability. Economic growth and the creation of jobs can also hinge on the effectiveness of the tax system.

#### 3.1 Building gender-responsive tax systems

**It is increasingly clear that the fiscal system must be analysed in its entirety to understand gender impacts and potential levers for gender-responsive fiscal policy.** Improving the gender responsiveness of economic policies is embedded in international agreements. Human rights laws and international treaties prohibit discrimination against women and oblige governments to ensure substantive equality in all government policies.<sup>27</sup> This is reinforced by the 2030 Agenda for Sustainable Development, the SDGs and the Addis Ababa Action Agenda. As reported by the Task Force over the years, the majority of countries are working on systems to ensure that public expenditure promotes gender equality and women's empowerment through some form of gender budgeting. Yet the Task Force has also reported the relative lack of progress on the revenue side of the fiscal accounts. The Addis Agenda commitment to improve the fairness, transparency, efficiency and effectiveness of tax systems warrants action to ensure that tax systems contribute to the achievement of gender equality. While explicit biases in tax exist in a few countries, all taxes—direct and indirect—can have differential impacts on women and men, meaning that in most countries the major issue is addressing implicit gender bias. These implicit biases arise because of underlying gender inequality.

**Countries need to conduct both micro- and macro-analyses of implicit gender bias to build understanding of these biases and the aggregate impact of tax systems on women and men.** Many policymakers are not sufficiently familiar with the gender aspects of the tax system and how the system may have implications for a range of economic activities, such as female labour force participation, entrepreneurship and the empowerment of women and girls. There is often an assumption that the introduction of value-added tax exemptions for certain products, such as sanitary products, will remedy the differential impacts of taxes on men and women. However, in practice, tax exemptions may not be well targeted towards the poor<sup>28</sup> or towards women, due, in part, to occupational segregation. Further, evidence shows that indirect tax exemptions are not always passed through to consumers and can benefit manufacturers or retailers,<sup>29</sup> depending on market structures such as competition and local production.<sup>30</sup> To date, analyses of implicit bias have primarily focused on micro-level assessments of individual tax policies or systems. While this analysis is important, it does not provide a comprehensive understanding of the aggregate impact of a country's fiscal system on gender equality. The composition of tax systems has shifted over the last several decades, with rising exemptions, credits and tax breaks, reductions in corporate

income and capital income taxation, and for many developing countries, falling trade tax revenues and significantly increased rates of consumption tax.<sup>31</sup> To illustrate the potential differential gender impacts of shifting tax composition, capital income in most countries has a very unequal gender distribution, with women even more strongly underrepresented at the top of the capital income distribution than the labour income distribution.<sup>32</sup> Thus, setting capital income tax rates below income tax rates benefits men as a group, due to their higher levels of capital income,<sup>33</sup> and is implicitly biased against women. By applying a gender lens to examine individual taxes and exemptions as well as the tax mix, implicit gender biases can be identified and policy options to address them can be developed.

**Fine-grained, country-level analysis is essential to identify gender inequalities, the specific needs of women as taxpayers and gender-differentiated impacts of taxes on different groups of people.** For example, targeted studies with communities focused on different types of tax policies and administration can gather information on gendered differences, including related to financial access, levels of labour informality, education and control of property.<sup>34</sup> One such study found that differential tariffs for inputs related to livestock and crops had gendered impacts on employment and earnings due to occupational segregation.<sup>35</sup> It is also important to go beyond studying the incidence of formal direct taxes and also focus on the incidence of presumptive taxes, land and agriculture taxes. Political economy analysis can identify how gender and other dimensions of inequality affect power and resources in a specific context. Taken together, these analyses can inform the design of interventions and policy options to meet the needs of women and men as taxpayers and address systemic gender inequalities.

**The lack of disaggregated data and insufficient use of existing data are barriers to gender analysis of taxation.** While many richer countries seem to have access to some sex-disaggregated tax data, particularly on income, there are significant gaps in data availability in developing countries and concerns about the usability of data for policy-making.<sup>36</sup> Disaggregated data is often “not fit for purpose” or only covers certain areas of tax. Areas of taxation that have received relatively limited gender analysis to date include trade taxation, property taxes, corporate taxation, capital income taxation, and tax administration and compliance. Governments should work to improve the use of existing data, including by combining tax administrative data, with information from surveys or other sources outside the tax administration to determine implicit gender biases in the tax system. One step in developing sex-disaggregated tax datasets for direct taxes is to introduce a field to identify the sex of a personal income taxpayer where there is not already such data. For survey-based data and estimates, for example in relation to property holdings, the poorest governments may need capacity support to gather sex-disaggregated data for analysis. Additionally, the process of digitalizing tax systems holds the potential to produce/gather more sex-disaggregated data without significant extra cost.

**Available data and analysis show significant gender differences in trust of tax administrations.** Tax administrations themselves may also have an impact on the gender bias of the tax system, regardless of tax policies. Gender biases in administration and compliance activity is relatively understudied.<sup>37</sup> Because of gender disparities in wealth and entrepreneurship, the allocation of resources within tax administrations among different types of compliance and audit activities may have

a gendered impact—for example, focusing compliance resources on micro-enterprises such as market traders will result in more poor women paying tax, while allocating resources to auditing self-employed professionals will impact a greater proportion of high-income men. Depending on cultural norms, the diversity of staff in the tax administration and the availability of electronic channels of communication may also impact on the perceptions of and access to tax service functions for male and female taxpayers. To remedy gender inequalities, tax administrations may consider proactive communications policies to ensure that female taxpayers are aware of and utilizing available tax credits. Tax administrations should also have gender-equitable human resources policies to ensure gender-balanced hiring and equitable treatment for female staff.

**The relative lack of international attention to the gendered impact of tax systems has held back progress; more cohesive and standardized efforts are needed.** There is a need for more analytical support and capacity-building to assist countries in building gender-responsive tax systems. International work on methodologies and guidance for analysing implicit gender bias in tax policies and systems could assist all States. The introduction of an internationally agreed methodology for gender-responsive budgeting via SDG indicator 5.c.1, enhanced standardization and provided incentives for adoption of the methodology. A similar agreement on a methodology for gender-responsive tax systems could be beneficial. Meanwhile, by ensuring planning tools and their guidance, such as for integrated national financing frameworks and medium-term revenue strategies, mainstream gender analysis can help to support greater impact.

## 4. Expenditure and budgeting for the SDGs

**The national budget has an enormous impact on prospects for achieving the SDGs.** Budgeting needs to look at overall expenditure as well as sectoral allocations, ideally with mechanisms and processes to enable governments to track progress during the budget cycle and make necessary adjustments. While there are agreed standards for classification of the functions of government, there is currently no standard methodology for tracking expenditures on the SDGs. Developing an approach to SDG budgeting can help policymakers to allocate and track resources aligned with the SDGs.<sup>38</sup> A number of countries have adopted a variety of budget coding and tagging systems to track either all or some of the SDGs. Experience is also growing with using technological tools rather than manual reviews to try to SDG-code budgets, as in Egypt (see box III.A.1).

### 4.1 Budget credibility

**Budget credibility refers to the ability of governments to accurately and consistently meet their expenditure and revenue targets.** Credibility is impacted by both actual budget execution and the perception of many stakeholders, including parliamentarians, line ministries, taxpayers and financial market participants. Considerable evidence indicates that budget credibility challenges are widespread and particularly relevant for the achievement of the SDGs—especially in low-income and conflict-affected countries where the need for effective investment is greater. More than two thirds of countries that undertake

evaluations under the Public Expenditure and Financial Accountability program struggle to maintain the planned composition of their expenditure throughout the fiscal year.<sup>39</sup>

**The availability of high-quality disaggregated budget execution data can help governments to monitor variations between allocations and expenditure.** Budget execution challenges differ in relation to specific sectors and are often greatest for social-sector and capital spending.<sup>40</sup> Agricultural budgets, for example, tend to have lower execution rates, with a recent report on 12 African countries showing that, on average, 21 per cent of their agricultural budgets were left unspent.<sup>41</sup> There can also be disparities within a sector, for example between current expenditure and capital expenditure within education budgets.<sup>42</sup> Because many countries have large urban-rural disparities and federal systems, geographic disaggregation of budget execution data is also important. Disaggregated data by programme can lead to better performance monitoring and early identification of budget credibility issues. Programmatic tracking can be further improved by integrating tags, such as for the SDGs, climate, gender or children, in financial management information systems.

**Budget deviations should be explained; evaluations of deviations are helpful to enhancing accountability and building trust in the budget process.** A review of government budget documents in 23 countries showed that government budget reports often do not clearly explain, or provide reasons for, budget deviations, meaning that chronic shifts can go unaccounted year after year.<sup>43</sup> Analysing deviations from approved budgets is important for identifying whether some sectors are spending at lower rates of budget execution compared to others.<sup>44</sup> Well-designed budgetary information systems can increase opportunities to address bottlenecks and challenges as well as better explain deviations or adjustments, offering the potential to improve both performance and accountability.

### 4.2 Public procurement

**Public procurement can be used as a strategic tool to reinforce sustainable development, as noted in the Addis Ababa Action Agenda.** Public procurement is a large component of national budgets in most economies. Government procurement spending was estimated to reach \$13 trillion worldwide, or around 15 per cent of world gross product, in 2019.<sup>45</sup> The public procurement market has been used to empower women,<sup>46</sup> target geographic areas, encourage the development of micro-, small- and medium-sized enterprises, foster innovation, promote sustainability, increase employment, expand financial inclusion and support local business and content to boost national competitiveness.<sup>47</sup> For example, procurement tools can contribute to the SDGs by stimulating demand for suppliers and their upstream supply chains, and mandating standards that incorporate social values such as “green” or “fair trade” goods. A recent survey showed that developed countries are increasingly integrating responsible business conduct into their public procurement processes, including applying labour and human rights standards to the supply chains of their suppliers.<sup>48</sup> Guidance has also been developed on how governments and public buyers can use their purchasing power to promote gender equality and encourage suppliers to improve their performance on gender equality and women’s empowerment.<sup>49</sup> However, procurement has also been associated with corruption risks, emphasizing the importance of

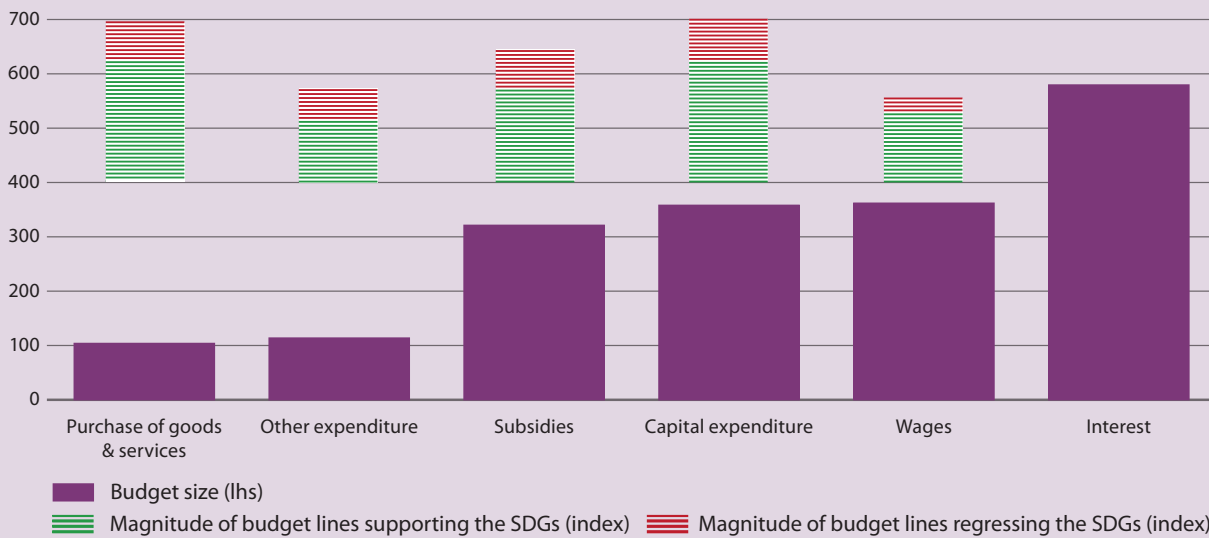
### Box III.A.1 SDG budgeting through machine learning and the experience of Egypt

The United Nations Economic and Social Commission for Western Asia (UN ESCWA) has developed an integrated Budget Intelligence Toolkit (BIT) that uses machine learning to provide a fiscal incidence analysis and assessment of the impacts of budget expenditures on the 17 SDGs and more than 100 measurable indicators.

The BIT aims to improve public financial management at all stages (planning, expensing, delivery, monitoring and evaluation) and enhance budget confidence. It can guide policymakers to optimize the allocation of public revenues by identifying budget lines with a proven positive influence on advancing SDG progress. It also captures SDG interlinkages, both directly and indirectly, which can guide policymakers on how to increase the SDG impact of public spending.

The BIT was applied to the Arab Republic of Egypt’s budget as a pilot country. It revealed the existence of 295 direct and indirect links between Egypt’s general government expenditures and SDG performance. The positive links between the different budget lines and SDG performance largely outweigh the negative ones (three times higher than the trade-offs), suggesting that the country is well positioned to achieve SDG progress with respect to its public spending patterns (see figure III.A.5).

Figure III.A.5  
Egypt’s SDG budget incidence  
(Billions of Egyptian pounds, index)



Source: ESCWA’s estimates based on BIT using data from the Egyptian Ministry of Finance.

The BIT corroborates several findings advanced in the literature, such as those that link social protection expenditures with poverty reduction. It also shows that subsidies that reduce out-of-pocket health expenditures are associated with improved health outcomes. On the other hand, infrastructure asset expenditures, for example, did not in themselves improve educational outcomes.

The BIT also breaks spending down into dimensional factors. More than a quarter of Egypt’s budget is prioritized to support “people” and promote “prosperity” (18 and 14 per cent of GDP, respectively). The exercise found that in the fiscal year ending in 2020, budget allocation patterns prioritized infrastructure, utilities and economic growth (48 per cent of the budget is allocated to public services; 23 per cent is geared to housing, health and education). This resulted in better delivery on SDG 7 (energy), SDG 6 (water and sanitation), SDG 4 (education), SDG 8 (growth) and SDG 3 (health). On average, 34 per cent of government expenditures were impacting progress on social protection related to SDGs 1, 2, 3, 4 and 11.

complementary public governance reforms: transparency throughout the whole public procurement cycle, open competition and accountability.

**Policymakers should consider building strategic public procurement regimes that align with the SDGs.** Setting a whole-of-government procurement strategy could be part of integrated national financing frameworks or other planning tools. Such strategies align with

sustainable development priorities while being cognizant of industrial structures, trade and business relationships, human capabilities in the private sector and public service, existing inequalities and environmental priorities. Governments should measure and monitor the effectiveness of their approach, making adjustments as needed. Greater transparency can mitigate corruption risks, and governments can facilitate the disclosure of

data and documents throughout the procurement cycle to enable internal and external monitoring by using voluntary international norms such as the Open Contracting Data Standard. Ultimately, accountability and integrity can be further enhanced by strong and effective oversight, such as through impartial evaluations, independent parliaments and effective supreme audit institutions. Use of digital tools can assist in both monitoring and in transparency aims.<sup>50</sup>

### 4.3 Ensuring tax expenditure effectiveness

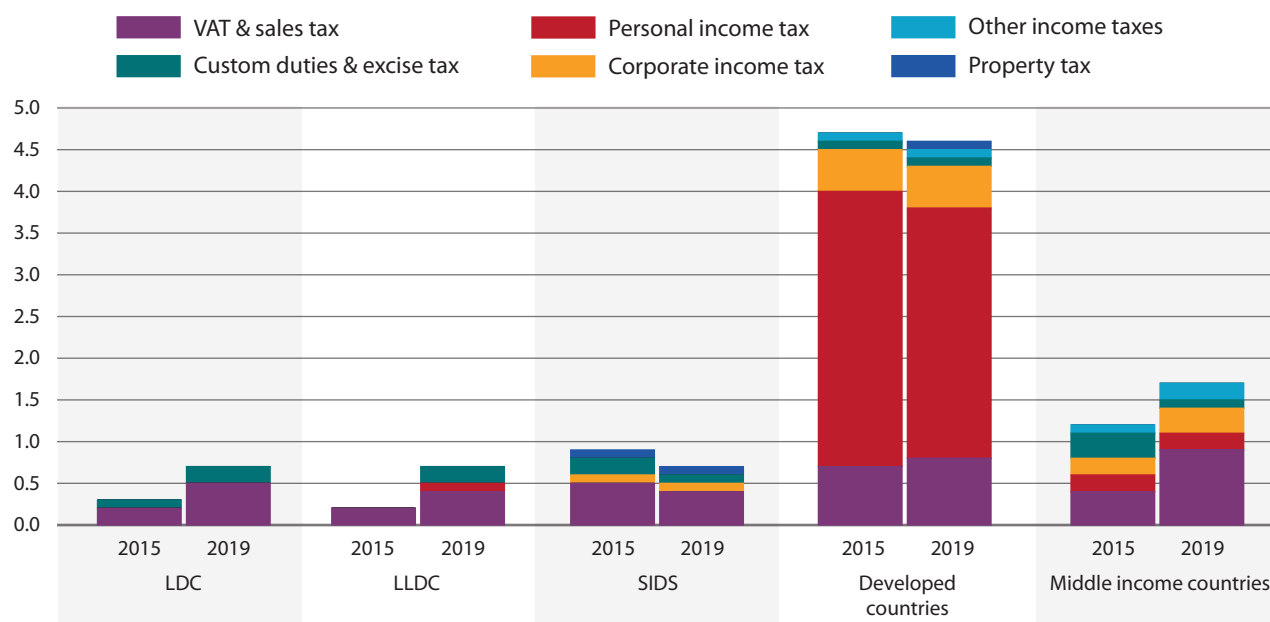
**Tax expenditures are widely used public finance instruments that can contribute to the achievement of public goals, such as sustainable industrialization, but can also be sources of harmful tax competition, inefficiency and corruption.** Tax expenditures, often called tax incentives, are deviations from a benchmark tax system to provide financial support or benefits to individuals, companies and other entities, including non-government organizations.<sup>51</sup> Tax expenditures have equivalent incentive effects as direct subsidies or transfers to individuals, households or businesses. The budgetary impact of these measures is similar to direct spending, as after the support is provided, less money is available to fund other government priorities. As with other tax policies and spending, the design of tax expenditure policies can have important implications on fiscal balances, efficiency, inequality and achieving sustainable development. As illustrated in figures III.A.6 and III.A.7, which are based on those countries that provide public reports on tax expenditures, they can be sizeable across all country groups.<sup>52</sup> In developing countries, corporate income tax exemptions are widely used, reduced rates and tax allowances are used less extensively, and tax credits are rare.<sup>53</sup>

**Countries should work to ensure that tax expenditures align with the SDGs and national priorities, including in promoting sustainable industrialization and green technologies.** Given that some countries are forgoing more than 10 per cent of GDP on the preferential tax treatment of specific sectors, firms and/or individuals, careful management of these expenditures is important.<sup>54</sup> Tax expenditures, like direct subsidies and other expenditure, can play a role in sustainable structural transformation, but governments should work to ensure coherence with an overall strategic approach (see chapter II). Like other fiscal measures, they should be part of medium-term planning processes, for example medium-term revenue strategies and integrated national financing frameworks, which would provide a platform for mapping out intended results and targets in advance of implementation. Policymakers should consider both the costs and benefits of an incentive.

**The beneficiaries have a strong incentive to prolong tax expenditures regardless of whether they are efficient or effective in achieving the intended public policy aim.** The potential rewards to beneficiaries creates corruption risks. Policymakers and tax administrations should be prepared to reduce or end the benefits to specific beneficiaries that fail to meet relevant performance targets as well as restructure or end tax expenditure policies that are ineffective or no longer serving the SDGs and policy aims. This may require close coordination across ministries and government agencies as well as between legislatures and the executive/tax administration.

**Transparency about expenditures should be a priority.** Understanding and transparently reporting on the revenue impact of tax expenditures should be the starting point for any policy debate on the appropriateness

Figure III.A.6  
Aggregate tax expenditures, by country group, 2015–2019  
(Percentage of GDP)



Source: UN/DESA calculations based on Global Tax Expenditures Database.

Note: Aggregates based on countries with public tax expenditure assessments in the given year: 76 countries (12 LDCs, 9 LLDCs, 5 SIDS, 33 developed countries, 36 middle-income countries) in 2015, 83 countries (14 LDCs, 11 LLDCs, 6 SIDS, 33 developed countries, 40 middle-income countries) in 2019.



Figure III.A.7

**Tax expenditures as a share of revenue, distribution, 2015–2019**  
(Percentage of revenue)



**Source:** UN/DESA calculations based on Global Tax Expenditures Database.

**Note:** Box plots show median line, 25th and 75th percentiles and range, plus outliers. Countries with public tax expenditure assessments in the given year, coverage may be inconsistent across years.

of a specific incentive or exemption. More than 100 countries are now providing some public information on related costs, albeit with varying coverage and quality.<sup>55</sup> In the most transparent cases, countries publish a full list of beneficiaries above a low threshold. Enhancing transparency on the design and revenue impact of tax expenditures, while a useful starting point, does not by itself ensure that the funds are well spent. During the design phase, tying the receipt of incentives to specific performance targets can help to ensure that they are effective. Expenditure-based tax incentives can be a more easily administered alternative, though they may be subject to inefficiency and poor targeting.

**Countries should aim to consistently re-evaluate the effectiveness of tax incentives and avoid permanent tax expenditures that are not aligned with the SDGs or tied to specific public policy objectives.**

Like any spending, tax expenditure may not be the most economically efficient way to achieve a certain public goal. Systematic evaluations can guide informed decision-making and provide the opportunity to assess or reassess the alignment of tax expenditures with national priorities and the SDGs.<sup>56</sup> Evaluations assessing the justification, costs and benefits of tax incentives are an important tool for better policymaking. Although evaluation efforts can be challenging and resource intensive, even comparatively simple analyses are preferable to ceding the discussion to the benefiting stakeholders. While lessons can be learned from countries' evaluation processes, there is no single best-practice approach to replicate. Embedding review into the initial design of tax expenditures by making them both temporary for beneficiaries and subject to legal sunset clauses, can help. So far, data shows that tax exemptions are more often provided on a temporary basis (most often for five or 10 years), while reduced corporate income tax rates are as often permanent as they are temporary.<sup>57</sup> With limited resources, countries should initially focus evaluations

on the most important tax expenditures and then gradually expand their evaluation mandate.<sup>58</sup>

**Use of tax incentives will still be allowed with a global minimum corporate tax, though their effectiveness may be curtailed.** Work at the OECD-housed Inclusive Framework on Base Erosion and Profit Shifting (BEPS) to establish a global minimum tax (see section 5) is prompting many countries to re-evaluate their tax expenditure policies.<sup>59</sup> The global minimum corporate tax rules will enable countries to continue to use the tax system to offer incentives to large firms, especially those incentives related to real economic activity in a given country, though their impact may be more limited. The form of tax and non-tax competition to attract foreign investment may shift as a result. Tax incentives that are better targeted are likely to be less affected by the proposed global rules than broadly based incentives. Tax incentives that are applied based on corporate expenditures on payroll or tangible assets may be less affected than income-based tax incentives. Tax incentives that allow faster recovery of the cost of investment in tangible assets, e.g., accelerated depreciation, will be unaffected by the proposals. Incentives that apply to businesses with no foreign presence or that have less than €750 million in consolidated revenues will also be unaffected.

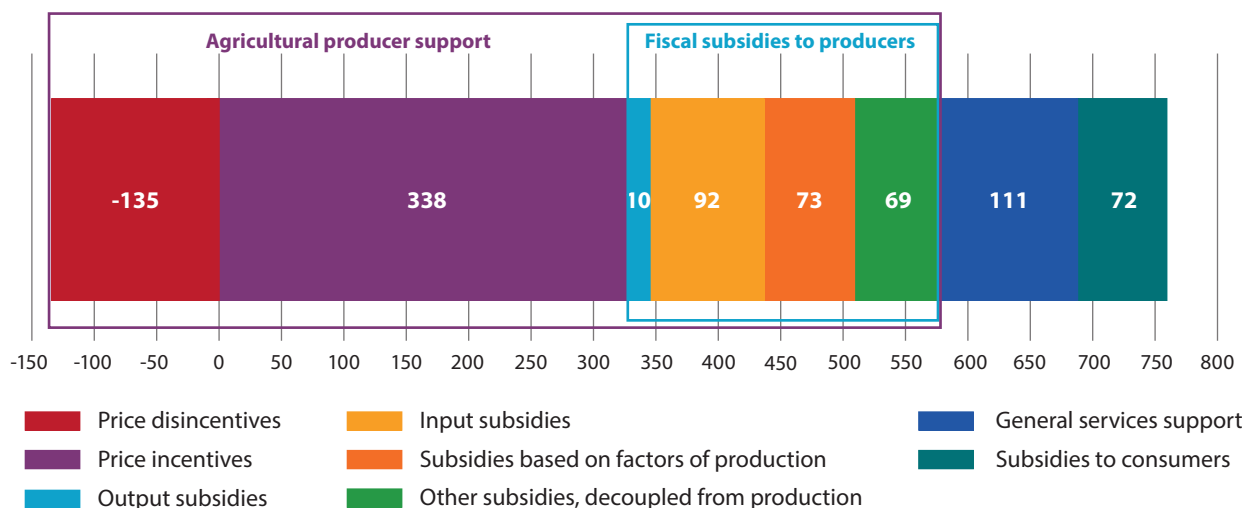
#### 4.4 Aligning agricultural subsidies with the SDGs

**Spending on agriculture subsidies is large and its effectiveness could be substantially improved.** Around 87 per cent of support to agricultural producers is through measures that are often inefficient, inequitable, distort food prices, hurt people's health and degrade the environment. This equates to approximately \$540 billion per year in harmful support, based on 88 countries which have data. If current trends continue, this harmful support could reach \$1.8 trillion by 2030.<sup>60</sup> Agricultural producer support makes up the lion's share of all agricultural support and represents around 15 per cent of total agricultural production value in the years 2013–2018 (see figures III.A.8 and III.A.9). Of this, about \$294 billion was provided in the form of price incentives and around \$245 billion as fiscal subsidies to farmers, with the majority (70 per cent) tied to the production of a specific commodity. Only \$110 billion was used to fund transfers to the agriculture sector collectively, in the form of general services or public goods. If farm support is thought of solely as a means to provide transfers to farmers, its implied transfer efficiency would be only about 35 per cent.<sup>61</sup>

**Current agricultural subsidies have negative effects on several SDGs.** Most of the agricultural producer support is concentrated on either emissions-intensive commodities (e.g., rice, milk and beef) or on unhealthy products, such as sugar. In the future, of the almost \$2 trillion in global support to farmers in 2030, 73 per cent (\$1.3 trillion) would be in the form of border measures, which affect trade and domestic market prices. The remaining 27 per cent (\$475 billion) would be in the form of fiscal subsidies that support agricultural producers and could continue to promote the overuse of inputs and overproduction.

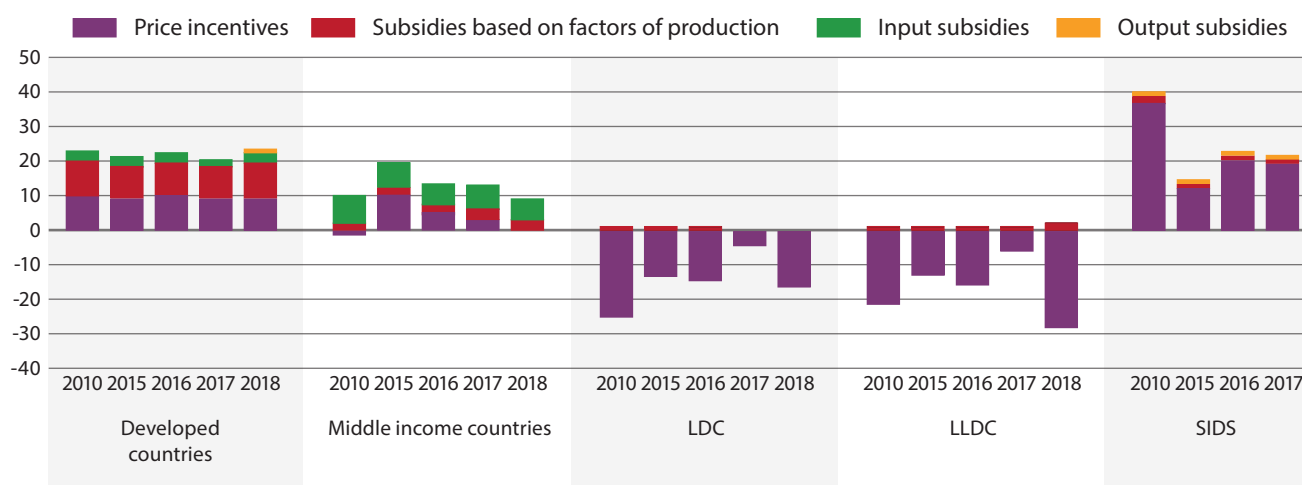
**Far better outcomes could be achieved with improved spending on food and agriculture, including a shift away from farmer subsidies and towards public goods.** Models show that removing the support to farmers, with no alternative measures, would lead to sharp decreases in crop and livestock production, farm employment as well as greenhouse gas emissions. Instead, a gradual transition to optimized

Figure III.A.8  
**Nominal rate of agricultural assistance, by type of support, 2013–2018**  
*(Billions of United States dollars)*



Source: FAO based on data from Ag-Incentives.

Figure III.A.9  
**Nominal rate of assistance to agricultural producers, by country grouping, 2010–2018**  
*(Percentage of country group production value)*



Source: FAO based on data from Ag-Incentives.

public budgets (in terms of commodities and types of spending) could create jobs, lower poverty, reduce hunger and malnutrition and increase agricultural productivity.<sup>62</sup> Countries can shift spending away from commodities that damage the environment and towards those that foster sustainable resource use, poverty reduction and improved nutrition. In terms of functional composition, there is a need to spend more on public goods, including agricultural extension, infrastructure, and research and development, to align with poverty reduction and nutrition improvement outcomes. Evidence indicates that input subsidies may have poor returns<sup>63</sup> and mainly reach better-off farmers,<sup>64</sup> and therefore need to be more effectively targeted at subsistence, smallholder and family farmers who lack the resources to independently buy certain inputs that

could lead to better productivity and adaptive capacity. Spending more on public goods could enhance the nutritional quality of foods while increased spending on agriculture-related infrastructure could enhance the efficiency of markets.

**Countries at different development levels should repurpose their agricultural subsidies taking into account their specific circumstances, including by strengthening social protection schemes.** Developed countries could aim to shift to more nutrition-sensitive subsidies and nature-based solutions. Middle-income countries could focus on increasing the use of nutrition-sensitive agricultural support strategies and combining the removal of harmful agricultural subsidies with

strengthening social protection schemes and nutrition-related consumer subsidies to ensure that the poorest can access and afford sufficient nutritious food. Mitigation measures such as cash transfer schemes are needed to address the short-term negative implications of repurposing agricultural producer support for poor producers and consumers. Developed and middle-income countries could also aim to decouple subsidies from production, which distort incentives for farmers, and shift spending to public goods. In the poorest countries, governments can aim to minimize the use of distorting policies and focus on the coherence of different fiscal instruments in a way that increases fiscal efficiency. Donors can support increased spending on agriculture-related public goods. In all countries, a multi-stakeholder approach can ensure the inclusion of certain key actors, for example women farmers, who produce most of the food consumed locally in developing countries despite female-headed households having smaller farms on average.

## 5. International tax cooperation

### 5.1 Progress on tax transparency and exchange of information

**No country can eliminate tax evasion on its own and thus international cooperation is essential.** Tax administrations generally have the right to demand information from their taxpayers. However, taxpayers

committing evasion often exploit gaps and mismatches in tax rules to artificially shift profits, assets or income to low- or no-tax locations where there is little or no economic activity. They may also obfuscate the ownership and origin of taxable assets and income. International cooperation is essential to exchange information and reveal tax evasion and enable enforcement. Table III.A.2 shows participation in a range of international forums and instruments for tax cooperation.

**The exchange of information for tax purposes has returned to pre-COVID-19 levels, allowing significant resources to be recovered.** The OECD-housed Global Forum on Transparency and Exchange of Information for Tax Purposes—a venue for cooperation on tax transparency—reports that over 25,000 requests for information were sent in 2021 to support ongoing tax investigations.<sup>65</sup> As of the end of 2022, over 100 jurisdictions were automatically exchanging information on the financial accounts of non-resident taxpayers, according to the Common Reporting Standard (CRS). Information on over 111 million financial accounts was exchanged automatically in 2021, covering total assets of almost €11 trillion. From 2019 to 2021, almost €2.6 billion of additional revenue (tax, interest and penalties) was identified due to exchange of information on request, almost €2.4 billion from automatic exchange and over €2.5 billion from voluntary disclosure programmes and other offshore initiatives. These figures are underestimates because not all jurisdictions track the revenue associated with exchanges.

**The automatic exchange of information system is being effectively implemented in participating countries, but many developing**

**Table III.A.2**  
**Participation in international tax cooperation instruments, 2022**  
(Number of jurisdictions)

Legal instrument/ Intergovernmental body	Background	Purpose	Total membership/ parties	Middle-income countries	Least developed countries	Small island developing States	Africa
Multilateral Convention on Mutual Administrative Assistance in Tax Matters (MAC)	Developed jointly by OECD and Council of Europe in 1988 and amended in 2010	Multilateral instrument for administrative cooperation	146 (+2)	62 (-3)	9 (+1)	33 (+1)	23 (+1)
MCAA Common Reporting Standard	Agreement requested by G20 and approved by OECD in 2014	Specifies details of exchange of financial account information for tax purposes	119 (+7)	40 (+3)	2 (+1)	31 (+2)	9 (+1)
Global Forum on Transparency and Exchange of Information for Tax Purposes (Global Forum)	OECD-housed intergovernmental body restructured by G20 in 2009	Reviews implementation of transparency and exchange of information standards, both on request and automatic	165 (+2)	75 (-2)	18	37 (+1)	34
Automatic Exchange of Information Standard (AEOI)	Standard developed in 2014 under Global Forum	Automated exchange of financial account information for tax purposes	122 (+2)	42 (-2)	2	31 (+2)	10 (+1)
Inclusive Framework on BEPS (IF)	OECD-housed intergovernmental body originating from the 2013 OECD/G20 BEPS Project	Implementation of the 2015 BEPS Action Plan and the follow-up work to combat tax avoidance by MNEs	142 (+1)	62 (-3)	12	30 (+1)	26
Multilateral Convention to Implement Tax Treaty Related Measures to Prevent BEPS (MLI)	Negotiated within the framework of the OECD/G20 BEPS Project, adopted in 2016	Implements the minimum standards of 2015 BEPS Action Plan on tax treaty abuse, dispute resolution, hybrid mismatch arrangements and permanent establishment status	100 (+4)	41 (+1)	3 (+1)	10	14
MCAA on the exchange of country-by-country (CbC) reports	Agreement based on BEPS Action Plan 13, first exchanges began in 2018	Sets out the terms for the exchange among jurisdictions of CbC reports prepared by MNEs to facilitate transfer pricing risk assessments and audits	93 (+1)	28 (-1)	2	16 (+2)	9 (+1)

Source: OECD.

Note: Figures as of 31 December 2022. Parenthesis denotes change in the number of countries or jurisdictions in 2022 compared to the 2022 Financing for Sustainable Development Report, which may reflect something other than participation in the instrument, i.e., movement of countries into or out of designated status, changes in data availability, or changes in implementation of classification criteria. MCAA: Multilateral Competent Authority Agreement. MNEs: multinational enterprises.

**countries are still not benefiting.** The large majority of jurisdictions peer reviewed on automatic exchange of information have implemented complete administrative frameworks to ensure compliance and are exchanging information effectively in practice.<sup>66</sup> Some jurisdictions are still in the relatively early stages of developing and implementing their frameworks. Another 11 jurisdictions have announced plans to commence automatic exchanges in the coming years.<sup>67</sup> As of December 2022, there were over 5,000 bilateral exchange relationships activated for exchanges under the CRS, but developing countries continue to miss out on information (see table III.A.3). No LDCs are receiving information, and only five African countries were receiving information as of end-2022, accounting for fewer than 500 of the relationships.<sup>68</sup> The most significant challenge to receiving information is compliance with confidentiality requirements. Assistance on the implementation of the automatic exchange standard is one of the largest areas of ongoing technical assistance work by the Global Forum.<sup>69</sup>

**Countries are moving forward on reviewing and expanding reporting frameworks for financial assets.** In August 2022, the OECD Committee on Fiscal Affairs, a body for OECD members and invited guests, approved a Crypto-Asset Reporting Framework (CARF), which provides reporting of tax information on transactions in cryptoassets in a standardized manner.<sup>70</sup> Over the following months, the OECD will work on the legal and operational instruments to facilitate the international exchange of information collected on that basis of the CARF. Accompanying the CARF, the OECD Committee also agreed to a revision of the existing CRS for automatic exchange of information on financial account information to bring new financial assets, products and intermediaries (such as e-money) within its scope. The Global Forum Plenary held in November 2022 agreed to ensure widespread implementation of the amended CRS and the CARF.

**Progress on the transparency of corporate income tax information has been slow but steady.** Country-by-country reporting refers to annual reports by large multinational enterprises submitted to the authorities in the jurisdictions where they are headquartered, detailing data on their activities in each tax jurisdiction in which they do business. The reports enable high-level risk assessments that can help to prioritize further investigation. The OECD-hosted Multilateral Competent Authority Agreement on the Exchange of Country-by-Country Reports facilitates the exchange of country-by-country reporting.

**The data shows evidence of misalignment between the location where profits are reported (and taxes are paid) and the location where economic activities occur.** In 2022, aggregated country-by-country reporting statistics were published covering reports by over 7,000 corporate groups filed in 47 jurisdictions up to 2018. The data tracks the distribution across jurisdictions of employees, tangible assets and profits. The median value of reported revenue per employee was six to eight times higher in jurisdictions with no corporate income tax, which is a strong indicator of profit shifting.<sup>71</sup>

**Developing countries lag behind in access to country-by-country reporting.** As of December 2022, the system for exchanging country-by-country reporting information among tax administrations had evolved to have over 3,300 bilateral exchange relationships (see table III.A.3). Despite some LDCs and African countries signing up to the convention for exchange of country-by-country reports, no LDCs currently receive these reports, and only four African countries are receiving any information through just

331 activated bilateral relationships. Meeting the required confidentiality standards is a key challenge. An agreement to move away from the strict confidentiality requirements would allow more developing countries to access the reports.<sup>72</sup> Alternatively, requiring public transparency on country-by-country reports from multinational enterprises above a threshold could provide a solution that would level the playing field and support the efforts of all countries to combat illicit financial flows, though this would place costs on businesses. Some countries and regions have already moved towards publication of a limited form of country-by-country reporting.

**There is growing recognition among governments that information exchanged for tax purposes may be valuable for tackling other types of illicit financial flows.** In November 2022, three Latin American members of the Global Forum signed a pilot project for the use of information exchanged under a tax agreement to fight non-tax illicit practices, allowing wider use of the information. This practice was also recognized by the General Assembly, which invites countries to consider allowing information exchanged for tax purposes to be used for other purposes.<sup>73</sup> The General Assembly also invited the United Nations Economic and Social Council to update and strengthen the United Nations code of conduct on cooperation in combating international tax evasion<sup>74</sup> in response to new international agreements.

**Table III.A.3**  
**Inclusion in bilateral exchange relationships for tax information, 2022**  
(Number of exchange relationships)

	Country-by-country reporting for MNEs		Common reporting standard for financial accounts	
	From:	To:	From:	To:
Number of bilateral relationships	3489		4981	
Middle-income countries	1382	1406	2275	2175
Small island developing States	879	384	1974	950
African countries	334	331	373	487
Least developed countries	0	0	0	0

Source: OECD.

Note: Figures as of 31 December 2022.

## 5.2 International corporate taxation norms

**Despite many reforms and significant progress since the 2008 world financial and economic crisis, the international tax system remains under stress, with outdated standards.** There is a consensus that the system is characterized by significant vulnerabilities that allow large corporate groups to pay little tax, significant inequalities in the ability of countries to tax corporations and high levels of tax competition. Taxpayers have many strategies to engage in domestic tax abuses, but the largest companies and high-net-worth individuals also use international tax avoidance strategies to remain outside the tax base altogether, notwithstanding the many actions taken since 2008. Ideas for far-reaching reforms have been under discussion in multiple international venues and forums, and some countries have undertaken unilateral measures to try to protect their tax base and raise additional revenue. For example, developing countries may consider improving withholding tax mechanisms to collect taxes on activities by multinational enterprises within their territories.

### 5.2.1 Governance of tax norm setting

**Global tax reform should proceed according to the principles already committed to by Member States, while the appropriate governance arrangements are a matter for countries to decide.** In the Addis Ababa Action Agenda, Member States stressed that efforts in international tax cooperation should be universal in approach and scope and should fully take into account the different needs and capacities of all countries. In 2021, the United Nations Secretary-General set out global tax reform as a key plank for a peaceful, sustainable future in his report on *Our Common Agenda*.<sup>75</sup> In December 2022, the United Nations General Assembly adopted a resolution by consensus on “Promotion of inclusive and effective international tax cooperation at the United Nations” which recognizes the timeliness and importance of strengthening international tax cooperation to make it fully inclusive and more effective.<sup>76</sup> During the next General Assembly session at United Nations Headquarters in New York, intergovernmental discussions on ways to strengthen the inclusiveness and effectiveness of international tax cooperation will be informed by a comprehensive report of the Secretary-General. The report and discussions will take into full consideration existing international and multilateral arrangements. Other multilateral and regional platforms will also continue their work on setting tax norms.

### 5.2.2 Taxation of the digitalized economy

**Issues raised by digitalization of the economy are at the centre of discussions on the future of international corporate taxation.** The increasing use of digital technologies and the emergence of new business models increase the possibilities for companies to be highly profitable yet pay relatively little tax anywhere. Intangible assets have become more important. Companies may not need a physical presence to do business, and it is increasingly unclear where value addition occurs, especially for digital services. Yet some developing country tax administrations have relatively low capacity and need simple, easily administered rules to prevent them from leaving revenue on the table.<sup>77</sup> As previously reported by this Task Force, work is ongoing at the United Nations Committee of Experts on International Cooperation in Tax Matters and on the OECD/G20 Inclusive Framework Two Pillar Solution to Address the Tax Challenges Arising from the Digitalisation of the Economy, which has the stated political support of 137 jurisdictions. There remains great uncertainty about how many countries will adopt either of the proposed solutions. As countries consider adopting these tax measures, policymakers should include a thorough analysis of the implications for domestic revenue mobilization and wider economic activity.

**The UN Tax Committee is developing a fast-track instrument (FTI) for speedier adoption of key UN Model Tax Convention provisions regarding taxing the digitalized and globalized economy.** In 2021, the UN Tax Committee agreed to introduce new provisions into the UN Model Treaty on Double Taxation which would preserve the right of countries to tax automated digital services (known as Article 12B). In its October 2022 session, the committee decided to prioritize work on an FTI, a mechanism to update bilateral tax treaties to adopt provisions recently introduced in the UN Model, including those regarding taxation of the digitalized and globalized economy, more quickly and efficiently. The committee discussed the design features of an FTI, and work will proceed on drafting an instrument covering article 12B as well as other recently

introduced provisions in the model treaty, for consultation with committee members, Member States and other stakeholders in 2023. It is difficult to make revenue estimates from implementing taxes on automated digital services, as protected by Article 12B, and other digital services provided over the internet with minimal human involvement because of the range of assumptions that would need to be made. Modelling by the South Centre<sup>78</sup> shows a range, depending on tax design choices, of \$2.0–\$11.4 billion in revenue if such policies were implemented by its 54 developing country members, and \$0.4–\$1.4 billion for implementation by the 55 members of the African Union.<sup>79</sup>

**A convention to implement the OECD/G20 Inclusive Framework’s Pillar One is expected to open for signature in mid-2023.** Pillar One proposes to reallocate taxing rights over a portion of large multinational entity profits to the market jurisdictions where those profits are generated, allowing taxation of some profits, for example from digital service delivery, regardless of whether a company has a physical presence. A Multilateral Convention (MLC) is required for implementation of Pillar One. Public consultations have been completed on the rules pertaining to the reallocation of taxing rights, including on the MLC provisions that require the removal of digital services taxes. The MLC is planned to be finalized, the final text published and the document opened for signature in mid-2023. The OECD estimates that taxing rights on \$200 billion of profits would have been re-allocated in 2021 if the rules had been implemented.<sup>80</sup> The IMF estimates similarly suggested a net global increase of \$12 billion in corporate income taxation based on reallocation of \$150 billion in the tax base, though noted this would be offset by a loss of revenue from digital service taxes that would be discontinued.<sup>81</sup>

**Pillar Two sets a global minimum tax to limit tax competition and is expected to have larger impacts on revenue raised.** It also provides a means for countries to retain source taxation rights over certain base eroding payments such as interest and royalties. It would provide a disincentive to continue inefficient tax incentives (see section 4), as under-taxed profits could now be taxed elsewhere. The model rules for the global minimum tax under Pillar Two were agreed in 2021, an implementation package released in December 2022 and agreed administrative guidance published in February 2023. Public consultations on some implementation measures—the information return (covering the amount and type of information that MNE groups should report to tax authorities) and tax certainty (including dispute prevention and dispute resolution)—are now closed. While Pillar Two’s “subject to tax” rule and a related multilateral instrument to assist in its implementation is still being finalized, some countries are beginning the process of bringing Pillar Two into domestic legislation. OECD estimates, using 2018 data, show potential gains of \$175 billion to \$261 billion globally from implementing Pillar Two.<sup>82</sup> The IMF estimates aggregate 5.7 per cent higher corporate taxation, plus an extra 8.1 per cent boost to global corporate tax revenues from reduced competition over tax rates.<sup>83</sup>

## 5.3 Capacity-building for domestic revenue mobilization

**While capacity-building related to domestic public revenue mobilization has increased dramatically since 2015, it fell in 2021 compared to 2020.** Disbursements of official development assistance (ODA) by OECD donor countries coded as being for the purpose of domestic

### Box III.A.2 Implications of new tax norms in the Arab world<sup>a</sup>

Over the past four decades, international tax competition ushered a race to the bottom that reduced headline corporate tax rates and resulted in Arab economies forfeiting an estimated \$50 billion in potential tax revenues.<sup>b</sup> To compensate, the more diversified Arab middle-income economies resorted to indirect taxation, often with regressive effects, while Arab high-income and resource-rich countries relied on windfalls and rents from hydrocarbons. Fiscal and tax incentives, awarded to attract multinational corporations (MNCs), have effectively undercut corporate tax revenues in the region by 60 per cent on average.<sup>c</sup> The region saw an estimated \$77 billion of annual losses due to undeclared illicit trade and indirect tax revenues, including from oil and natural resources.<sup>d</sup>

The Arab region hosts more than 5,000 foreign majority owned MNCs, generating 5 per cent of their global profits or around \$600 billion annually. Complex tax planning, involving round tripping investments and shifting profits, enabled MNCs to reduce their tax liabilities. For every dollar the region gained in foreign direct investment (FDI) inflows, there was \$1.6 in outflows,<sup>e</sup> including 78¢ in repatriated untaxed corporate passive income (dividends, debt repayments and stock buybacks).<sup>f</sup>

In 2019, one third of MNCs in the Arab region were taxed below the proposed global minimum effective tax rate of 15 per cent, representing \$2.3 billion in potentially lost annual revenue.<sup>g</sup> Increasing average effective corporate tax rates to 15 per cent for all corporations could mobilize up to \$9 billion worth of annual tax revenues.<sup>h</sup>

In the Arab region, estimated potential gains from the G20/OECD proposed two-pillar solution remain modest in absolute terms (see figure III.A.10). The impact of global tax reform on the Arab world could be altered by adjusting the thresholds, profitability ratios and reallocation percentages in the two-pillar solution. Arab countries may wish to explore regional tax dispute resolution mechanisms and means to preserve the “right to regulate” the delivery of automated digital services. Reforms that go beyond corporate income tax will be needed to fully address the region’s diverse sustainable development financing needs.

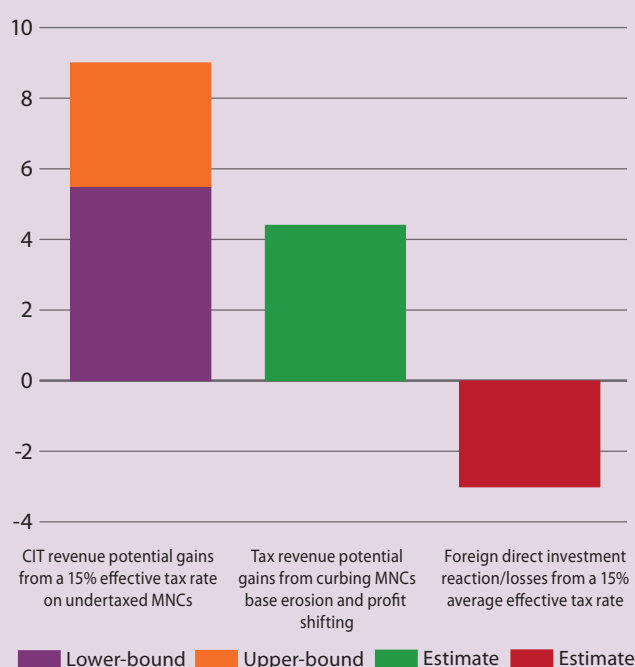
revenue mobilization declined significantly, to \$284 million in 2021 (or 0.23 per cent of total ODA to developing countries), from \$411 million in 2020 (see figure III.A.11). This drop was driven primarily by an unusually large volume (\$171 million) of loans in 2020. Grants rose in 2021 to \$258 million, from \$240 million in 2020. The long-term picture may be better, as commitments reached a record \$387 million in 2021, the highest volume of commitments since measurement started in 2015, beating the previous high of \$362 million in 2019.

## 6. Illicit financial flows

**Combating IFFs is a commitment in international agreements and can provide resources for sustainable development finance.** IFFs

- <sup>a</sup> Based on ESCWA. 2023. “Arab Policy Choices and Financing Opportunities in a New World Tax Order”.
- <sup>b</sup> ESCWA calculations based on IMF. 2014. “Spillovers in international corporate taxation”.
- <sup>c</sup> ESCWA calculations based on Tax Foundation, 2019, and Orbis database accessed in November 2021. This estimate covers the following Arab countries: Egypt, Jordan, Kuwait, Lebanon, Morocco, Oman, Saudi Arabia, and Tunisia.
- <sup>d</sup> ESCWA. 2018. “Illicit Financial Flows in the Arab Region”.
- <sup>e</sup> Ibid.
- <sup>f</sup> Ibid.
- <sup>g</sup> ESCWA based on data from Orbis.
- <sup>h</sup> ESCWA. 2022. “Arab Policy Choices and Financing Opportunities in the New World Tax Order”.

Figure III.A.10  
Estimates of Arab region gains and losses in tax revenues and FDI  
(Billions of United States dollars)



**Source:** ESCWA estimates based on MNC reported profits in 2020 sourced from Orbis, IMF BOP, IMF CDIS, and UNCTAD FDI data.

reduce the availability of resources for financing the SDGs and recovery from the COVID-19 pandemic. Combatting IFFs effectively requires a whole-of-government approach, as sources of IFFs can be varied and enforcement will require efforts by a number of public actors.<sup>84</sup>

### 6.1 Advances on volume estimates and IFF statistical measurement

**Knowledge on the precise scale and nature of IFFs is lacking because of their essentially clandestine nature, but progress is being made to measure these flows.**<sup>85</sup> Comparable and reliable statistics on IFFs can help to shed light on the activities, sectors and channels most prone to illicit finance, pointing to priorities for enforcement resources.

**Pilot testing of the SDG indicator methodology was completed in three regions; countries should use the methodologies to develop IFF estimates.**

As co-custodians of SDG Indicator 16.4.1, the United Nations Office on Drugs and Crime (UNODC) and the United Nations Conference on Trade and Development (UNCTAD) defined the globally agreed statistical concepts and a statistical definition of IFFs, disseminated in the October 2020 Conceptual Framework for the Statistical Measurement of Illicit Financial Flows<sup>86</sup> and endorsed by the United Nations Statistical Commission in March 2022.<sup>87</sup> Methods to measure selected types of IFFs were developed by the co-custodians and tested between 2018 and 2022 by 22 countries mainly in Africa, Asia and Latin America. The offshore wealth methodology showed \$3.5 billion to \$5 billion in tax-related IFFs from one of the pilot countries in Africa every year since 2012. In one Latin American country, illicit drug exports generated on average \$12 billion in IFFs annually between 2015 and 2018, an amount comparable to the value of national agricultural exports. Key lessons drawn from Member States’ experience included the need for: political will to support the efforts; whole-of-government and whole-of-society approaches to tackle IFFs; an inter-agency technical working group to coordinate and facilitate collaboration; facilitation of national statistical offices; resourcing and empowerment of agencies in the ecosystem; and an appropriate institutional architecture with adequate resources and legal backing. UNODC is working on a corruption measurement framework, presented at the United Nations Statistical Commission in March 2023, that can be used to develop methodologies on measuring IFFs from corruption.

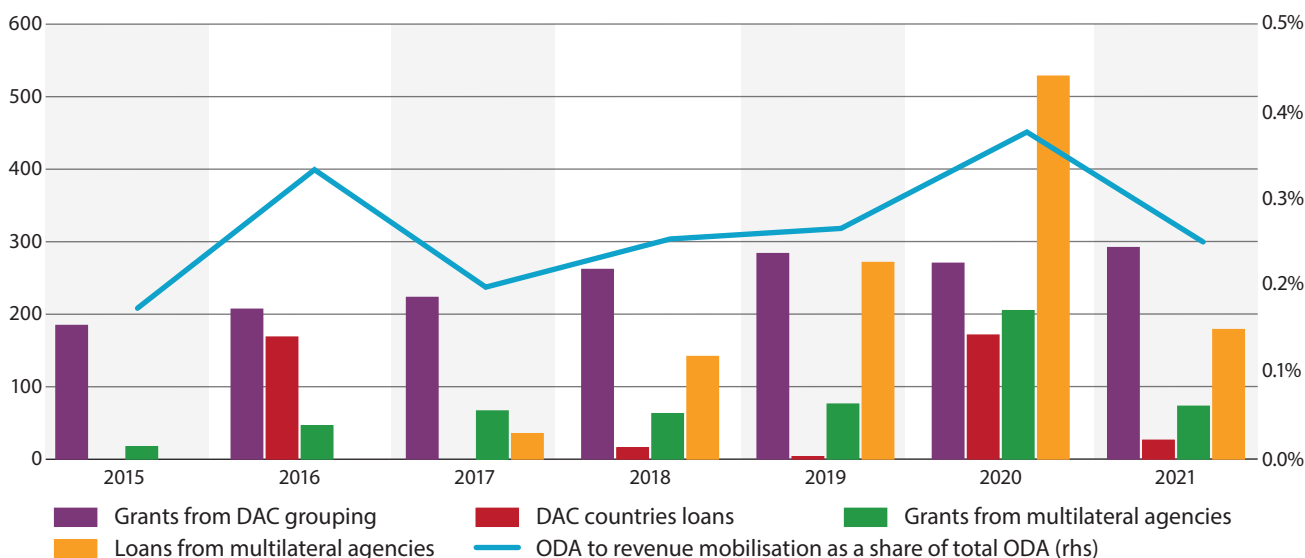
**Researchers also continue to refine other methodologies to estimate various components of IFFs.** One methodology that has now been published in a peer-reviewed academic journal looks at the differential profitability of the affiliates of foreign multinational enterprises

compared to local firms in certain jurisdictions and draws inferences about profit shifting globally.<sup>88</sup> In a separate new working paper, the authors have extended this methodology using historical time series data from different sources to create profit shifting estimates covering the period between 1975 and 2019. They find that while the share of corporate profits in global income has increased from about 15 per cent to close to 20 per cent, corporate tax collection has stagnated relative to global income. They estimate that in 2019, 37 per cent of multinational profits were artificially shifted to 41 low-tax jurisdictions, which represents a loss of 10 per cent of corporate income tax revenue globally, or \$969 billion.<sup>89</sup>

**6.2 Policy advances on beneficial ownership and tax crimes**

**The availability of beneficial ownership information on legal persons and arrangements helps to fight against tax evasion and other financial and serious crimes, such as corruption, money laundering and terrorist financing.** Criminals and tax dodgers commonly hide their activities and often use opaque legal structures to this end. “Shell companies”, which are corporate entities that have no independent activities, are set up only to own assets and other corporate entities, with transactions spread across multiple jurisdictions. Beneficial ownership transparency can pierce the veil of secrecy and reveal the true ownership and allow fair taxation and enforcement of the law.<sup>90</sup> For anti-money-laundering purposes, the beneficial owner is the person (“natural person” in legal terms) who ultimately owns, controls or benefits from legal vehicles such as companies, partnerships and trusts.<sup>91</sup> Information about beneficial owners is required under international anti-money-laundering standards, the international standards for exchange of information for tax purposes, and the United Nations Convention Against Corruption.

Figure III.A.11  
**Disbursements of ODA for domestic resource mobilization, 2015–2021**  
*(Millions of United States dollars, share of total ODA)*



Source: OECD.

Note: Constant 2020 prices, loans are on a gross basis and thus not directly comparable to grants. Share of total ODA calculation includes all bilateral ODA and ODA from European Union institutions, but not from multilateral agencies. DAC = Development Assistance Committee of the OECD.

**International norms and standards are being strengthened to add the requirement that public authorities maintain records of beneficial ownership information for some types of legal vehicles.** Member States have committed to enhance beneficial ownership transparency, such as through appropriate registries.<sup>92</sup> In March 2022, the Financial Action Task Force (FATF) amended its recommendation on beneficial ownership information of legal persons (e.g., companies, firms, partnerships) to require a public authority to hold this information (usually through a registry).<sup>93</sup> This will apply to the more than 200 countries and jurisdictions committed to FATF standards. In 2022, FATF opened public consultations on potential revisions to its standards on the way beneficial ownership information for legal arrangements (e.g., trusts) must be maintained.<sup>94</sup>

**Governments are developing new mechanisms to hold and use beneficial ownership information on legal vehicles.** Research based on the experience of 38 countries found that many still lack sufficient legal, regulatory and institutional frameworks and systems as well as practical experience, to use beneficial ownership transparency to enhance the effective recovery and return of proceeds of crime.<sup>95</sup> It highlighted as good practice, establishment of registries of beneficial ownership information for both legal persons and legal arrangements to ensure the timely availability of information to competent authorities, and verifying submitted beneficial ownership data through both automated verification and spot checks. Many international bodies are providing countries with assistance in implementing beneficial ownership transparency systems, including UNODC, the Global Forum and the FATF.

**Public transparency of beneficial ownership information can enhance the usefulness of the data, but there have been concerns about privacy.** A growing number of countries in all regions are creating systems to publish their beneficial ownership registries for public access. Such enhanced transparency is beneficial to speeding up national and international information sharing. It can also assist due diligence by the private sector. Better access can empower journalists to investigate and report on corruption allegations, allowing for more effective accountability. Public transparency can also boost trust more broadly and contribute to strengthening the social contract. Ensuring the availability of the beneficial ownership information to the general public free of charge and in open data format has been identified as a good practice in a paper presented at a United Nations Convention against Corruption working group.<sup>96</sup> However, a regional court in one developed region limited publication of information in beneficial ownership registries over privacy considerations. The Open Ownership principles were updated in January 2023 to better reflect variable needs among different user groups for beneficial ownership data, while still retaining that the public should have access to a clearly defined subset of usable data free of charge. Policymakers will need to develop appropriate privacy protections as they update their systems in response to the changes in international standards, while still aiming to realize the substantial benefits from public beneficial ownership transparency.

**Policy attention is also focusing on how to combat tax crimes and recover assets, along with increased capacity-building.** In June 2022, the OECD Council formally issued an intergovernmental recommendation on the OECD's Ten Global Principles for Fighting Tax Crime, which

was first launched in 2017 and updated in 2021. The OECD legal instrument, also open to adherence by non-OECD members, provides a benchmark against which jurisdictions can self-assess their relevant frameworks. The Tax Inspectors Without Borders initiative is now providing assistance for criminal investigation of tax abuse. Building on the 2021 review of asset recovery progress presented in the *2022 Financing for Sustainable Development Report*,<sup>97</sup> analysis shows that developing countries account for the majority of countries waiting for assets to be returned and that assets are seized or confiscated in developed countries in almost 70 per cent of the known open cases.<sup>98</sup>

### 6.3 Budget transparency to counter corruption

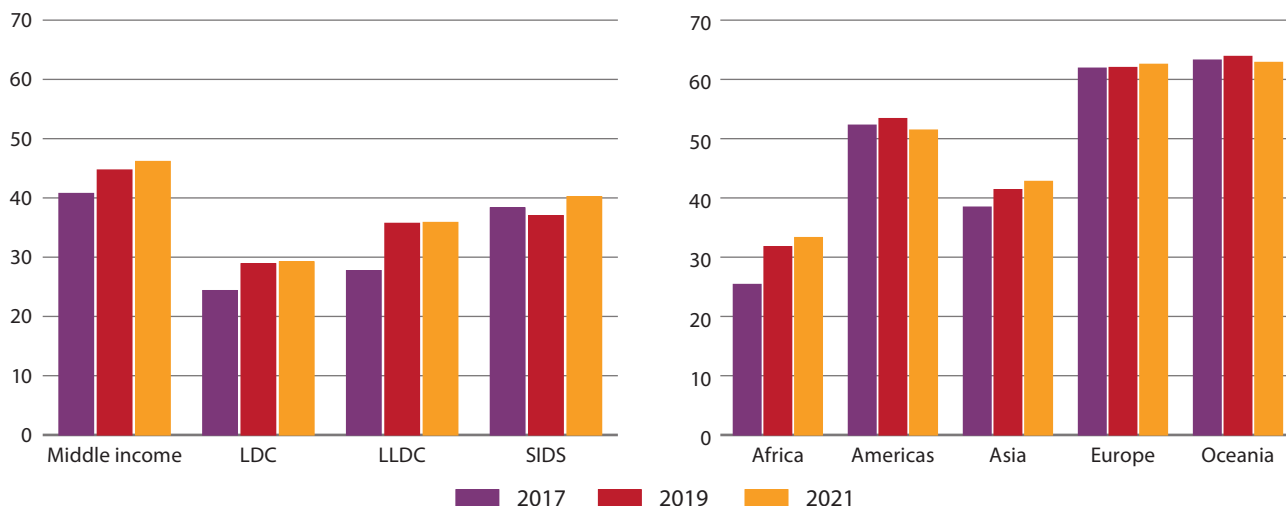
**Corruption risks can be found at every stage of the budget and procurement process; transparency is an important component of strategies to combat corruption.** Without appropriate mitigation measures, corruption may lead to inflated costs, the delivery of substandard goods and services or complete non-performance by public institutions or suppliers. The costs are borne by citizens, both as taxpayers and as intended beneficiaries of goods and services. Public transparency not only protects state expenditures but can also help to shape societies by strengthening the social contract.

**Budget transparency practices have remained relatively steady over the last four years, with diversity in progress.** While there is no comprehensive official data on the transparency of budgets, civil society organizations released the latest results of a large-scale budget transparency survey in May 2022, which found that the COVID-19 pandemic did not undo budget transparency gains worldwide, with most countries maintaining their transparency ratings and only small changes in averages (see figure III.A.12). Of the 120 countries assessed in the 2021 Open Budget Survey, the average Open Budget Index score was 45.3 out of 100.<sup>99</sup> As expected, less developed countries had lower scores on the index, with richer countries having greater capacity and resources to invest in budget transparency and participation. Supreme audit institutions can be critical to anti-corruption programmes, and the budget survey found that in 2021 the average score on the transparency of audit institution reports was 65.1. The averages ranged widely across regions and country groups; developing countries had an average score of 56.1. Developing countries scored higher on the discretion of audit institutions, with an average of 88.7, compared to a global average of 90.1.

**Intergovernmental discussions on improving budget and procurement transparency to combat corruption have focused on the use of digital technologies.** The IMF's Fiscal Transparency Code is the international standard for disclosure of information about public finances. Article 9 of the United Nations Convention against Corruption calls for the establishment of appropriate systems of public procurement based on the fundamental principles of transparency, competition and objective criteria in decision-making. In June 2022, the Open-ended Intergovernmental Working Group on the Prevention of Corruption discussed public procurement in the context of information and communications technologies. Governments indicated a wide and increasing use of such technologies to implement the Convention, including through the use of e-procurement portals.



Figure III.A.12  
Average Open Budget Index scores, by country groups and regions, 2017–2021  
(Index)



**Note:** Compares the 115 countries assessed in all of the 2017, 2019, and 2021 Open Budget Surveys.

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Domestic and international private  
business and finance



## Chapter III.B



# Domestic and international private business and finance

## 1. Key messages and recommendations

**Private business activity, investment and innovation are major drivers of productivity, employment and economic growth.** Yet, efforts to increase private investment in the Sustainable Development Goals (SDGs) in developing countries, under way even before 2015, have not shown sufficient progress. Unlocking private business and finance is one of the greatest challenges to achieving sustainable development.

**As noted in chapter II, industrial policies aim to turn this around by stimulating investment and business activity aligned with the SDGs.** This includes policies that reduce risks for all firms by strengthening the enabling environment and that encourage investment in target sectors or areas. Ultimately, policy choices will be country-specific and tied to national priorities; however, they should support: i) the SDGs, and ii) areas of competitiveness and dynamism that can stimulate inclusive and sustainable growth.

**Much of the discussion on investment policies has focused on attracting foreign investment; but the analysis in this chapter highlights the importance of developing a dynamic domestic business sector.** Governments can create a thriving and sustainable business environment. In addition to addressing political and macroeconomic risks, this includes:

- Strengthening SDG-aligned legal and regulatory frameworks;
- Implementing or strengthening competition policies to ensure that firms do not stifle innovation, aggravate inequalities and poverty, or impede environmental goals;
- Providing infrastructure services essential for sustainable development and the functioning of the economy; despite many initiatives in this area, infrastructure gaps remain considerable between developed and developing countries;
- Addressing financial constraints, particularly affecting micro-, small- and medium-sized enterprises (MSMEs),

such as by harnessing technological advancements, e.g., to overcome data gaps in credit risk assessments by lenders.

**Building an enabling business environment, however, may not be sufficient to mobilize investment at the speed and scale required to achieve the SDGs, particularly in countries that are most in need and in sectors key for sustainability.** Identifying the types of financial instruments most likely to deliver results given the local context will require a proper assessment of the key constraints to investment. There are a range of policy tools that can help to overcome some of the impediments to private investment, as discussed in chapter II.

- For example, development banks (or public or semi-public venture funds) could support innovative companies by using equity-like instruments, with risks managed by diversification across companies.

**Well-developed infrastructure plans would also help to achieve the SDGs and provide an enabling environment.** Such plans should include adequate stakeholder consultations and incorporate climate impact, disaster risk assessments and resilience as well as gender assessments to provide a long-term vision. This vision will allow countries to avoid having costly stranded assets such as coal-fired power plants or essential infrastructure assets unable to function during and after disasters.

**Major changes are also required in the way that private business and finance works.** The need for a systemic change is evident from the lack of progress in many sustainable areas where companies have a large impact, including in reducing carbon emissions, promoting gender balance and addressing waste.

Business leaders are increasingly acknowledging that taking sustainability factors into consideration will be necessary to achieve long-term financial success and ensure the future

viability of their companies. Nevertheless, turning this awareness into action and addressing the impact of business activities on the SDGs and climate action require the following:

- **First, strengthening company sustainability disclosure.** Reporting requirements for large corporates need to include a common set of sustainable metrics regardless of their materiality impact;
- **Second, designing policy and regulatory frameworks in support of sustainable finance through regulations and/or policies that better link profitability to sustainability.** This includes public policies that support long-term decisions, such as pricing externalities and phasing out harmful subsidies. In addition, corporate governance models need to be adjusted to address the persisting short-termism in capital markets and better align internal incentives with the SDGs;
- **Third, making sustainable investing more credible, including fixing sustainability ratings.** Investment advisors should be required to ask their clients about their sustainability preferences along with other information they already request; and minimum standards are needed for investment products to be marketed as sustainable, following, for example, the definition of Sustainable Development Investing elaborated by the Global Investors for Sustainable Development (GISD) Alliance, which is used in this chapter.<sup>1</sup>

## 2. Private investment and finance for sustainable industrial transformation

**Weak investment in developing countries, following a widespread slowdown in investment growth over the past decade (see chapter I), risks dampening productivity growth and threatens countries' progress towards sustainable industrial transformation.** As noted in chapter II, sustainable industrial policies aim to turn this pattern around by stimulating investment and business activity aligned with the SDGs. As a first step towards reinvigorating investment, policymakers can aim to reduce risks to investment by strengthening the enabling environment, such as through a conducive legal and regulatory framework, investment in necessary infrastructure and access to credit. These are sometimes called horizontal policies since they affect all types of private investment across sectors. The second set of measures include policy instruments (such as public support for investment) that target sectors or areas for investment, sometimes called vertical measures, as discussed in chapter II.

**The challenge for governments is where to focus and how to prioritize these measures.** Ultimately, policy choices will be country-specific, tied to national priorities laid out in sustainable development plans, which can be supported by integrated national financing frameworks (INFFs). As all countries have committed to the SDGs, this should include *investments in SDG-related goals*, such as climate action and decent jobs that the market will not provide on its own. But the choice of instruments will also depend on market structures and the types of firms in the economy, with the goal of *supporting activities with the potential for competitiveness and dynamism* that can lead to productive growth aligned to the SDGs.

This section lays out a simple heuristic to guide thinking on aspects of appropriate regulatory frameworks and potential directions for interventions.

### 2.1 Global foreign direct investment momentum weakened significantly in 2022

**Global foreign direct investment (FDI) momentum weakened significantly in 2022, with downward pressure on investment increasing after the first quarter.** While data for aggregate FDI trends for 2022 is not yet available, new investment project numbers, including greenfield announcements, international project finance deals, and cross-border mergers and acquisitions (M&As), all started falling from the second quarter of 2022 (see figure III.B.1).

**International project finance and cross-border M&As were affected by deteriorating financing conditions, rising interest rates and increasing uncertainty in financial markets.** The global value of international project finance deals fell by over 30 per cent in 2022.<sup>2</sup> Greenfield project announcements also fell after the first quarter of the year but increased by around 6 per cent for the full year due to several megaprojects and an increase in average project size in the renewables sector. Three of the 10 largest announcements concerned chip factories, in response to global shortages and supply chain restructuring trends. Six of the top 10 project announcements were in renewables.

**The increase of FDI in renewable energy, in part due to the energy crisis, could be at risk.** In 2021, climate change investments accelerated, particularly in renewable energy, supported by COVID-19 stimulus investment packages, still-loose financing conditions and high energy prices. This momentum may now be at risk. In 2022, international investment in climate change mitigation and adaptation shrank in value terms and in project numbers (see figure III.B.2). While the higher number of greenfield megaprojects in renewables is encouraging, international project finance in the sector—the bulk of climate change mitigation investment in recent years—is suffering, and concentrated in developed countries, with Europe alone accounting for more than half of all renewable energy projects.<sup>3</sup>

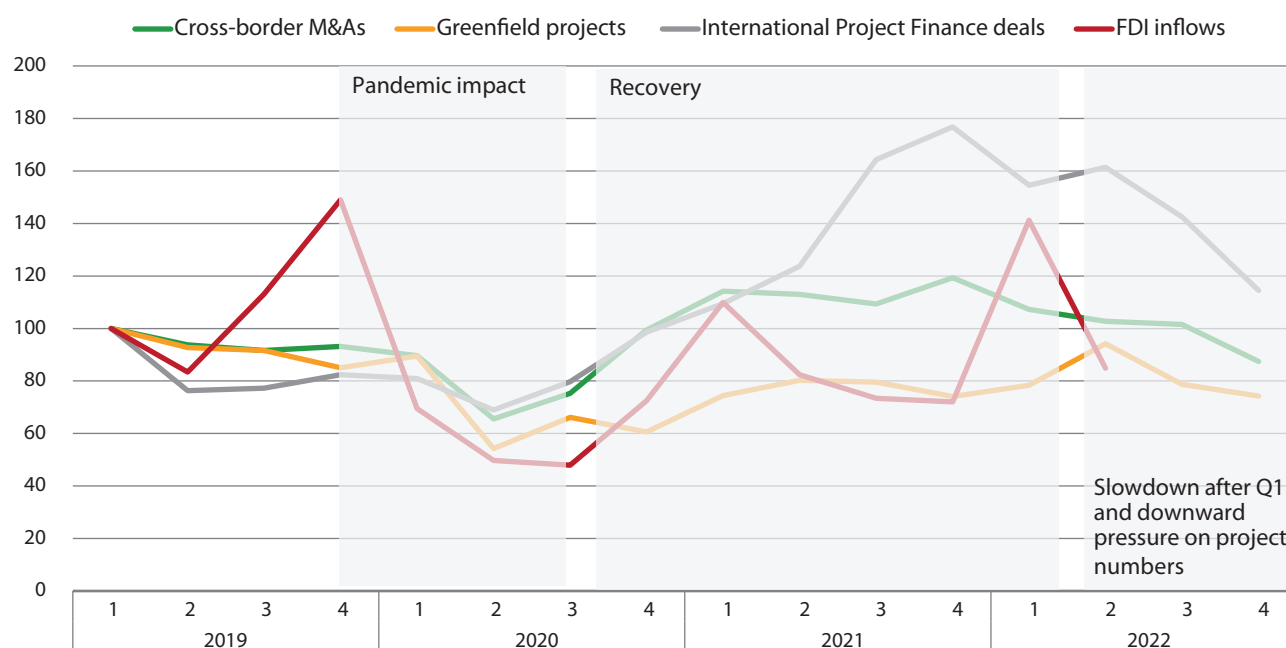
**At the same time, there is also a risk that high oil and gas prices could slow down investments in the energy transition.** For now, the downward trend in investment is also affecting extractive industries and fossil-fuel-based energy generation, with project numbers in these sectors about 16 per cent lower in the first three quarters of 2022. Yet, the high profits of multinationals in these sectors could lead to a renewed push for investments. An early indication is the value of cross-border M&As in the extractive industry, which rose six-fold in the first three quarters of 2022.

**Beyond climate change mitigation and adaptation, the recovery of SDG investment after the 2020 slump remains fragile.** In developing countries, the number of projects across all SDG sectors (including sustainable infrastructure, food security, water and sanitation, and health, among others) increased by about 3 per cent, while values shrank slightly. International investment in agriculture and agribusiness remained stagnant at low levels.

### 2.2 The roles of public and private investment

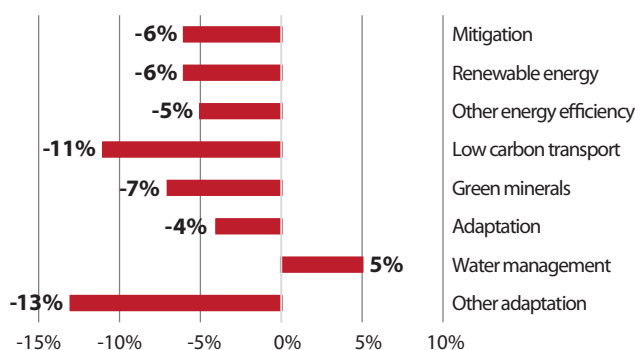
**In general, businesses aim to maximize financial returns.** While a growing number of institutions have double or triple (social

Figure III.B.1  
**Investment trends, 2019–2022**  
 (Indexed, 2019: Q1=100)



Source: UNCTAD, Global Investment Trends Monitor, Issue 44.

Figure III.B.2  
**Climate change investment: greenfield project announcements and international project finance deals, 2022 vs 2021**  
 (Percentage change in project numbers)



Source: UNCTAD, Global Investment Trends Monitor, Issue 44.

and environmental) bottom lines, the large preponderance of private business activity remains profit driven. The goal, however, is generally not to invest in the highest returning asset but rather to invest in well-compensated risks. As a result, the private sector will demand a very high premium for projects perceived as risky and will likely underinvest in public goals when the expected return underperforms other investment opportunities (on a risk-adjusted basis). Hence, it is important to recognize upfront that i) public financing will be necessary for some

public goods; and ii) public policies need to support private investment in many areas of public need.

**Both private and public investments and actions are needed for SDG progress, with the specific roles depending on project, sector and country characteristics.** Previous Task Force reports have highlighted several factors to consider in determining the combinations of private and public ownership, operation and financing of projects, and investments. These include: (i) whether investments will become sufficiently profitable to compensate private investors for the risks they bear; (ii) whether investments produce goods or services that will be effectively supplied by the market, or whether there are public goods to consider, such as whether public intervention is warranted for social equity reasons (or whether the private activity is producing externalities such as carbon emissions that are not reflected in private investors' financial returns); and (iii) whether private investors can bring efficiency gains through the profit incentive.

**Public policy support and interventions may be called for in support of private business activity, including in technological learning and achievement of social and environmental goals.**

A dynamic private sector is not only central to economic growth; it can also contribute to social objectives, especially decent job creation. But unlocking private sector contributions to some sustainable development objectives may require policy support. Firms may not adopt low-carbon technologies and may even cause environmental harm because of market incentives or competitive pressures. They may not invest in technologically dynamic activities or target export markets because they lack the necessary capabilities, or because they are faced with significant external challenges—e.g., poor infrastructure or lack of financing.



There are two primary types of policy interventions: i) policies to improve enabling environments for firms and investments that contribute to sustainable development (e.g., by improving infrastructure, access to credit, governance and policies to internalize externalities such as through carbon pricing); and ii) policies that provide targeted support to firms (e.g., investments in climate action and innovation), with the goal of making investments just profitable enough to compensate private investors for the risks they bear. In these public initiatives, it is important to preserve incentives that reward successful entrepreneurship.

**INFFs, along with technical support, can help developing countries to determine the most cost-effective capital structure for projects and align the private sector with broader development objectives.**

INFFs can help policymakers to highlight areas for private ownership, operation or financing; and technical support can help countries to build institutional capacity for project planning, preparation and negotiation. INFFs can also help countries to prioritize public support across the many different types of projects and businesses, with varying degrees of SDG impact.

**2.3 The many facets (and impacts) of private business and investment**

**Company behaviour and investments are shaped by market structures and competition—which policy support has to consider.**

Competition is a major driver of innovation. Firms with market power (i.e., monopolies and oligopolies) often have less incentive to innovate. These firms can also have negative impacts on social goals, such as inequality and poverty, e.g., by charging high prices for necessary goods. Economic power can also translate into political power, with firms pushing back against regulation, such as environmental regulations. In contrast to firms with market power, other domestic firms may lack the capabilities to succeed in some of the highly competitive and dynamic sectors that support the SDGs. Policy intervention may be needed in both cases—in both highly competitive and uncompetitive environments—but would differ significantly.

**As a simplifying heuristic,<sup>4</sup> and to structure policy options, we divide firms into those with market power and those that operate in more competitive markets.** Since some firms that have market

power domestically are competitive globally, we further categorize firms by whether they predominantly target domestic or global markets (see table III.B.1). This creates four overarching categories:

- a. **Monopolistic/oligopolistic but export-oriented** firms export high-rent products, such as raw minerals or agricultural commodities. These firms are often larger (particularly in mining and fuel) and foreign owned, though there are also examples of publicly owned commodity trading companies (e.g., Botswana’s Diamond Trading Company);
- b. **Domestic monopolies/oligopolies** are companies that primarily serve the domestic market and enjoy a dominant market share for their product or service, often in conjunction with government regulation. Examples include utilities, some financial sectors, real estate and oligopolistic manufacturing sectors;
- c. **Non-tradable/domestic** firms include a wide variety of entities, from large “national champions” to MSMEs as well as informal businesses and other firms focusing predominantly on domestic markets in more competitive settings. Business activities cover many goods or services that are not exported;
- d. **Global value adders** export products or services, e.g., export-oriented manufacturing or tourism. This does not mean they do not also sell locally, but their business model is oriented to compete in international markets. This grouping also encompasses a wide range of firms in terms of size and ownership, from local start-ups and family owned SMEs to large, foreign-owned multinational enterprises.

The boundaries of these categories are not static, as policymakers can shift them, e.g., through competition policy. Most firms seek to achieve market power (so that they can charge higher markups)—and sometimes they succeed, either through innovation or policy support. Competition policies aim to ensure that such positions do not become entrenched. There are also many examples of firms (and industries) that develop from “non-tradable domestic” to “global value adders”, such as film production and distribution companies in Nigeria (Nollywood), the J-Palm consortium in Liberia,<sup>5</sup> and Infosys, an Indian technology and business services company that increased its annual revenue from \$200 million in 2000 to over \$10 billion in 2018.<sup>6</sup>

	High rent	Competitive
<b>Export oriented</b>	<p><i>Monopolistic exporters</i></p> <p><i>Economic:</i> large contributors to GDP in many countries; royalties/taxes (but also tax avoidance); often limited spillovers to the rest of the economy; balance-of-payments support (but also risk of Dutch Disease)</p> <p><i>Social:</i> greater potential for corruption</p> <p><i>Environmental:</i> often risk of air, water, land pollution</p>	<p><i>Global value adders</i></p> <p><i>Economic:</i> can be engines of productivity growth and innovation/including linkages with other firms; potential diversification of the economy; balance-of-payments support</p> <p><i>Social:</i> potential to create decent jobs and human capital development</p> <p><i>Environmental:</i> impact from GVCs</p>
<b>Domestic market</b>	<p><i>Monopolies/oligopolies</i></p> <p><i>Economic:</i> limited innovation</p> <p><i>Social:</i> risk of generating inequality; potential for corruption</p> <p><i>Environmental:</i> risk of air, water, land pollution (depending on sector)</p>	<p><i>Non-tradable domestic</i></p> <p><i>Economic:</i> broad-based economic activity; includes dynamic innovators as a driver of growth</p> <p><i>Social:</i> in many countries, driver of job creation and poverty reduction (but jobs can be low-paying/insecure); links with local communities</p> <p><i>Environmental:</i> includes potentially polluting informal activities outside of regulatory framework</p>



**“Monopolistic exporters” such as commodity producers can represent a large share of GDP and tax revenues—though without appropriate policy frameworks they rarely give rise to broad-based sustainable development.** Commodity exports also support countries’ balance of payments,<sup>7</sup> though this reliance can create obstacles to economic diversification, e.g., through the Dutch Disease (in which commodity exports raise the currency value, making investments in other areas of the economy uncompetitive even if those sectors could potentially have a more positive impact on productivity growth and employment). Sectors such as mining and agriculture tend to have relatively low employment and productivity growth.<sup>8</sup> Countries that rely on commodity exports—particularly in agriculture—also tend to have lower rates of technological adoption and innovation. In many developing countries, commodity exporters tend to be highly influential with governments because they are among the largest taxpayers (e.g., Firestone in Liberia, Chevron in Nigeria and BHP Billiton in Bolivia), though they also engage in tax avoidance. Furthermore, they do not, on their own, create sufficient business linkages to induce broader private sector growth.<sup>9</sup> Moreover, intensive commodity extraction and trade often cause or accelerate environmental degradation, for example by polluting air, land or water, or by harming biodiversity.<sup>10</sup>

- *Policy responses to commodity firms are complex, but for the purpose of orienting sustainable and inclusive industrial policies rather than aiming to attract foreign investment in commodities directly, tools can be used to help companies develop value addition activities and expand to related competitive value added industries, both of which can create decent jobs.*

**Domestic monopolists/oligopolists can have a large impact on equity and innovation.** Because of their monopoly power, these firms can set prices (often subject to regulation), which can have profound impacts on upstream and downstream firms and hence on broader efforts to achieve more diversified economies. This market dominance can also impact equity and poverty directly through consumer prices. Such domestic monopolies or oligopolies can arise due to characteristics of the specific market (e.g., utilities are considered “natural” monopolies since it is more efficient to have one firm set up and manage infrastructure/networks in a geographic region), or policy decisions (e.g., temporary trade protection for infant industries). Indeed, in many cases, such firms become established or strengthen their market position due to preferential deals with the government—such as the provision of licenses to import key commodities or provide services, and preferential tax deals. For example, in some countries, fertilizer importers established or grew their businesses through government procurement contracts,<sup>11</sup> passing higher prices on to farmers. In many countries, the financial sector also exhibits oligopolistic behaviour, which can have the effect of raising borrowing costs or limiting access to credit. Because of the impact of monopolist pricing power on equity, the prices of utilities providing necessities, such as water and energy, are generally regulated when operated by private entities. Similarly, the operator of infrastructure under a public-private partnership (PPP) regime (e.g., a toll highway) often has a monopoly or an oligopolistic position in a market, which is often done in compliance with the industry’s regulator in setting the size of the toll, sometimes with direct earnings assurances.<sup>12</sup> Because these firms face limited competition, they are often also uninventive and cautious of trade openness. This behaviour can act as a barrier to innovation and to adopting new technologies.<sup>13</sup>

- *Policy responses will vary by industry, but high-level guidance includes: first, removing barriers to new entrants and putting in place strong competition policies to restrict monopolies where possible; second, regulating prices with equity considerations in mind; third, using industrial policy tools to support new entrants, as feasible; and fourth, analysing whether public ownership would be more effective and equitable.*

**Firms in competitive domestic sectors are heterogeneous, but critical: they create employment opportunities and can stimulate innovation.** In many developing countries, a large portion of the working population is employed in MSMEs in sectors such as low-value agriculture, retail services or informal activities.<sup>14</sup> SMEs generally contribute up to 45 per cent of formal jobs and 33 per cent of national GDP in developing countries,<sup>15</sup> with the informal sector representing about 70 per cent of total employment.<sup>16</sup> However, these jobs are often low-paying and highly insecure, with many workers lacking access to social protection. Female entrepreneurs are more likely to work in non-tradable services: 63 per cent of Africa’s female entrepreneurs work in retail trade, hotels and restaurants—traditionally less productive and innovative—compared to 46 per cent of men.<sup>17</sup> MSMEs in developing countries are particularly vulnerable to demand and supply shocks and economic crises. In addition, many MSMEs face severe challenges in raising financing, and often identify access to finance as the main barrier to growth. Nonetheless, because these firms face stronger competition, they have more incentives to innovate—and even change the structure of the economy.<sup>18</sup> Indeed, as noted earlier, there are many examples of firms that started as MSMEs and grew into “global value adders”. A survey of manufacturing firms in China showed that competition from the informal sector also induces formal firms to increase product innovation.<sup>19</sup>

- *Policy responses will vary because of the breadth of the types of firms involved; but high-level policy responses include measures to increase access to credit; investing in entrepreneurial skills and capacity development; and universal social protection and addressing informality;<sup>20</sup>*
- *Policy responses also entail using the full inclusive and sustainable industrial policy toolkit. Targeted policies can include facilitating MSME participation in public procurement, for instance, by dividing contracts into smaller lots, or using public venture capital funds or national development banks, which can take equity stakes in potential innovators while diversifying risks (see chapter II).*

**“Global value adders” have the potential to yield significant rewards for sustainable development.** Their positive spillovers are extensive, particularly around productivity and job creation. Firms that export as part of value chain linkages with multinational enterprises can benefit from increased demand for their goods as well as from learning opportunities and technological upgrading.<sup>21</sup> These firms often contribute to product and process innovation and help the country to diversify its production and exports. From a social standpoint, dynamic exporting firms create employment opportunities for semi- and highly skilled workers, offering the prospect of higher wages, though the demand for specific skills can put pressure on the local professional training and education sectors.<sup>22</sup>

- *High-level policy responses are in line with the overall recommendations for using the inclusive and sustainable industrial policy toolkit: strengthening the enabling business environment to reduce risks; incentivizing productive investment aligned with the SDGs; and increasing access to credit using risk-sharing mechanisms as appropriate.*

**Box III.B.1****Overlooked but essential: The development impact and needs of small and medium agrifood enterprises**

Small and medium agrifood enterprises (SMAEs) constitute an important yet often overlooked part of the agrifood value chain, covering activities from harvest transport to food processing. Domestic SMAEs can make fundamental contributions to **sustainable development** through rural investment, modernization of the agrifood sector and the connection between farms (mainly small land holdings) and the expanding rural-urban continuum.

SMAEs can also contribute to off-farm job creation, and while data on SMAE **jobs** are scarce, the broader agrifood sector in many developing countries employs a growing number of women compared to economy-wide averages. Between 1990 and 2011, female employment in high-value agroprocessing increased tenfold in Bangladesh, and by 137 per cent in Ethiopia and 90 per cent in Kenya.<sup>a</sup>

At the same time, existing SMAEs in developing countries are often scattered, small to very small, informal and family-based and lacking economies of scale. For example, more than 95 per cent of fresh fruit and vegetables consumed in Kenya are grown domestically, mainly by smallholders, and supplied largely by SMEs through informal supply chains.<sup>b</sup> SMAEs face significant obstacles due to neglected infrastructure, insufficient access to finance, poor support for accessing improved technologies and lack of targeted policy initiatives.<sup>c</sup>

The **financing** required for investments by SMAEs usually comes from self-financing (including family and friends), informal credit or from larger firms with stronger bargaining positions. The small size of such enterprises often makes transaction costs associated with formal financing prohibitive. The rise of new intermediaries has the potential to fill the credit vacuum left by the decline, starting in the 1990s, of agricultural credit schemes, which played an important role in developing countries for several decades.

In addition, meeting the **infrastructure** needs of SMAEs (from warehousing to logistics platforms to retail spaces) is the basis for a diversified service industry and a critical step towards more efficient management of food supply chains as well as integrating rural areas into the economic activities of intermediary cities and smaller towns.<sup>d, e</sup>

<sup>a</sup> Food and Agriculture Organization. *The State of Food and Agriculture 2017. Leveraging Food Systems for Inclusive Rural Transformation*.

<sup>b</sup> World Bank. "Growing Africa. Unlocking the Potential of Agribusiness". World Bank Working Paper 75663.

<sup>c</sup> Ilie, E. T., and S. Kelly. "The Role of Small and Medium Agrifood Enterprises in Rural Transformation: The Case of Rice Processors in Senegal". Food and Agriculture Organization.

<sup>d</sup> Food and Agriculture Organization. *The State of Food and Agriculture 2017. Leveraging Food Systems for Inclusive Rural Transformation*.

<sup>e</sup> Gálvez Nogales, E., and M. Webber (eds.). "Territorial Tools for Agro-Industry Development – A Sourcebook". Food and Agriculture Organization.

**2.4 Additional policy solutions**

As noted above, two broad areas of policy intervention can be taken from the above analysis, taking into account that solutions will vary by firm type, sector and country specifics.

**The first is to improve the enabling environment, thus reducing risks for all firms.** This includes building a conducive legal and regulatory environment and investing in necessary infrastructure along with a range of other issues, such as reducing political risks and promoting macroeconomic stability. Importantly, strengthening the enabling environment also includes the application of labour regulations for decent jobs as well as environmental and health standards, and regulatory and policy frameworks to reduce pollution and carbon emissions.

**The second area of policy intervention is to effectively utilize policy instruments, as discussed in detail in chapter II.** An enabling business environment may not be sufficient to mobilize private finance for sustainable development and better develop active domestic business sectors. Reforms take time to materialize, but even countries with strong enabling business environments often fail to attract private finance for sustainable development priorities. Instruments include incentives, such as tax breaks or penalties as well as risk-sharing mechanisms, such as guarantees, public-private-partnerships and subsidized credit. As discussed in earlier Task Force reports, use of these mechanisms is not without challenges (see also chapter III.C on blended finance). Among others, they include the risks of: (i) private sector involvement when it is not the most cost-efficient solution; (ii) perverse incentives, such as excessive risk-taking by financial institutions; (iii) overly generous risk-reward sharing arrangements/subsidies for private investors, with the risk of the public sector holding the risk and the private sector earning all of the returns (and sometimes diverting public funds from other needs); (iv) overleveraging of private companies (i.e., increasing the debt leverage of a company to a point where it jeopardizes its long-term viability); and (v) corruption and state capture. Yet, when done carefully, such actions can help to make projects that are not competitive with other investment opportunities on their own but have a strong public benefit, become attractive for private investors.

**Improving access to credit is critical.** Commodity exporters and, to a lesser extent, monopolies/oligopolies can more easily tap local and international financial markets, given the high rents associated with their business operations as well as earnings in international currencies. For many domestic firms, access to capital markets or corporate bond issuance is more limited. MSMEs generally identify access to finance as a major obstacle to doing business, with women-owned/led firms more often affected by financing constraints.<sup>23</sup> These discrepancies are more pronounced in least developed countries (LDCs), where financial sectors tend to be less developed. Firms in more competitive market segments tend to rely on multiple—sometimes informal—sources of financing, including tapping personal networks, microfinance institutions or savings and credit cooperatives and, more recently, some financial technology (fintech) providers. Public development banks can also play an important role. For innovative businesses in particular these banks (or public venture funds) should use equity-like instruments that allow them to share in the upside (above a threshold) as well as diversify risks and compensate the taxpayer.<sup>24</sup>

The rest of this section covers issues related to the enabling environment, including infrastructure. Access to credit is covered in the following section.

### 2.4.1 Building a conducive legal and regulatory environment

Countries have made strides to reduce administrative hurdles for companies (see earlier *Financing for Sustainable Development Reports*). Nonetheless, impediments remain and there is space for improvement in most countries. One such area would be to remove barriers that deter women's entrepreneurship and labour force participation. Laws limit women's property rights in 40 countries, and women cannot run a business the same way as men in 115 countries.<sup>25</sup>

Lowering the administrative burden of regulatory compliance could also help to encourage domestic entrepreneurs to leave the informal sector, which represents about 70 per cent of employment in emerging market and developing economies. This could translate into significant productivity gains since the average informal firm in these economies is estimated to be only one quarter as productive as the average firm operating in the formal sector. Similarly, strengthening trust in the public administration could encourage entrepreneurs to start new businesses in the formal economy (see chapter III.A).

**Policymakers can also improve the efficiency of business facilitation measures—and gear them to both domestic and foreign investors.** Business facilitation measures, along with any reduction in regulatory standards, need to be coherent with sustainable development objectives. To maximize private sector contributions to sustainable development, these measures should go hand in hand with protecting labour rights and environmental and health standards, and implementing disaster risk reduction standards, regulations and legislation, even if these measures may imply increasing the cost of doing business. For example, some countries have strengthened rules against harmful pesticides in agriculture, raised minimum standards in building codes and established new protected areas (e.g., Palau banned commercial fishing in 80 per cent of its marine territory to protect its ecosystem). These laws raised the costs for businesses but can be necessary to achieve the SDGs, underscoring the importance of developing regulations in an integrated manner (such as through an INFF), which includes an analysis on trade-offs.

**An enabling business environment also requires competition policies to facilitate the entrance of new businesses and avoid monopolistic behaviours by dominant firms.** As noted, growing market concentration has been especially significant in the digital space, where further increases in market power by already dominant firms could deter investment and innovation as well as exacerbate inequality. A range of other firms, including in finance, also hold market power and need to be subject to regulatory frameworks. In addition, an enabling business environment would include strengthening institutions and putting in place policies to reduce corruption.

### 2.4.2 Providing infrastructure services

**Another lever that policymakers can use to support private sector development is the provision of efficient infrastructure services, which companies rely on to operate.** This remains predominantly a public sector activity, particularly in sectors with limited cash flow potential to repay the private investor, such as sanitation and education, where affordable access for all is needed. For example, in the water sector, despite a monopolistic market structure and the potential for reliable revenue streams, private investment has been limited due to high sunk costs and consumers' unwillingness to pay high usage fees. Since the 1990s, the

number of projects cancelled or under distress has amounted to 18 per cent of the total in developing countries, a high ratio compared to other sectors.<sup>26</sup> Overall, the public sector still accounts for 87 to 91 per cent of infrastructure investment spending in developing countries.<sup>27</sup> On the other hand, there are areas of infrastructure that have sufficient revenue streams attached to them, such as energy and electricity. Yet, even here there is a role for government to ensure access to energy for all and that environmental impacts are offset. Overall, private investment in infrastructure in developing countries stood at US\$76.2 billion in 2021, a recovery from the previous year but still markedly below pre-pandemic levels.<sup>28</sup>

**Well-developed infrastructure plans are needed to address these gaps.** They should include adequate stakeholder consultations and incorporate climate impact, disaster risk and resilience assessments as well as gender assessments to provide a long-term vision. This vision will allow countries to avoid having costly stranded assets, such as coal-fired power plants, or essential infrastructure assets unable to function during and after natural disasters. Making the right decisions is critical, as infrastructure assets typically last for decades and upfront costs should be weighed against operational costs over the asset life cycle. For example, each dollar invested in infrastructure resilience is expected to deliver a \$4 benefit through avoided repairs and disruptions and lower maintenance costs in low- and middle-income countries.<sup>29</sup> In addition, infrastructure investment paths compatible with full decarbonization have been found to cost no more than polluting alternatives when accounting for the life cycle cost of infrastructure assets.<sup>30</sup>

**Multilateral institutions support governments in infrastructure development by providing capacity development and tools to enhance resilience in business operations and assets.** Technological advancements can help project prioritization and planning, including through data analytics and enhanced project management. For example, SOURCE, a customizable software designed to help governments prepare, procure and implement their infrastructure projects, is supported by multilateral development banks. The Real Estate Resilience Tool of the United Nations Office for Disaster Risk Reduction (UNDRR) offers guidance on disaster risk reduction by looking at investment holistically and considering factors such as financial value, climate change resilience and transitioning to a less polluting economy, as well as the wider social context, the environment and the interactions between nature, society and development. The United Nations Economic Commission for Europe (UNECE) has developed a PPP Evaluation Methodology for the SDGs, which assesses infrastructure projects against the SDGs.<sup>31</sup> The United Nations Economic Commission for Africa (UNECA) has developed a monitoring and evaluation tool—the AfCFTA Country Business Index—to identify bottlenecks, many of which are related to infrastructure, that businesses face under the African Continental Free Trade Area.

## 3. Inclusive financial systems

**Financial inclusion is a prerequisite for the development of SMEs and productive capacities as well as for an inclusive recovery.** As noted in earlier Task Force reports, scaling up access to capital is limited by underdeveloped capital markets in many countries, and such countries should remain focused on developing local financial systems, with international support. But financial breadth, or an inclusive financial system,

is as important as financial depth. An inclusive financial system provides affordable, quality financial services to all individuals, entrepreneurs and small businesses.

### 3.1 Financial inclusion of individuals

**There has been enormous growth in financial inclusion over the past 10 years, driven by digital finance.** In 2021, high-income countries achieved near-universal account ownership,<sup>32</sup> with 96 per cent of adults having a bank account. In developing economies, 71 per cent of adults had an account in 2021, up from 42 per cent in 2011.<sup>33</sup>

**Yet, about 1.4 billion people remain outside the formal financial system, with the financial needs of historically underserved groups disproportionately unmet.** Women, the poor, the young, the unemployed and the less educated are among the groups traditionally underserved by financial service providers. The poorest 40 per cent of households globally were 7 percentage points less likely to own a bank account than the richest 60 per cent. Unemployment is associated with a 12 percentage point lower probability of having an account.<sup>34</sup>

**A gender gap in account ownership persists.** Although the gender gap in developing economies narrowed from 9 to 6 percentage points between 2017 and 2021,<sup>35</sup> women still lack legal protection against gender-based discrimination in access to credit in 104 countries.<sup>36</sup> An important barrier to accessing financial services for underserved groups, particularly women, is that they are far less likely to obtain formal identification (IDs) or own a mobile phone. Investments in gender-sensitive financial inclusion not only build greater resilience for women but also create positive spillover effects. When women obtain accounts, they build savings, have more say in their household finances, spend more on their children's education and invest in business opportunities.<sup>37</sup>

**A shift to mobile money has been a gateway to other financial services.** A significant step towards financial inclusion occurred during the COVID-19 pandemic, when an additional 865 million people in developing countries opened their first financial institution account, in large part to receive payments from the government. Two thirds of workers receiving wages through payments used their accounts to store money. In 2021, using a formal account became the most common method of saving in developing economies for the first time. Borrowing by formal means such as taking a loan from a financial institution, through mobile money accounts or using a credit card, has become as common in developing economies as borrowing from family and friends<sup>38</sup> (see chapter III.G for a discussion of fintech). However, the uptake of digital financial services can bring risks<sup>39</sup> of new exclusions, fraud, identity theft, scams and over-indebtedness (see also chapter III.F on systemic risks related to fintech).

**Government policies can help to facilitate inclusive financial services to reach underserved groups and address risks.** Countries that have been successful at reaching underserved groups have set up agent-based service points, enhanced transaction accounts and payment product designs, and implemented public campaigns to enhance financial and digital literacy. Governments can also foster inclusion by removing obstacles that generate economic exclusions, such as laws discriminating against women.<sup>40</sup> Legal and regulatory frameworks should be developed in tandem with the implementation of digital financial services to address potential risks.<sup>41</sup> Improvements in institutional factors, such as the

issuance of formal IDs and consumer protection regulations, can contribute to building and addressing issues of limited trust in financial institutions.<sup>42</sup>

### 3.2 Financial inclusion of businesses

**The outstanding demand for MSME financing is about 1.3 times the current supply of the global MSME lending market.** The unmet financing need for 131 million MSMEs (or 41 per cent) in developing countries is estimated to be \$5 trillion annually.<sup>43</sup> In the early part of the pandemic, loans to SMEs remained stable or even slightly increased in many countries due to supportive government policies preventing bankruptcies and related employment losses.<sup>44</sup> During the pandemic, 17 per cent of total policy measures and 25.5 per cent of total funding in the form of rescue packages specifically targeted MSMEs. On the other hand, pandemic recovery measures included only 4.1 per cent of policies and 2.2 per cent of funding focusing on MSMEs.<sup>45</sup> Alternative instruments that could have expanded and diversified access to finance for MSMEs, such as factoring and leasing, were growing prior to the pandemic but dropped significantly in 2020.<sup>46</sup>

**Traditional bank lending to MSMEs has long been hindered by the limited information that banks have on borrowers and a lack of instruments for overcoming this—such as credit histories, accounting data and traditional collateral.** As a result, banks in developing countries face a high cost of due diligence relative to loan size. In many developing countries, less competitive banking sectors have also played a role, as banks can charge higher prices for services and have fewer incentives to service marginal customers. Systemic sector-wide initiatives, such as the UNECA-backed development of money and interbank markets in Uganda, can bring down operating costs and increase margins and resilience for the entire banking sector, potentially enabling banks to lend to “riskier” clients.

**Modernizing the MSME lending model, including through fintech solutions, can lower administrative costs and extend reach to more MSMEs.** More commercial banks are looking into opportunities to better serve MSMEs' financial needs through innovative tools and the integration of digital platforms.<sup>47</sup> The use of such services can also create positive feedback loops, as electronic transaction histories can strengthen the information base for risk assessments, and better credit ratings can unlock access to additional services.

**Policymakers can also play a more active role in increasing access to finance for MSMEs.** They can, for example:

- Reduce information asymmetries through enhanced credit reporting systems and technology to provide better information for credit decisions (e.g., open banking technology may allow MSMEs to use their bank account data for seeking loans from third-party institutions);
- Support more efficient collateral systems (e.g., making it possible to use movable assets such as equipment as collateral);
- Create performance-based incentives that reward financial institutions targeting MSMEs;
- Mitigate risks through partial credit guarantee schemes for SME lending institutions (for example 65 countries have launched or expanded existing guarantee schemes since the COVID-19 outbreak);<sup>48</sup>
- Offer loan programmes (e.g., through public development banks) to MSMEs.

## Box III.B.2

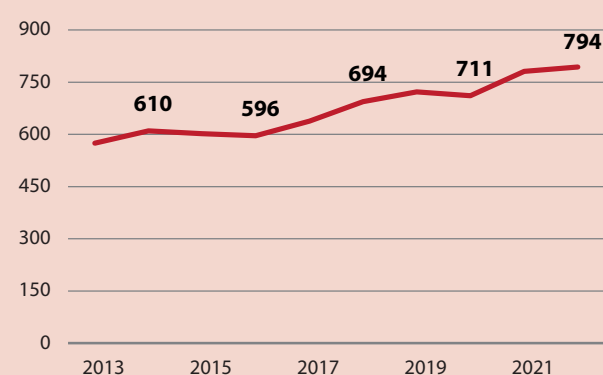
### The cost of remittance transfers

**The growth in global remittances—an important source of income for receiving families in developing countries—is back on track.** Global remittances, which declined in 2019, reached a new high of \$794 billion in 2022 (figure III.B.3).<sup>a</sup> One factor contributing to the increase in 2022 was a gradual reopening of many host-country economies after the pandemic, facilitating the entry of migrant workers and improving their employment situations.<sup>b</sup> Remittances accounted for 50 per cent of GDP in Tonga, and over 30 per cent in Lebanon, Samoa, Tajikistan and the Kyrgyz Republic.

Figure III.B.3

#### Global remittance inflows

(Billions of nominal United States dollars)



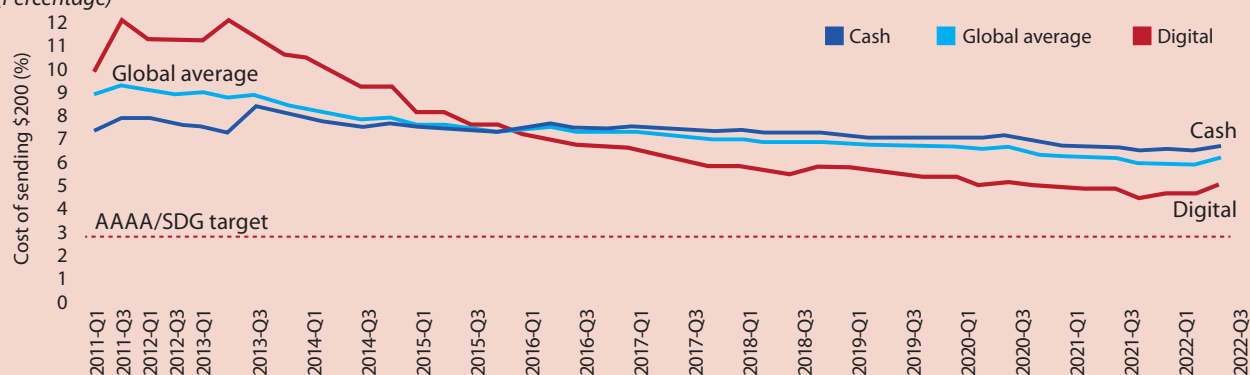
Source: World Bank.

**The global average cost of sending \$200 in remittances is still double the 3 per cent target of the 2030 Agenda for Sustainable Development and the Addis Ababa Action Agenda.** Remittance costs in the third quarter of 2022 were recorded at 6.3 per cent of the amount transferred, which has remained unchanged in the past five to six years. In the 13 years since the statistic was first recorded in 2009, the average cost of remittances has declined by 3.7 percentage points.

Figure III.B.4

#### Trends in the global cost of sending \$200 in remittances

(Percentage)



Source: World Bank, Remittance Prices Worldwide, Issue 43.

The cost of sending remittances varies across developing regions, with South Asia having the lowest cost at about 4.1 per cent, while sub-Saharan Africa continued to have the highest average cost (approximately 7.8 per cent). A high degree of heterogeneity is also observable across individual remittance corridors, with costs above 10 per cent across many African corridors and for Pacific Island nations. Forty-two per cent of corridors still record costs above 5 per cent.<sup>c</sup>

#### The decline in costs is attributed to the use of digital remittances.

The cost of sending cash remained at 6.8 per cent, while the cost for digital remittances decreased from almost 12 per cent in 2011 to 5.2 per cent in 2022 (figure III.B.4). All main types of remittance service providers, except post offices, have seen a decline in costs over time. In 2022, banks were the most expensive channels with an average cost at 11.7 per cent, while transfers via post offices were priced at 6.8 per cent and money transfers operated at 5.9 per cent. Mobile channels were the cheapest at 3.9 per cent (see chapter III.G).

**Policymakers can introduce measures to lower costs.** Shifting remittances to digital channels, which are cheaper than cash (see chapter III.G), promoting competition, implementing transparency requirements for fees and commissions charged and strengthening financial inclusion would lower the cost of remittances. However, some of the highest costs are in corridors without correspondent banking relationships. Governments can lower costs by establishing interconnected payment systems to facilitate cross-border payments in corridors with limited access to correspondent banking services.<sup>d</sup> The decline in correspondent banking services is partly due to the cost of compliance with anti-money-laundering/combating the financing of terrorism (AML/CFT) regulations. Central bank digital currencies (CBDCs), when issued, may be able to lower some of these costs as the relevance of AML/CFT will need to be re-examined in the context of CBDCs (see chapter III.F).<sup>e</sup>

<sup>a</sup> KNOMAD. "Remittances".

<sup>b</sup> World Bank. "Migration and Remittances Brief No. 37".

<sup>c</sup> Ibid.

<sup>d</sup> Ibid.

<sup>e</sup> BIS. "FSI Insights on Policy Implementation No 41 – Central Bank Digital Currencies: A New Tool in the Financial Inclusion Toolkit?".

The international community can also help by providing liquidity through credit lines to local financial intermediaries for on-lending to SME clients, as many multilateral development banks have been doing for many years (e.g., credit lines have represented up to 20 per cent of the European Bank for Reconstruction and Development's total annual business volume).<sup>49</sup> To minimize the risk that banks use these funds to lend to clients that would have received loans even without these credit lines, this can be done in conjunction with incentives to reach underserved groups, such as earmarking at least 20 per cent of loans to women customers and women-led enterprises.<sup>50</sup>

## 4. Leveraging financial markets for sustainable development

**The financial sector not only needs to be more inclusive; it also needs to be more sustainable.** Promoting financial sector alignment to SDG targets will strengthen global resilience to future shocks and help to achieve the SDGs. Incorporating sustainability issues into financial market decision-making has become mainstream, starting with climate change. Most investors and creditors now acknowledge that climate-related sustainability factors impact firms' financial performance. Environmental, social and governance (ESG) considerations were mentioned in about a fifth of earnings calls in 2021, compared to fewer than 1 per cent of earnings calls before 2019. This recognition is also reflected by the large number of signatories to voluntary sustainability principles across different sectors of the financial market (see box III.B.3). There has been an enormous growth in sustainable finance since 2015, with sustainable investing<sup>51</sup> increasing by 15 per cent to reach \$35.3 trillion in 2020 (compared to global financial assets which grew by 11 per cent, reaching \$469 trillion).<sup>52</sup> Yet, sustainable finance is not yet universal (for example, markets continue to fund fossil fuel companies) and questions remain as to its impact, including the risks of green/SDG washing.

**Net inflows to ESG funds were positive in 2022 despite net outflows in the broader market, although they were down significantly from a year earlier.** Net inflows into ESG funds totalled \$89 billion, down from the peak of \$405 billion in 2021 (see figure III.B.5).<sup>53</sup> Nonetheless, debates on ESG labelling may lead to a re-evaluation of the size of the market in the future. For example, a substantial portion of the over 1,000 funds classified as Article 9 (so-called "dark green" funds, representing 4.3 per cent of all products) in Europe are expected to be downgraded in 2023 as a result of the European Union's new classification requirements<sup>54</sup> (see box III.B.4).

**At the same time, sustainable debt issuance declined for the first time, albeit from a record high.** Globally, sustainable bond issuance dropped 11 per cent to \$1.5 trillion in 2022, with the share of developing country issuance remaining at around 16 per cent.<sup>55</sup> Issuance of green bonds and social bonds fell by more than 25 per cent and 38 per cent, respectively, in 2022, from record highs in 2021. Sustainability-linked loans were the only instrument to demonstrate growth in 2022, up 15.5 per cent year-on-year (see figure III.B.6).

**There are several reasons behind the growth and recent plateau of sustainable investments.** Most asset managers who report using ESG considerations in their investment decision-making focus on "ESG

integration", i.e., integrating ESG factors into investment decisions to better manage risk and possibly enhance financial returns (see previous *Financing for Sustainable Development Reports*). On the other hand, while 70 per cent of individual investors in a recent survey believe that sustainable investing implies a financial trade-off, the vast majority (79 per cent) remain interested in this type of investing.<sup>56</sup> Another survey found that roughly a third of respondents are willing to sacrifice returns in order to create a positive impact.<sup>57</sup> To date, it is unclear how much of the growth in ESG funds is due to their recent financial outperformance and how much is due to preferences by consumers. This distinction is important because of the recent turnaround in ESG fund returns.

### Box III.B.3 Voluntary initiatives and private sector commitments continue to grow across financial sectors

- In asset management, *Principles for Responsible Investment* (PRI) signatories represent more than \$120 trillion<sup>a</sup> (roughly 50 per cent of the value of the global equity and bond markets);
- More than 80 asset owners representing over \$10 trillion in assets and financial institutions that are part of the *Glasgow Financial Alliance for Net Zero* (GFANZ), representing some \$140 trillion in assets, are working towards net-zero greenhouse gas emissions by 2050, under the *UN-convened Net-Zero Asset Owner Alliance*;
- In the banking sector, more than 300 banks representing around 49 per cent of global banking assets have signed on to the *Principles for Responsible Banking*, which aim to align banking strategies with the Paris Agreement and the SDGs;
- In insurance markets, insurers representing around 25 per cent of world insurance premiums have signed up to the *UN Principles for Sustainable Insurance* (PSI). Insurers representing more than 14 per cent of world premiums have also committed to transition underwriting portfolios to net-zero emissions by 2050.

<sup>a</sup> PRI. "Annual Report 2022: New and Former Signatories".

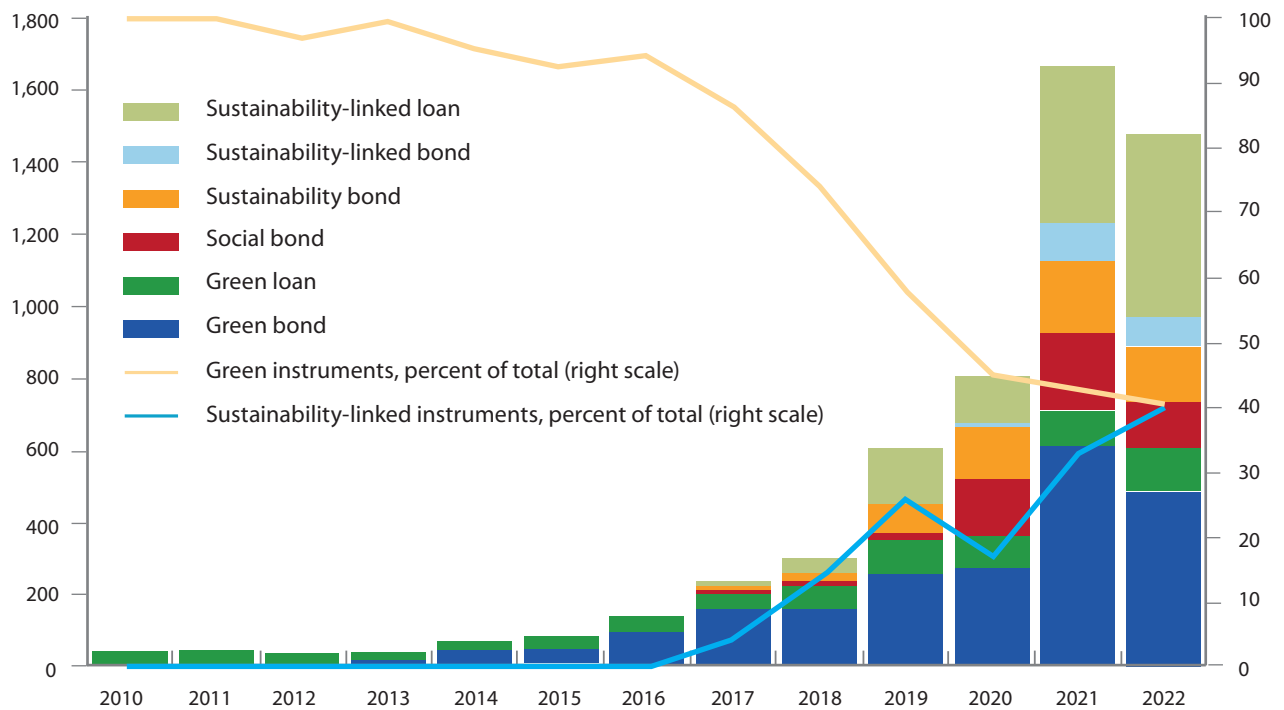
**In terms of financial performance, many ESG funds underperformed in 2022.** Sustainable investing approaches differ widely by strategy and products, making it difficult to measure ESG performance. Nonetheless, prior to the recent rise in interest rates and the outbreak of war in Ukraine, several empirical studies backed the premise that investors could achieve better, or at least equivalent, returns by incorporating ESG information into investment decision processes.<sup>58</sup> The rationale was that companies with better management of environmental and social risks are likely to outperform their peers in the long run. However, ESG funds also tend to overweight technology companies and underweight energy stocks. While trends in commodity prices and technology stocks supported the outperformance of ESG funds through 2021, this reversed in 2022, with eight of the 10 largest ESG funds underperforming the S&P 500.<sup>59</sup> Through November 2022, ESG equity funds lost around 18 per cent of their value, while non-ESG funds were down 15.8 per cent.<sup>60</sup> It is unclear whether these trends will continue and how they will impact demand for ESG products.

Figure III.B.5  
**Equity and bond flows into ESG funds (as of 31 December 2022)**  
 (Billions of United States dollars)



Source: IMF, Climate Finance Monitor, Q4 2022.

Figure III.B.6  
**Global sustainable debt issuance by instrument (as of 31 December 2022)**  
 (Billions of United States dollars)



Source: IMF, Climate Finance Monitor, Q4 2022.



**In terms of a positive contribution to impact, sustainable investing faces an existential crisis due to fears of SDG-washing and greenwashing.** Greenwashing is cited by institutional investors as the greatest challenge to sustainable investing, ahead of financial performance concerns.<sup>61</sup> Many funds which branded themselves as “sustainable” are not fundamentally different from traditional funds.<sup>62</sup> One study found an average of 68 per cent overlap in the holdings of ESG and non-ESG funds in the United States.<sup>63</sup> Some major asset managers have been accused, including by regulators, of exaggerating the sustainability claims of their financial products. Growing awareness of misleading practices is creating disillusion, threatening the entire market’s credibility and leading to an increase in regulatory measures to enhance transparency and accountability.

#### 4.1 Policy and regulatory efforts to reduce the risk of greenwashing

Taking sustainable investing to the next level requires a series of steps:

##### 4.1.1 Strengthen sustainability reporting

**There has been a dramatic increase in corporate sustainability reporting.** While just 20 per cent of S&P 500 companies published sustainability reports in 2011, over 90 per cent did so in 2021.<sup>64</sup> Around 80 countries have taken close to 200 measures to improve corporate sustainability disclosure since 2015 (with 60 per cent calling for mandatory disclosure).<sup>65</sup> The scope of disclosure has also been evolving. For example, more companies are referencing the SDGs in their sustainability disclosures (i.e., 42 per cent of Russell 1000 reporters in 2020 compared to 32 per cent in 2019).<sup>66</sup> Nonetheless, there are still enormous gaps in reporting, including in the availability of sustainability data for unlisted entities, which impedes efforts by financial institutions to align their lending portfolios with sustainable development targets (environmental, social and economic).

**The quantity of reports is not an indicator of quality or usefulness.** Sustainability disclosure is not yet treated with the same rigour as financial reporting. Early sustainability reports were almost promotional brochures, with companies deciding themselves what to disclose and which indicators to use. While there has been some improvement, for instance due to private sector-led initiatives such as the Task Force on Climate-related Financial Disclosures (TCFD), in many jurisdictions companies still decide on the content of their sustainability reports. A vast majority of investors (82 per cent) believe that companies frequently overstate or exaggerate their ESG progress when disclosing results.<sup>67</sup> This sentiment is echoed by senior executives, the majority of whom (58 per cent) consider their own company guilty of greenwashing.<sup>68</sup> Only a minority of sustainability reports undergo some type of audit (35 per cent of Russell 1000 reporters in 2020, up from 24 per cent in 2019),<sup>69</sup> while 97 per cent of investors, according to another survey,<sup>70</sup> demand external assurance to consider these reports as reliable.

**Regulators are responding to greenwashing by strengthening sustainability reporting requirements.** New measures are being taken, including in large jurisdictions. In the United Kingdom, large companies are required to disclose transition plans; in the United States, the Securities

and Exchange Commission (SEC) laid out plans for climate disclosure rules based on the TCFD recommendations, though as of year-end 2022 these are still under discussion; and China recently implemented guidance for ESG disclosure standards, along with data security and cybersecurity laws, as an integral part of governance-related disclosure.<sup>71</sup> China, Mexico and South Africa are among the only developing countries to have developed an ESG taxonomy. South Africa’s taxonomy was only adopted in April 2022, while Mexico launched the first stage of its sustainable taxonomy in March 2023. Just 25 of 60 developing countries’ stock exchanges require ESG reporting.<sup>72</sup> Unlike most reporting frameworks, the European Union’s sustainable finance strategy requires companies to assess “double materiality”—i.e., not only how sustainability risks impact the financial returns of the company but also how the company’s business practices impact sustainability and the planet (see box III.B.4).

**To be useful, sustainability-related information also needs to be comparable across reporting entities over time.** The plethora of reporting frameworks combined with the voluntary nature of many measures has led to inconsistencies, incompleteness and noncomparable sustainability reports (see the *2021 Financing for Sustainable Development Report*). In addition, companies are asked to respond to multiple surveys and questionnaires from data aggregators (e.g., CDP), index providers (e.g., S&P Global Corporate Sustainability Assessment) and networks of private companies (e.g., United Nations Global Compact’s Communication on Progress). The International Sustainability Standards Board (ISSB), launched in 2021, aims to achieve convergence among existing sustainability reporting frameworks to create a common global baseline, although its success will require international collaboration (see box III.B.5). A key requirement of ISSB standards will be corporate disclosures on greenhouse gas emissions, including both direct emissions (Scope 1) and indirect emissions from electricity use and value chains (Scopes 2 and 3).<sup>73</sup> However, the ISSB reporting standards will only include reporting on environmental and social risks that are material to a company’s financial performance; they will not include the impact of a company’s activity on environmental and financial indicators. In addition, the Impact Management Platform, a collaboration between sustainability actors, is aiming to develop globally consistent sustainability impact measurement, assessment and reporting methodologies. The World Benchmarking Alliance aims at providing comparable sustainability disclosure information by developing freely accessible benchmarks of performance on the SDGs of 2,000 influential companies.

**Another challenge is to hold companies accountable for failing to meet their sustainability commitments.** A review of the world’s 30 largest listed financial institutions shows a disconnect between their concrete short-term actions and long-term climate goals. For example, in 2020 and 2021, these institutions provided at least \$740 billion of financing to the fossil fuel production value chain (e.g., companies active in fossil fuel exploration).<sup>74</sup> Similarly, it is important to check the robustness of methodologies used for setting sustainability commitments. According to data from the net-zero tracker, only 38 per cent of companies with net-zero targets include all Scope 3 emissions,<sup>75</sup> and nearly 40 per cent intend to use offsets, which remain controversial.<sup>76</sup> To enhance the transparency and monitoring of net-zero commitments, the French President and the United Nations Special Climate Envoy Michael Bloomberg are leading discussions on creating an open data platform.<sup>77</sup>

**Box III.B.4****The European Union's sustainable finance strategy**

The European Union's sustainable finance strategy has three components: the green taxonomy, which entered into force in July 2020; the Sustainable Finance Disclosure regulation (SFDR), which has been applicable as of March 2021; and the Corporate Sustainability Reporting Directive (CSRD), which entered into force in January 2023.<sup>a</sup>

- 1) The green taxonomy is a classification system for sustainable economic activities. It includes technical screening criteria for six environmental activities, which set the conditions for this activity to qualify for a positive contribution;<sup>b</sup>
- 2) The SFDR requires that investors and insurers disclose how they evaluate ESG-related risks in their investment decisions, in line with the taxonomy.<sup>c</sup> This includes the labelling of "dark green" funds that have sustainability investment as their objective (Article 9) and "light green" funds that promote environmental or social characteristics;

- 3) The CSRD, which companies will start following in financial year 2024, covers a wider range of sustainability topics, including social indicators (such as child labour, gender balance, and corruption). Unlike most other reporting frameworks, the CSRD requires companies to assess "double materiality". In addition, corporate data repositories are being developed in jurisdictions such as the European Union to make data publicly available.

- <sup>a</sup> The European Parliament and Council of the European Union, "DIRECTIVE (EU) 2022/2464 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 14 December 2022 Amending Regulation (EU) No 537/2014, Directive 2004/109/EC, Directive 2006/43/EC and Directive 2013/34/EU, as Regards Corporate Sustainability Reporting."
- <sup>b</sup> For example, the EU taxonomy specifies that the life cycle greenhouse gas emissions from the generation of electricity from geothermal energy should be lower than 100 g CO<sub>2</sub>e/kWh to qualify for making a substantial contribution to the objective of climate change mitigation.
- <sup>c</sup> S&P Global. "New EU ESG Disclosure Rules to Recast Sustainable Investment Landscape".

#### 4.1.2 Enhance regulatory and policy frameworks to support sustainable finance

**The financial sector cannot change the economy alone.** The speed of transition in the financial sector depends on the transition of real sector activities to more sustainable operations. Without adequate public policies to support long-term decisions, such as the pricing of externalities and

phasing out of harmful subsidies, the economy will not transition at the scale or pace needed to achieve the SDGs. In other words, if environmental and other costs do not matter for profitability, there are clear limits to the amount of finance that can be mobilized for sustainable development. In 2022, over 600 investors from 33 countries representing over \$40 trillion in assets under management signed the 2022 Global Investor Statement in

**Box III.B.5****International Sustainability Standards Board: Opportunities and challenges**

The ISSB was created in November 2021 by the IFRS Foundation that is responsible for accounting standards used in more than 140 jurisdictions.

Building on the credibility of the IFRS Foundation on financial accounting standards, the ISSB has the potential to create a common baseline for corporate sustainability disclosure standards, which can help to realize the necessary convergence of the many existing sustainability reporting frameworks. This would not only enhance the comparability of data disclosed by companies but also limit companies' reporting burdens. In 2022, the IFRS Foundation succeeded in consolidating three pre-existing disclosure frameworks—the Climate Disclosure Standards Board (CDSB) and the Value Reporting Foundation (which houses the Integrated Reporting Framework and the Sustainability Accounting Standards Board). The ISSB also issued its first two standards for public consultation.

However, the ISSB faces at least four major challenges:

- **The risk that jurisdictions continue to adopt their own approaches.** For example, the SEC and the European Commission both issued their own consultation on sustainability-related reporting standards in 2022, independent from the work of the ISSB. International cooperation is necessary to reconcile national approaches and establish a common baseline or use by all companies;

- **Failure to capture a broad-enough coverage of sustainability issues.** The ISSB's mandate is limited to sustainability risks that are material to a company's financial performance, which de facto means that a company does not have to report on how its behaviour impacts environmental and social matters. The "double materiality" approach would instead require companies to also report on their material impact on society and the planet, even if such impact does not yet affect their bottom line and the company's value. By choosing a more restricted approach, the ISSB standards may be considered by some jurisdictions as inadequate;
- **The reporting entity deciding on what to disclose.** The proposed ISSB standards put the onus for deciding what to disclose on the reporting company, based on what it considers financially material (given its time horizon and own beliefs). This could lead to selective disclosure, including two companies operating in the same industry reporting on different sustainability topics if their materiality assessment differs;
- **Countries' unequal preparedness.** Some countries will need support to adopt emerging standards. It is also important that the standards are developed in such a way that developing countries are protected against negative spillovers (e.g., allowing developing countries time to meet ISSB standards, considering transition pathways from a development perspective, reducing risks that ISSB standards make the price of accessing capital markets more expensive due to the reporting burden).

advance of the 27th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP27), calling on governments to implement policies to address the climate crisis.

**Not all sustainability issues have the same impact on the financial performance of a company.** Some sustainability issues may not have an obvious financial impact (e.g., achieving gender balance or reducing plastic pollution), although they are critical for achieving the SDGs. In the climate space, the fact that policymakers are considering carbon pricing mechanisms is in itself pushing companies towards reducing emissions. Policymakers could consider replicating this approach with other sustainability issues. Alternatively, in some cases direct regulations can also be used to affect company sustainability behaviour. Policymakers can introduce tailored measures, such as (also see chapter II):

- Making companies pay for their pollution (or internalize externalities), either through pricing mechanisms or regulations;
- Prioritizing companies with higher sustainability records in public procurement;
- Revisiting banking regulations to incentivize lending to projects/companies with positive contributions to sustainable development;
- Designing policies to facilitate sustainable consumption and production across sectors and value chains, and which create the conditions to transition from linear to more circular business models.

**While some measures may take time to implement, simply announcing them could already make a difference, as investors seek to anticipate regulatory changes.** Some policies and regulations may not affect the current profitability of an entity but could impact future profitability. The range of issues investors consider will depend on their investment horizon and how quickly the markets price in these factors, such as the increased likelihood of regulatory changes. For example, the likelihood of a sustainability topic being financially material may be negligible when considering a five-year time horizon but it could increase significantly for a 10-year horizon. Actions that policymakers and long-term asset owners can take to lengthen the horizon of investors would be useful, such as internal reward systems for asset managers that incentivize long-term thinking. For this, it is important that policies provide clear and time-consistent long-term signals.

#### 4.1.3 *Make sustainable investment practices credible*

**Policy actions are also needed to restore the credibility of sustainable investing.** A range of investing approaches is grouped under the term “sustainable investing” with vastly different contributions to sustainable development (see the *2020 Financing for Sustainable Development Report* for more details on the different strategies).

**Many investment strategies currently branded as sustainable are unlikely to make a significant contribution to sustainable development.** In part this is because they may have a limited impact on the cost of capital of investee companies,<sup>78</sup> therefore generating insufficient incentives for companies to change behaviours. Other investment strategies may only include superficial/unfruitful engagement with investee companies on sustainability issues, just to tick boxes and claim sustainability features.

**Regulators are creating a distinction between funds with robust sustainability approaches and the rest of the sustainability**

**investment market.** In the United States, the SEC has drafted rules to reserve ESG branding for funds for which ESG is central to investment decisions.<sup>79</sup> In practice this means that funds that simply add ESG signals (such as ESG risks to financial performance) to the pool of information they consider, should not use ESG-related terms in their names. Similarly, the European Union has created categories to distinguish products with a sustainable development objective (the so-called Article 8 and Article 9 funds, also referred to as “light green” and “dark green”) from other funds with lower sustainability credentials (see box III.B.4). As of June 2022, Article 8 and Article 9 funds represented 46 per cent and 5 per cent, respectively, of the funds available for sale in the European Union.<sup>80</sup> The Operating Principles for Impact Management are voluntary standards that look to distinguish between “impact investing funds”<sup>81</sup> that have credible impact measurement and monitoring approaches in place, and those that just have the intent to do so.

**Disclosures by pension funds should be strengthened.** A review of the largest 20 pension funds by UN/DESA has revealed vast differences in terms of sustainability disclosure by pension funds, with various levels of granularity. Surveys have also demonstrated that countries are at different stages in terms of public disclosures by pension funds on sustainability matters (see figure III.B.7). Another survey found that some institutional investors were facing investment restrictions related to risk-based capital requirements. For the 36 pension funds that participated in the survey, assets held in developing countries in 2017 to 2018 amounted to \$263.7 billion, just 8 per cent of global assets.<sup>82</sup>

**To avoid a multiplication of norms and the fragmentation of markets, the international community could seek convergence on international norms and standards for “sustainable” financial products.** International agreements such as the SDGs provide a global consensus on sustainability issues and could be used as the common benchmark for sustainable investing. This is precisely the approach used by the GISD Alliance to develop its Sustainable Developing Investing (SDI) definition, which could act as a norm for the market.

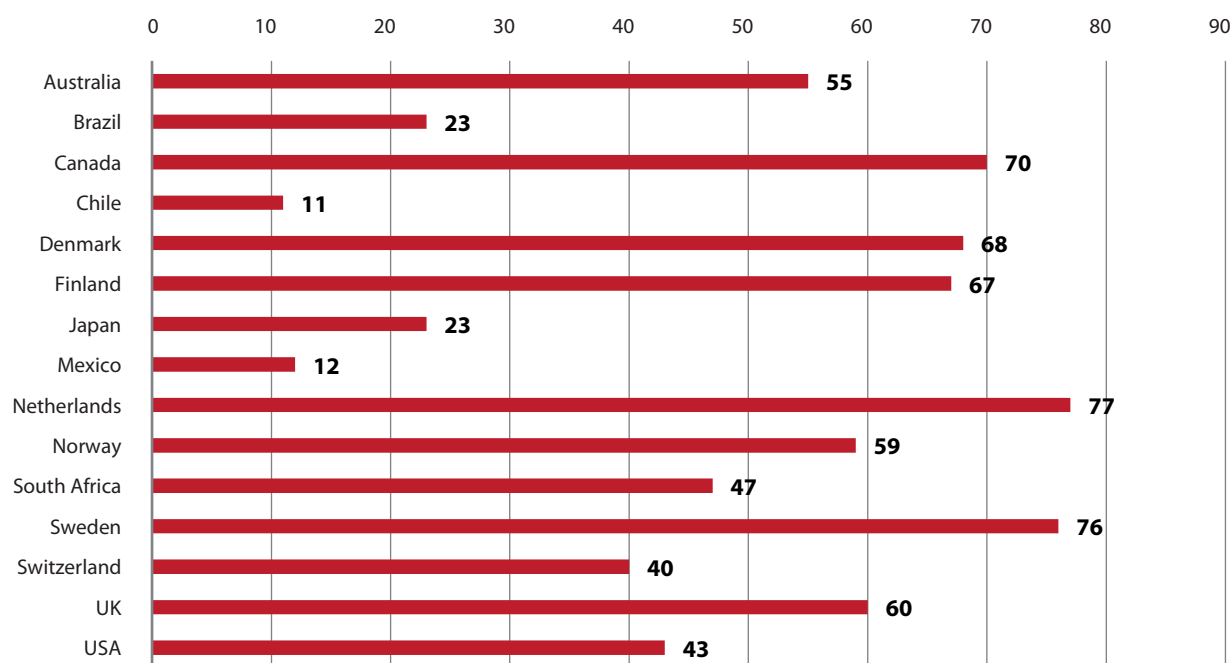
**For funds with higher sustainability claims, regulators are requiring strengthened disclosure.** Funds that make sustainability claims will need to provide more information on how these sustainability claims are delivered. In the United States, the SEC has proposed detailed disclosure for ESG-branded funds. Similarly, in April 2022, the European Commission adopted technical standards to specify the exact content, methodology and presentation of the information to be disclosed for Article 8 and Article 9 funds (the first disclosure is expected by June 2023).<sup>84</sup>

#### 4.1.4 *Fix sustainability ratings*

**To gain credibility, the sustainable investment market must be supported by a system that provides transparent assessments of companies’ sustainability credentials.** Sustainability ratings play a particularly important role because investors lack access to audited sustainability reports (similar to audited financial reports), making it hard for investors to conduct their own sustainability analyses. There has been a proliferation of firms that provide sustainability ratings and rankings,<sup>85</sup> with over 100 ESG data providers, of which 39 provide SDG-related data solutions.<sup>86</sup> A few large players dominate the market, especially since major financial players such as credit rating agencies have acquired smaller ESG data providers.<sup>87</sup>

Figure III.B.7

**Average country score on public disclosures from pension fund organizations for the “responsible investing” pillar**  
(Percentage)



Source: Global Pension Transparency Benchmark.<sup>83</sup>

**Yet, sustainability rating companies fail to provide consistent and clear ratings.** Unlike credit ratings, sustainability ratings are weakly correlated across ratings providers. Different providers often give the same company high or weak sustainability scores. Around 38 per cent of the difference in ratings is estimated to be due to different inputs used in the assessments, but the biggest difference (56 per cent) is based on how the ratings companies measure sustainability factors (for example, how they measure biodiversity or labour practices).<sup>88</sup> There are also counter-intuitive results. For example, some companies have a high Environmental (E) pillar score even though their greenhouse gas emissions have remained high over time.<sup>89</sup>

**SDG ratings suffer from structural flaws and a lack of transparency.** SDG raters typically use proprietary taxonomies that link business activities with specific SDGs. These taxonomies, which are generally behind paywalls, are opaque about the exact criteria they use, but often equate a company's presence in a sector, measured through revenues, to a positive contribution to sustainable development. For example, a company active in the health sector might contribute to SDG 3 on good health and well-being even if the company is not necessarily positively contributing to SDG 3, for example because they are excluding low-income patients or focusing on issues with no relevance to SDG 3 (e.g., plastic surgery).

**A public SDG taxonomy could create a common reference for sustainability rating/score providers.** A public taxonomy for SDG-related activities would link each sector/industry to its most material SDGs and include key performance indicators (see box III.B.6). This taxonomy could then be used by rating providers as a starting point to make sustainability

assessments, and by regulators to identify important gaps in corporate disclosure.

**Regulators need to increase oversight of ESG/sustainability rating providers.** The industry of sustainability rating providers remains largely unregulated (outside of self-regulation codes). In line with findings from the International Organization of Securities Commissions (IOSCO), the international body gathering the world's securities regulators, regulations should strive to: (i) provide clarity on what ratings and data products intend to measure; (ii) enhance transparency on methodologies; and (ii) introduce safeguards against conflicts of interest.<sup>90</sup> Regulators could provide a common framework that promotes comparability between different ratings and ensures clarity on what they intend to measure. A public SDG taxonomy could be used as a reference by SDG rating/score providers, who would then need to explain how their approach aligns or differs from it.

**Robust sustainability ratings could be used as a basis for overall rankings.** For example, regulators or market-led norms could stipulate that for a fund to be considered as sustainable it should have at least 75 per cent of holdings with a moderate to strong positive contribution to sustainable development according to a major rating company (see figure III.B.9).

## 4.2 Reflect the investor's true preferences

**Financial advisors should systematically ask clients about their sustainability preferences.** In most jurisdictions financial advisors are requested to ask clients questions (e.g., their age and risk tolerance) to understand their investment needs. As of August 2022, the EU Financial Instruments Directive II (MiFID II) requires financial advisors to include

**Box III.B.6**  
**SDG materiality map and taxonomy**

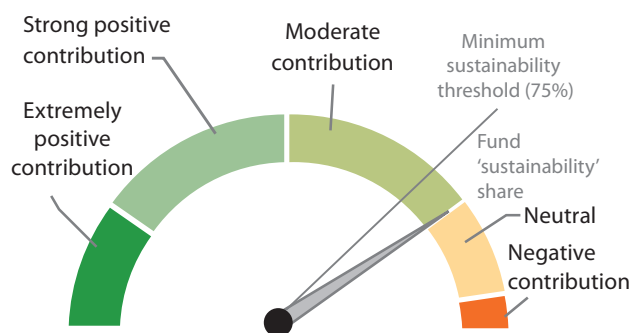
An SDG materiality map could provide clarity on the linkages between economic activities and the SDGs they most likely impact. The following table provides an illustration of what this map could look like based on an analysis conducted by the GISD Alliance (see GISD Alliance sector-specific metrics report). Dark red boxes indicate SDGs directly linked to certain activities while light red could indicate indirect linkages.

This SDG materiality map could be completed by indicative key performance indicators (KPIs) to determine whether a company active in a sector is making a positive contribution to the SDGs. These KPIs would typically be specific to each activity sector and could build on voluntary commitments made by certain industries (e.g., circular pledges made by the fashion and consumer goods industries).

Figure III.B.8  
**SDG materiality map by industries for products and services**  
*(For illustrative purposes only)*

	Automobiles and Components	Consumer Staples	Financials	IT Software and Services	Real Estate	Telecom	Utilities
SDG 1 – No Poverty							
SDG 2 – Zero Hunger							
SDG 3 – Good Health and Well-Being							
SDG 4 – Quality Education							
SDG 5 – Gender Equality							
SDG 6 – Clean Water and Sanitation							
SDG 7 – Affordable and Clean Energy							
SDG 8 – Decent Work and Economic Growth							
SDG 9 – Industry, Innovation and Infrastructure							
SDG 10 – Reduced Inequalities							
SDG 11 – Sustainable Cities and Communities							
SDG 12 – Responsible Consumption and Production							
SDG 13 – Climate Action							
SDG 14 – Life Below Water							
SDG 15 – Life on Land							
SDG 16 – Peace, Justice and Strong Institutions							
SDG 17 – Partnerships for the Goals							

Figure III.B.9

**Hypothetical investment fund composition**

Source: UNDESA.

Note: In this hypothetical case, fund constituents are sorted by their contribution to sustainable development based on the assessment provided by a sustainability rating provider.

questions related to clients' sustainability preferences in these "suitability assessments".<sup>91</sup> To help advisors lay out an appropriate investment strategy aligned with the preferences of their clients (e.g., minimum share of the investment portfolio invested in sustainable products, alignment of the entire portfolio with a specific goal such as net-zero transition goals), such questions should highlight specific sustainability goals as well as readiness to forego some financial returns in exchange for higher impact.

### 4.3 Link financing to sustainability

#### **Sustainable bonds can increase investment in sustainable development while potentially lowering an issuer's financing costs.**

The demand for green bonds has been increasing, as illustrated by the higher average oversubscription of new issues compared to conventional bonds.<sup>92</sup> If the excess demand translates into lower interest rates, a government or a company could access cheaper financing by issuing these bonds.

#### **Several studies have tried to quantify the "greenium" or premium investors are willing to pay for green bonds, with mixed results.**

While some estimate the greenium at up to 18 basis points,<sup>93 94</sup> others find no evidence of such a premium.<sup>95</sup> A recent IMF study that reviewed green sovereign bonds issued, including from developing countries (e.g., Chile, Columbia, Egypt, Fiji and Nigeria), found that the greenium is significantly larger for emerging market and developing economies than for advanced economies, although additional research is needed.<sup>96</sup> Green issuance has the added benefit of widening the investor base, which may be more marked in the case of emerging markets, thus helping to explain a larger greenium. However, a recent narrowing of the greenium in the European corporate bond market suggests that a rising supply of green bonds may erode the premium over time.<sup>97</sup>

**There is also a demand for SDG bonds.** Responding to the demand from investors, developing countries (e.g., Indonesia, Mexico and

Uzbekistan) have started issuing a more diverse set of sustainable bonds, including SDG bonds. The premium on these bonds compared to conventional equivalents is estimated to be 12 basis points, corresponding on average to more than a one-notch credit rating upgrade.<sup>98</sup>

**Future demand for sustainable assets will depend on the capacity of these bonds to demonstrate credible alignment with sustainable development objectives.** Transparency on the use of proceeds is critical for the secondary market for sovereign or corporate debt, and expectations are growing for disclosure on the impacts of investments. The two main types of sustainable debt present specific strengths and challenges:

- **Green, social and sustainability bonds** are based on the "use-of-proceeds" concept, meaning that they must be exclusively used to finance or refinance projects that meet certain eligibility criteria, sometimes defined in regulation (e.g., China Green Bond Principles). These types of bonds do not require the issuer to improve sustainability performance over time, nor do they prevent the issuer from continuing unsustainable practices financed through other means. There is also a question of additionality. For example, as long as green or social bonds represent a limited share of sovereign borrowers' outstanding debt, it could be relatively easy for them to find eligible projects/expenditures (e.g., in education and health), which would have occurred anyway;
- **Sustainability-linked bonds** differ from "use-of-proceeds" bonds as they require improvements from the issuer on predefined sustainability indicators within a specific time frame. However, their credibility can also be questioned if the selected KPIs are not meaningful or the targets not ambitious enough, or if the penalties for missing them are insignificant. Issuers have no interest in setting targets that are difficult to reach, as they could be penalized. Investor scrutiny and market norms/regulations are needed to raise the bar and ensure that the targets used are meaningful and ambitious.<sup>99</sup> On the step-up/step-down structure, the market seems to have settled for 25 basis points; while this might be meaningful for some issuers, it may be too low to impact behaviour.<sup>100</sup>

**Strengthening the credibility of sustainable debt will not only facilitate demand from investors but could also encourage further policy actions to reduce the cost of borrowing for sustainable activities.** Policymakers could consider a wide range of means to make issuing SDG bonds attractive, such as tax incentives for issuers and investors, and risk mitigating mechanisms (e.g., guarantees). This would reinforce the linkage between profitability and sustainability. So far, most of the green, social, sustainability and sustainability-linked bonds have been issued in developed economies, requiring more effective and targeted incentives in developing country settings.<sup>101</sup> Development partners could also introduce blended finance mechanisms to lower the financing cost of these bonds or link their issuance to technical assistance programmes for debt, investment management and the elaboration of localized standards and guidelines. That said, pricing benefits are not the only incentive for governments or companies, which may also be tempted to issue sustainable debt to signal to the market that they are taking sustainability seriously.

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International  
development cooperation



## Chapter III.C



# International development cooperation

## 1. Key messages and recommendations

### **The COVID-19 pandemic, the war in Ukraine and the food, fuel and climate crises are placing unprecedented demands on international development cooperation.**

The global financing landscape has also changed since the adoption of the Addis Ababa Action Agenda, making it increasingly complex to navigate. Urgent action is needed to boost all sources of international development cooperation, which needs to be complemented by fast-tracking progress on all the Addis Agenda action items.

**Limited resources amid massive demands requires prioritization and better targeting of international development cooperation.** Climate- and debt-vulnerable countries, such as many least developed countries (LDCs) and small island developing States (SIDS), need more concessional resources and grants, while blended finance and non-concessional resources from multilateral development banks (MDBs) can also help to meet the broader demand. All developing countries can benefit from South-South and triangular cooperation. At the country level, integrated national financing frameworks (INFFs) can help developing countries to lay out the best use of development cooperation resources and the appropriate mix of public and private finance to support their national sustainable development priorities.

**Official development assistance (ODA) providers should strive to deliver on their financing commitments, focus on collective impact and improve the quality of ODA.** ODA has played a countercyclical role in response to successive crises, providing substantial additional support for the COVID-19 response. Bilateral providers can help to reshape the financing for sustainable development systems in light of shifting demands.

- *More than ever, ODA providers need to meet their ODA commitments, especially to LDCs that face massive challenges and have significant needs. Against rising debt vulnerabilities, grants rather than loans should be prioritized for LDCs and*

*SIDS, with multidimensional vulnerability criteria used in the allocation of ODA. Additional support for Ukraine and refugees must not come at the expense of cross-border ODA flows to other countries in need;*

- *Support for social sectors, including health, social protection and gender equality during the pandemic, should be sustained—which will also fortify preparedness for future crises. Pandemic preparedness should be strengthened, building on the experience from the Access to COVID-19 Tools Accelerator (ACT Accelerator) and COVID-19 Vaccines Global Access (COVAX);*
- *Curbing growing food crises requires both humanitarian aid to address immediate needs and development assistance to tackle the structural causes of food insecurity.*

### **MDBs play a vital role in meeting heightened demand.**

The Group of 20 (G20), the United Nations Secretary-General's SDG Stimulus, the Bridgetown Initiative and other initiatives have recognized the important role that MDBs play and called on them to scale up lending to help meet sustainable development challenges.

- *The United Nations Secretary-General has called for very long-term (30-50 years) lending with significant grace periods, with all lending aligned with the SDGs;*
- *Capital infusion and balance sheet optimization can help to expand MDB lending;*
- *A more concerted effort is needed to leverage the network of public development banks (PDBs) to meet growing demands.*

### **Blended finance has the potential to leverage development finance resources to meet the growing demand for development support, but a new approach is needed:**

- *Blending needs to be aligned with country priorities and part of broader national sustainable development strategies;*

- *The primary focus of all blended deals should be development impact rather than quantity or degree of leverage;*
- *Analysis should always include measurement of the cost of blending versus other financing mechanisms as well as ensure that the public sector is not overcompensating the private partner; and*
- *Capacity development and transparency, participation and reporting are critical.*

**Complementing North-South efforts, South-South cooperation is helping developing countries meet the heightened demand for development support.** Efforts to measure South-South cooperation have advanced. South-led development banks and financial institutions, including borrower-led MDBs, are playing an increasingly important role.

**Amid the climate crisis, climate finance is not keeping pace with the ratcheting impact of climate change and the widening financing gap.** After failing to meet the \$100 billion climate finance target in 2020, efforts are under way to set a new, collective quantified goal on climate finance. On the positive side, the 27th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP27) saw a landmark decision to set up a loss and damage fund after decades of discussion. As these processes can take time, other expedient solutions are needed:

- *MDBs can play a leadership role in meeting climate finance targets, such as on adaptation and supporting LDCs and SIDS;*
- *Country platforms like the Just Energy Transition Partnership (JETP) can help to accelerate climate action and investment.*

**Changes in the financing for development landscape call for a stronger, shared understanding of the development effectiveness agenda.** Since the adoption of the Addis Ababa Action Agenda, international development cooperation has seen significant shifts—in terms of providers, modalities, focus and recipients. A shared understanding

of development effectiveness principles by all actors can help to support policy and action at the country level.

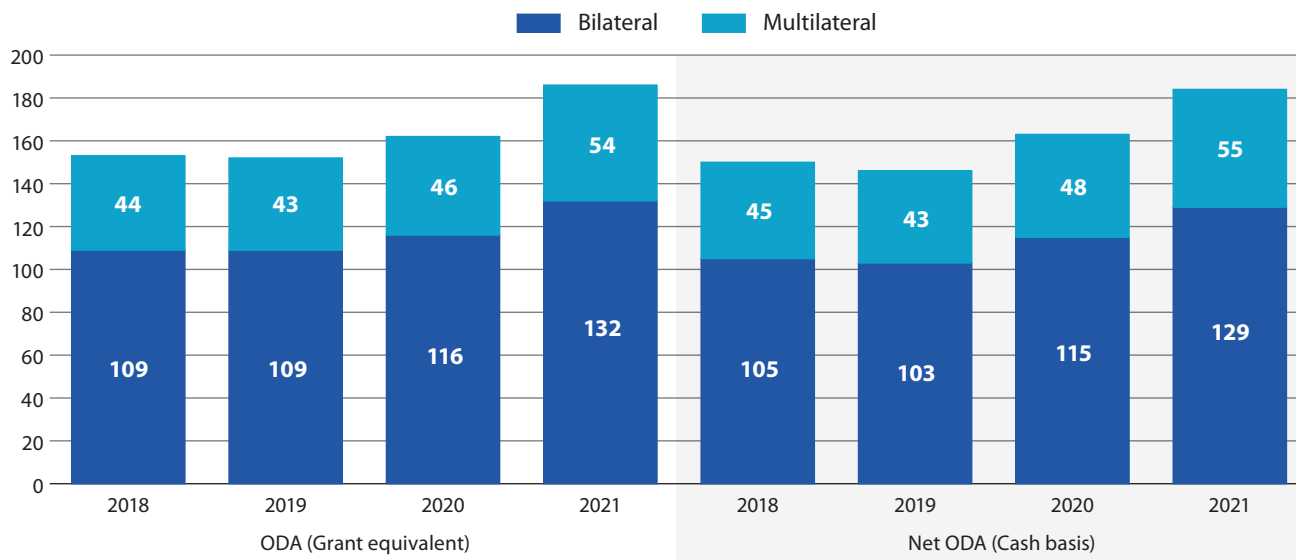
- *The COVID-19 pandemic demonstrated the importance of having in place risk-informed development cooperation;*
- *To enhance country ownership, donors should entrust more ODA to developing country governments, including for priorities laid out in national plans;*
- *Encouraging the participation of non-state actors in national development cooperation forums can help to better reach marginalized and vulnerable communities;*
- *Fostering a shared understanding of the development cooperation effectiveness principles can help all actors to influence policy and behaviour.*

## 2. Official development assistance

### 2.1 Impact of the COVID-19 pandemic

**ODA rose to its highest level in 2021, underpinned by significant support for the COVID-19 pandemic response.** In 2021, ODA rose by 8.5 per cent in real terms compared to 2020 to an all-time high of \$185.9 billion (figure III.C.1),<sup>1</sup> as calculated by the grant-equivalent measure (see box III.C.1). The increase in ODA was underpinned by an increase in COVID-19-related activities, including COVID-19 vaccine support (both donations of excess doses and doses purchased for developing countries) that amounted to \$6.05 billion. The Organisation for Economic Co-operation and Development (OECD) Development Assistance Committee (DAC) agreed in February 2022 that excess doses could be counted towards ODA.<sup>2</sup> This has drawn criticism, as these excess vaccine doses were not initially intended for developing countries and were a result of over-purchasing in the early stages of the pandemic.<sup>3</sup> Excluding the costs of vaccines, ODA grew

Figure III.C.1  
**Official development assistance, 2018–2021**  
*(Billions of United States dollars, current prices)*



Source: OECD Creditor Reporting System database.

by 4.8 per cent in 2021 (figure III.C.2).<sup>4</sup> According to the previous cash flow methodology, net ODA was \$177.6 billion, recording an increase of 3.3 per cent in real terms. As a share of donor country gross national income (GNI), ODA was 0.33 per cent on average, the same as in 2020, remaining below the United Nations target of 0.7 per cent of GNI. Five donors met or exceeded the target: Denmark, Germany, Luxembourg, Norway and Sweden. Most donors increased their ODA, with declines noted in six countries.

**ODA to LDCs increased in 2021, although growth has slowed and was likely negative after adjusting for COVID-19-related support.**

### Box III.C.1

#### Official development assistance modernization

In 2012, the OECD DAC began a process to modernize the way ODA is measured and reported. The process aimed to amend reporting rules for: ODA loans, debt relief and in-donor refugee costs; private sector instruments (PSIs); and peace and security activities. All these changes, other than the treatment of PSIs, have been agreed.<sup>a</sup>

Under the grant-equivalent methodology, only the grant (or “gift”) portion of a loan is reported as ODA, which is calculated using a system of differentiated discount rates that reflect the risk of lending to different country groupings.<sup>b</sup> In addition, to incentivize lending on highly concessional terms to LDCs and other low-income countries, the rules also include thresholds for the grant element that can be reported as ODA (45 per cent for LDCs and other low-income countries; 15 per cent for lower-middle-income countries (MICs); and 10 per cent for upper-MICs).

PSIs, however, are currently captured under the old cash flow methodology, where, in the case of loans, the full face value is counted as ODA if the grant element is at least 25 per cent, calculated using a discount rate of 10 per cent, with repayments subtracted when they are paid out.<sup>c</sup> This has led to a hybrid ODA measure where donor efforts in extending loans to the private sector are measured on a cash-flow basis, while efforts in providing sovereign loans are accounted for on a grant-equivalent basis.<sup>d</sup> To rectify this, the OECD DAC is currently reviewing a proposal that has been built on the same system of differentiated discount rates of sovereign loans. The grant element threshold is set to zero to avoid incentivizing unnecessary subsidization.<sup>e</sup> Although currently not reportable as ODA, the OECD DAC has also proposed to include credit guarantees as part of ODA on a grant-equivalent basis on a similar system of differentiated discount rates. The grant threshold would also be zero.<sup>f</sup> If agreed, implementation for both proposals would occur in 2024 for 2023 flows.

**Source:** UN/DESA.

<sup>a</sup> See also previous discussion in the *2021 Financing for Sustainable Development Report*.

<sup>b</sup> *Ibid.*

<sup>c</sup> OECD. 2021. “Modernisation of the DAC Statistical System”.

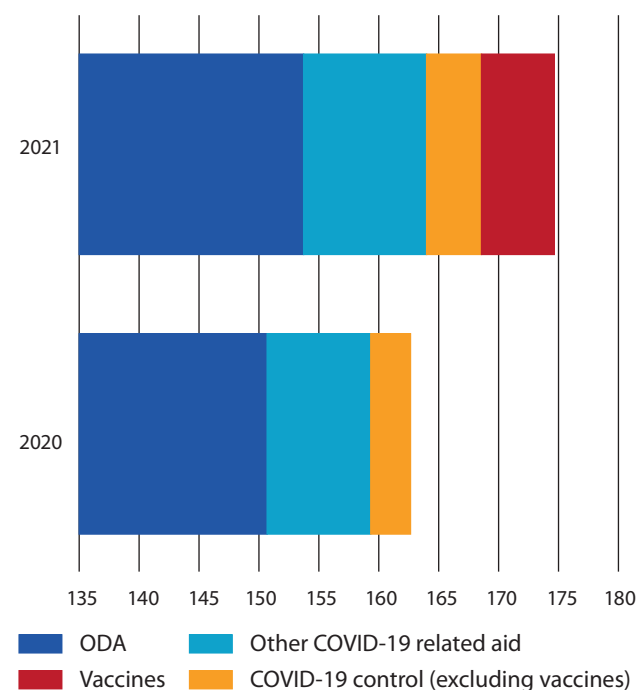
<sup>d</sup> *Ibid.*

<sup>e</sup> OECD DAC. 2022. “Private Sector Instruments: Treatment of Loans”. DAC Working Party on Development Finance Statistics, 2 December.

<sup>f</sup> OECD DAC. 2022. “Private Sector Instruments: Treatment of Credit Guarantees”. DAC Working Party on Development Finance Statistics, 7 December.

Figure III.C.2

**ODA disbursements for COVID-19 response, 2020–2021**  
(Billions of United States dollars, 2020 constant prices)

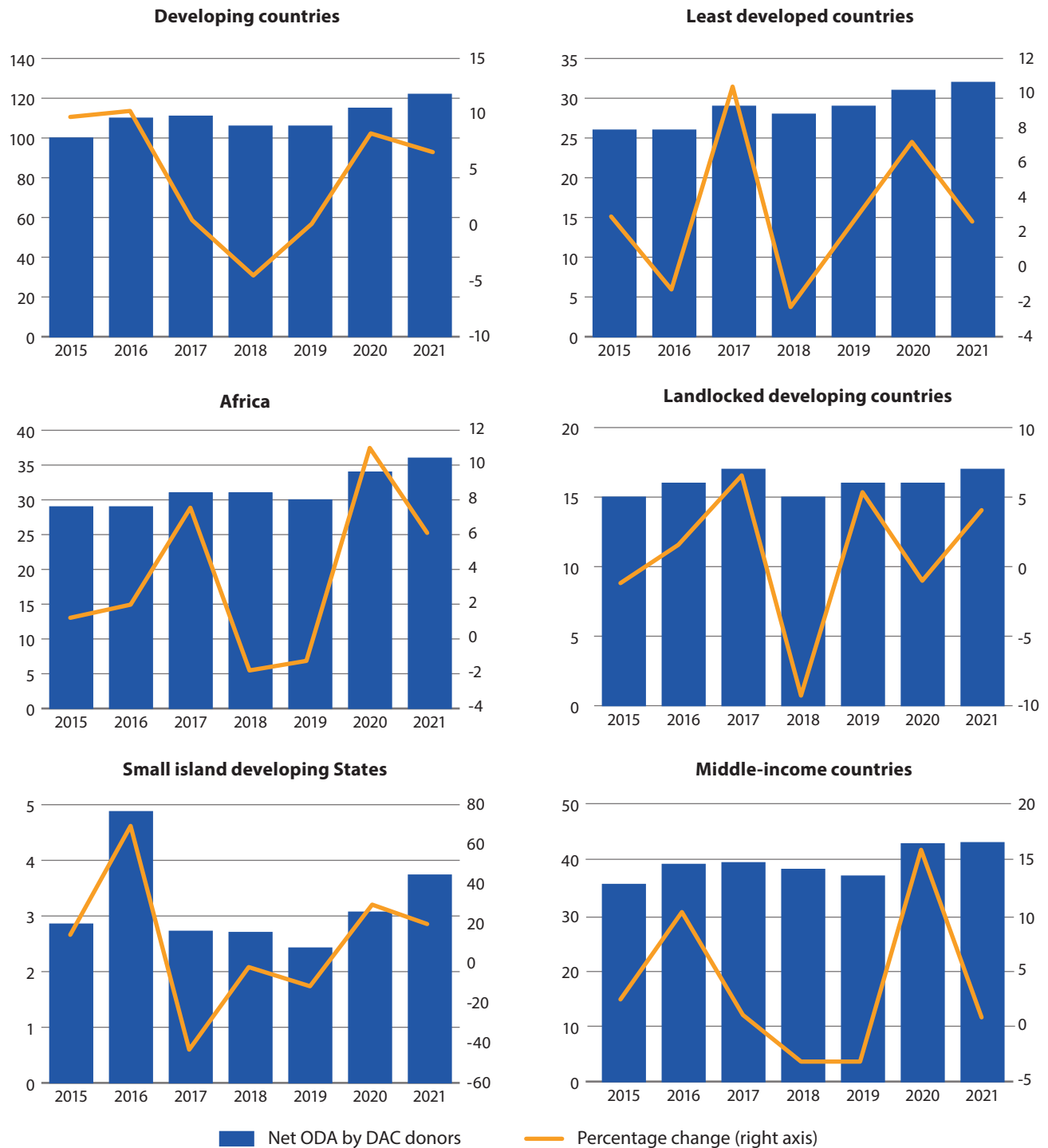


**Source:** OECD Creditor Reporting System database.

ODA to LDCs increased by 2.6 per cent in real terms in 2021 and accounted for only 0.09 per cent of DAC members’ GNI, below the 0.15–0.20 per cent LDC target. From 2010 to 2021, bilateral aid to LDCs declined by more than 5 percentage points as a share of DAC member countries’ total.<sup>5</sup> ODA to Africa increased by 3.3 per cent, while ODA to landlocked developing countries (LLDCs) increased by 4.3 per cent (figure III.C.3). ODA to SIDS increased by 21.4 per cent, though from a low base. In 2020, when COVID-19-related aid was excluded, bilateral ODA fell for LDCs and other developing countries except for upper-middle-income countries.<sup>6</sup> This trend is anticipated to have continued in 2021. An increase in concessional outflows by multilateral organizations across all income groups—a consistent pattern since 2010—partly compensates for the decline.<sup>7</sup>

**The war in Ukraine has exacerbated the demand for ODA.** There is increased demand for humanitarian support to Ukraine, which is an ODA-eligible country, as well as higher in-donor refugee spending due to the surge in Ukrainian refugees in many DAC member countries. The war in Ukraine has also underpinned steep increases in global food and energy prices (see chapter I), increasing the global need for humanitarian aid (see section 2.2). In addition, many developing countries are yet to recover from the COVID-19 pandemic and face significant debt sustainability issues (see chapter III.E), which may increase the demand for debt relief. At the same time, many DAC donors are facing sluggish domestic economic conditions, placing pressure on national budgets, and high inflation, lowering the purchasing power of ODA. There are also concerns that ODA to support the poorest and other most vulnerable countries could be diverted to meet needs that have resulted from the war in Ukraine. For example, by mid-2022, a few donors had announced plans to redirect

Figure III.C.3  
**Total net ODA by DAC donors by country group on a cash basis, 2015–2021**  
*(Billions of United States dollars, 2020 constant prices)*



Source: OECD Creditor Reporting System database.

ODA to cover in-donor refugee costs, though some later reversed these announcements.<sup>8</sup>

**Cross-border ODA to countries should be sustained.** Country programmable aid, which is provided to countries and regions (and excludes donor refugee costs, humanitarian aid, debt relief and administrative costs) increased significantly in 2020, especially to MICs and SIDS (figure III.C.4). Country programmable aid then rose slightly, by 1.5 per cent, in 2021, underpinned by increases in the health sector. Humanitarian aid and in-donor refugee spending also increased in 2021 (figure III.C.5). Donors will need to improve communication on the importance of international development cooperation to garner public support to increase the total ODA envelope.

**Lessons from the COVID-19 pandemic underscore the importance of sustaining ODA for the social sectors in the poorest and most debt-vulnerable countries.** Prior to the pandemic, there was a decline in country-programmable aid for the social sectors, including health and social protection systems, particularly for LDCs, LLDCs and SIDS. This has been reversed in the last two years (figure III.C.4) due to the COVID-19 response and should continue to be prioritized for these countries. There are already concerns that some national governments will spend less on health between now and 2027 than they did in the pre-pandemic period due to rising debt payments.<sup>9</sup> ODA for the social sectors will help vulnerable countries to continue to strengthen their systems as a core strategy for building resilience to future shocks.

**Pandemic preparedness should build on the lessons of the ACT Accelerator and COVAX.** Since the beginning of the pandemic, the ACT Accelerator, a global coalition convened by the World Health Organization (WHO), the European Union, the United Nations and a range of global health organizations, succeeded in raising \$24 billion for COVID-19 response efforts.<sup>10</sup> However, there remains a \$329 million funding gap as the ACT Accelerator phases out. COVAX, its vaccine distribution component, has also been successful despite vaccine nationalism, hoarding and export restrictions. With imminent pandemic threats, as demonstrated by the outbreak of the monkeypox disease in late 2022, lessons from implementation of the ACT Accelerator and COVAX can help to improve the financing of pandemic preparedness. This includes improving coordination and investment in research and development to develop medical responses to future pandemics, ensuring poor and vulnerable countries have immediate access to pandemic response funding, building regional capacity in pandemic preparedness and strengthening national health systems.<sup>11</sup> This will help to ensure that the focus and attention on pandemic preparedness does not wane in the aftermath of COVID-19, as it did after the 2003 SARS outbreak, the 2009 H1N1 pandemic and the 2014-2016 West Africa Ebola outbreak.

**A new Pandemic Fund was launched but falls short of estimated resources needed.** The WHO-established Independent Panel for Pandemic Preparedness and Response (IPPPR),<sup>12</sup> the G20's High-Level Independent Panel<sup>13</sup> and the G7's Pact for Pandemic Preparedness<sup>14</sup> all recommended increasing ODA for health systems strengthening and setting up a new pandemic preparedness fund. In September 2022, with the support of the G20, the World Bank launched the Pandemic Fund, dedicated to strengthening health systems in collaboration with WHO.<sup>15</sup> However, the \$1.6 billion in financial commitments made towards the Fund<sup>16</sup> falls short of estimates made by the High-Level Independent Panel and IPPPR of \$5 billion to \$10 billion needed for an effective pandemic response.

**ODA for gender equality and women's empowerment has stalled in recent years.** The share of ODA<sup>17</sup> with gender equality as a policy objective dropped slightly from 45 per cent in 2018-2019 to 44 per cent in 2020-2021 (figure III.C.6).<sup>18</sup> This signals a need for DAC members to intensify their efforts to direct more financial resources for gender equality and the empowerment of women and girls. Leadership commitment by donors, sound policy frameworks and well-designed, adaptive programming can help to advance ODA for gender equality.<sup>19</sup> The focus on gender equality as a share of ODA is particularly low in humanitarian aid, where only 19 per cent had gender equality as a policy objective, and in energy, where this rate was at 27 per cent in 2020-2021. There is significant scope to strengthen the focus on gender equality in these sectors.<sup>20</sup>

**More grants are needed, especially for LDCs and SIDS.** The grant component of ODA to developing countries declined from 83 per cent in 2015 to 81 per cent in 2021. A considerable decline was noted for LDCs, from 93 per cent to 87 per cent, and for SIDS, from 87 per cent to 71 per cent (figure III.C.7). In addition, average maturities on loans to LDCs fell and interest rates rose (table III.C.1).<sup>21</sup> The Doha Programme of Action for LDCs underscores the need to scale up support for LDCs, while SIDS have made repeated calls for the use of multidimensional vulnerability as criteria to access concessional finance. A United Nations High-Level Panel was appointed in February 2022 to develop a multidimensional vulnerability index (MVI) (see chapter IV),<sup>22</sup> and if accepted as the pre-eminent measure of assessing vulnerability could lead to application of the MVI by donors as a complementary criterion to income per capita.

**Table III.C.1**  
Characteristics of bilateral ODA loans to LDCs

	2015	2016	2017	2018	2019	2020	2021
Average grant element—new (%)	78	75	75	73	70	73	70
Average grant element—old (%)	81	78	78	77	73	76	73
Maturity period (years)	35.7	33.4	32.5	32.0	28.3	30.5	27.3
Interest rate (%)	0.35	0.49	0.59	0.67	0.80	0.43	0.63

**Source:** Carey, Eleanor, and Harsh Desai. 2023. "Maximising Official Development Assistance". In *Development Co-Operation Report 2023: Debating the Aid System*. OECD.

**The COVID-19 pandemic also highlighted the importance of support for MICs in times of crisis.** ODA to MICs rose significantly in 2020 (figure III.C.3), underpinned by pandemic-related support reflected in the health sector (figure III.C.4), after falling between 2017 and 2019. Much of this assistance was provided in the form of loans (figure III.C.7). Generally, support to MICs has been driven by issue-based ODA allocations, such as climate mitigation or providing humanitarian aid for refugees.<sup>23</sup> Support for MICs should not, however, come at the expense of support to LDCs and other countries most in need.

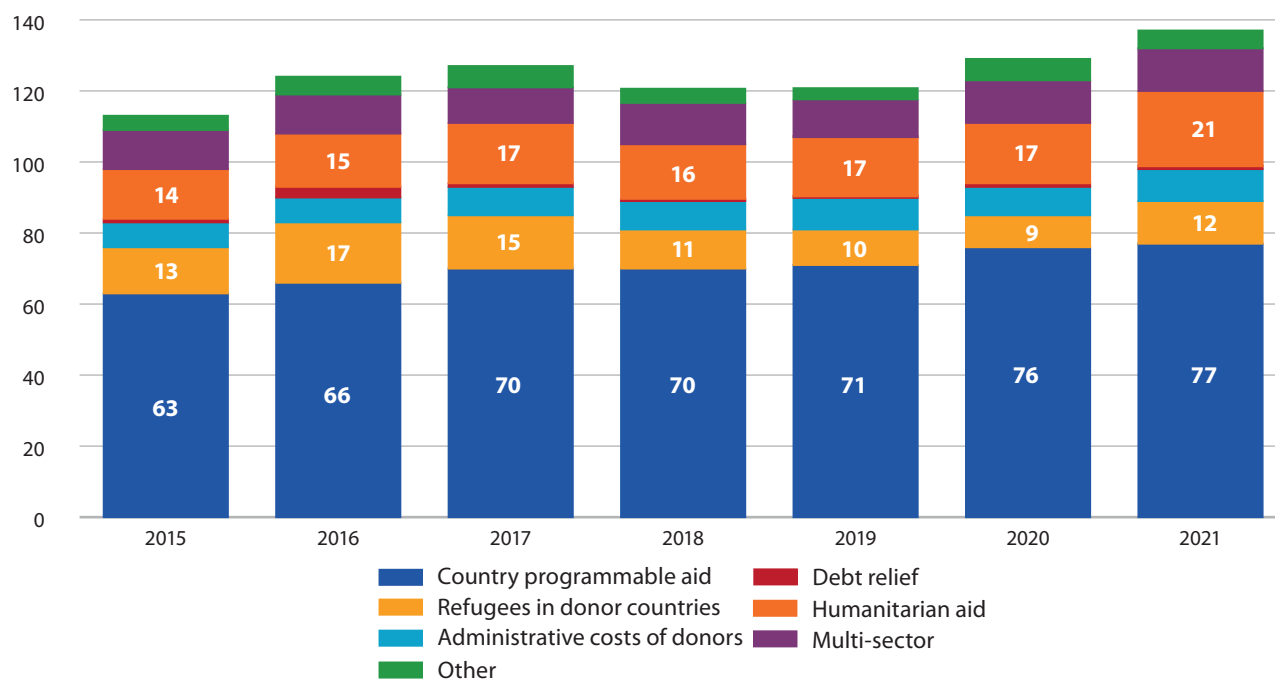
**Country-owned INFFs can help to align development cooperation with country priorities.** INFFs can guide ODA allocation to areas where it is most needed, as well as make explicit the links between development cooperation and other financing policy areas (such as domestic resource mobilization and private investment). INFFs can also be used to enhance coherence, development effectiveness and complementarity between humanitarian and long-term development finance.

Figure III.C.4  
**Country programmable aid, by sector, on a cash basis, 2015–2021**  
*(Billions of United States dollars, 2020 constant prices)*



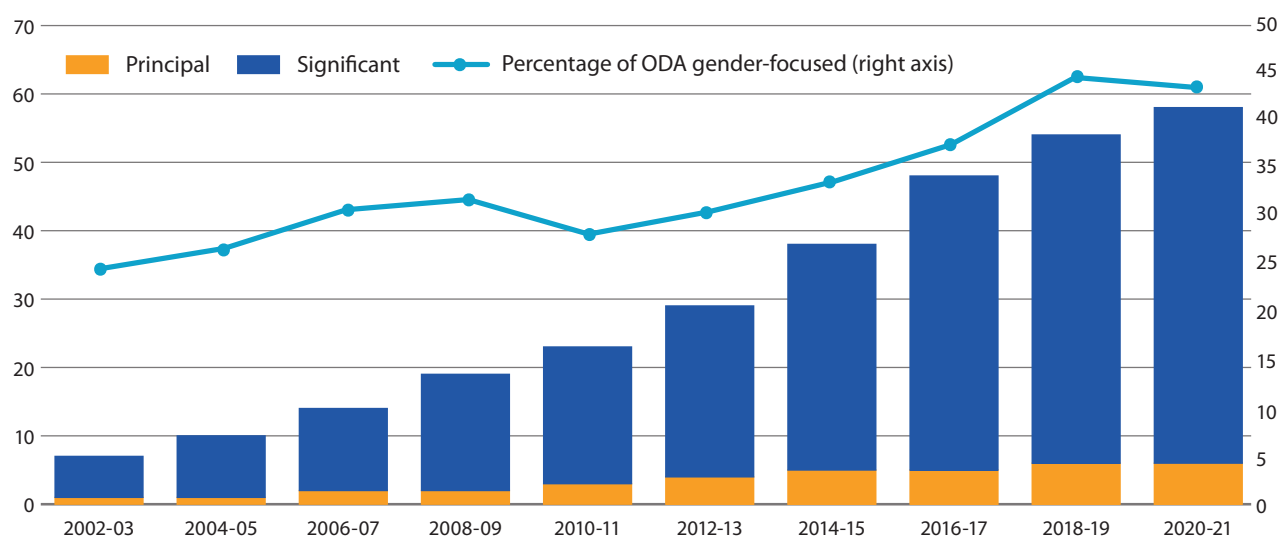
Source: OECD Creditor Reporting System database.

Figure III.C.5  
**Gross ODA disbursements by DAC members to developing countries on a cash basis, 2015–2021**  
*(Billions of United States dollars, 2020 constant prices)*



Source: OECD Creditor Reporting System database.

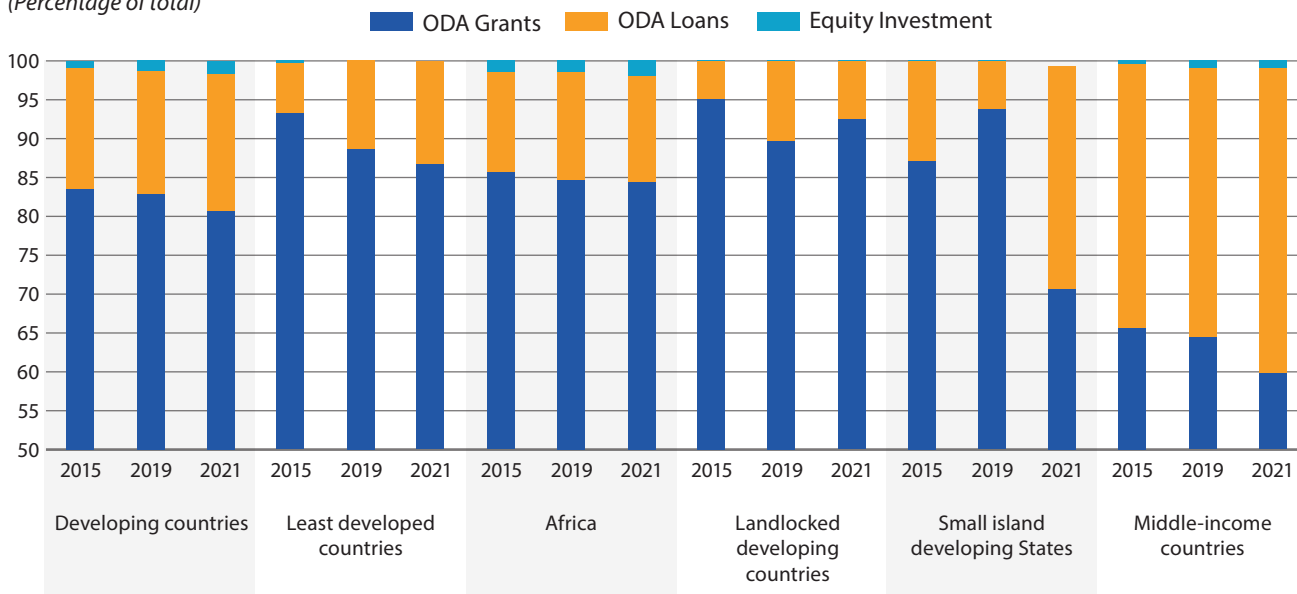
Figure III.C.6  
**Volume and share of ODA with gender equality and women's empowerment as principal and significant policy objective, 2002–2021**  
*(Billions of United States dollars, 2020 constant prices)*



Source: OECD Creditor Reporting System database.



Figure III.C.7  
**Gross bilateral ODA disbursements by instrument and country groups on a cash basis, 2015, 2019, 2021**  
 (Percentage of total)



Source: OECD Creditor Reporting System database.

## 2.2 Humanitarian finance

### The need for humanitarian finance rose steeply in 2022 and is expected to remain elevated in 2023, reflecting the unprecedented level of humanitarian needs globally.

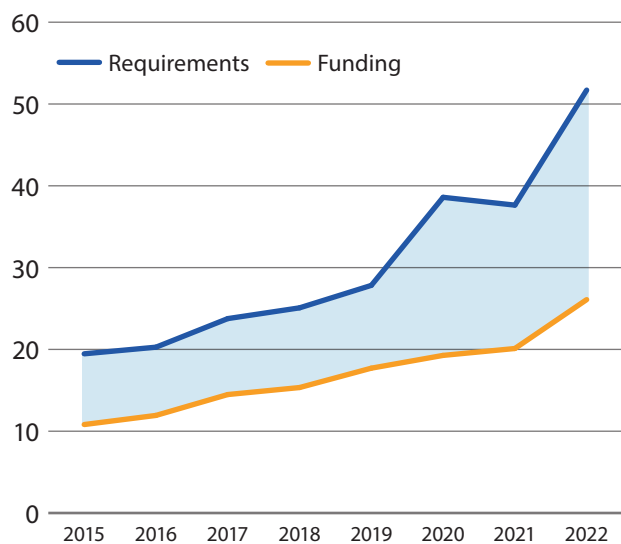
The sharp rise in humanitarian finance needs is due to the war in Ukraine, protracted armed conflicts, the climate crisis and increasingly frequent and destructive disasters caused by natural hazards, the global food crisis (including the risk of famine), ongoing health epidemics (COVID-19, monkeypox, cholera outbreaks, rising cases of Ebola) and high inflation. The United Nations-coordinated humanitarian response plans' funding requirements and received contributions increased significantly in 2022, with \$4.75 billion of assistance provided to Ukraine and the region impacted by the war, as well as \$3.32 billion for Afghanistan.<sup>24</sup> However, although funding increased, it was not enough to close the financing gap, which has widened considerably (figure III.C.8). It is estimated that one in every 23 people will need humanitarian assistance in 2023, with United Nations and partner organizations aiming to assist 230 million people most in need across 68 countries, estimated at \$51.5 billion. Rising operational costs are also contributing to these requirements. For example, the World Food Programme's monthly food procurement costs are now 44 per cent higher than before the pandemic.<sup>25</sup>

### Immediate needs should be addressed while tackling the structural causes of acute food insecurity to avert growing food crises.

By September 2022, the number of food insecure people had risen to unprecedented levels of between 201.4 million and 205.1 million in 45 countries/territories, making 2022 the fourth consecutive year of rising levels of acute food insecurity.<sup>26</sup> The increased severity and magnitude of food insecurity is rooted in the increased number of humanitarian crises and food inflation.<sup>27</sup> The majority of humanitarian assistance is provided in the form of cash and in-kind food assistance, with much smaller contributions accorded to nutrition and agriculture/livelihoods (figure III.C.9).

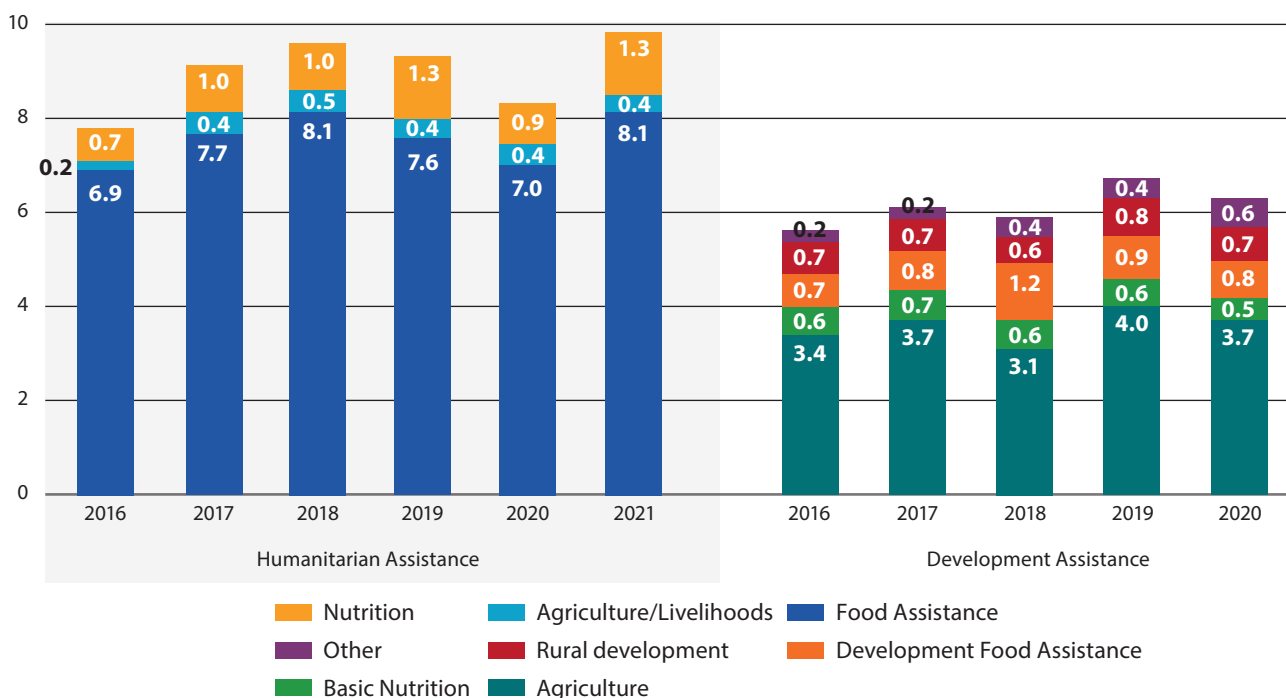
Support to agriculture is the largest component of humanitarian assistance, compared to investments in social protection programmes, rural development and basic nutrition (figure III.C.9). Addressing immediate needs while tackling the structural causes of acute food insecurity requires a holistic approach. This means treating food assistance, agriculture/livelihoods assistance and nutritional assistance as equally important.

Figure III.C.8  
**Humanitarian response plans: funding gap, 2015–2022**  
 (Billions of United States dollars)



Source: United Nations Office for the Coordination of Humanitarian Affairs (OCHA). 2022. "Appeals and Response Plans 2022". Financial Tracking Service, accessed 25 January 2023.

Figure III.C.9  
**Humanitarian and development assistance to food crisis countries and territories, by sector, 2016–2021**  
 (Billions of United States dollars)



**Source:** Global Network Against Food Crises. 2022. *2022 Financing Flows and Food Crises Report: Analysis of Humanitarian and Development Financing Flows to Food Sectors in Food Crisis Countries*.

**Note:** Development food assistance are those intended for social protection programmes and long-term household food security.

### Urgent action is required to meet goals set under Grand Bargain 2.0.

In 2016, a Grand Bargain was made between donor countries and aid organizations to improve the efficiency and effectiveness of humanitarian aid. In 2021, signatories adopted a narrower set of priority objectives under Grand Bargain 2.0 to be achieved by June 2023. An independent review of implementation in 2021 indicates that urgent action is required in the following areas if goals are to be met: increasing the provision and ensuring more equitable distribution of quality funding; supporting local leadership and enhancing institutional capacities; giving affected people meaningful influence over aid provided; enhancing coordination of efforts to maximize multiplier effects; strengthening governance and accountability; and simplifying monitoring and reporting to better track progress.<sup>28</sup>

## 2.3 Official development assistance and a sustainable and inclusive transformation

**ODA can help to support sustainable and inclusive industrialization in several ways.** In addition to addressing immediate needs related to humanitarian aid, ODA is meant to promote medium- and long-term development. While ODA for “industrial development and policies” is quite small—at around \$3.4 million in 2021, with almost half going to MICs—ODA also supports “production and economic sectors” (figure III.C.4), such as electricity, transportation, and water and sanitation, which are essential to industrialization. ODA can also be used to crowd in private finance in some of these sectors, such as through project preparation grants to help countries to develop investible projects (see section 4).<sup>29</sup> Supporting

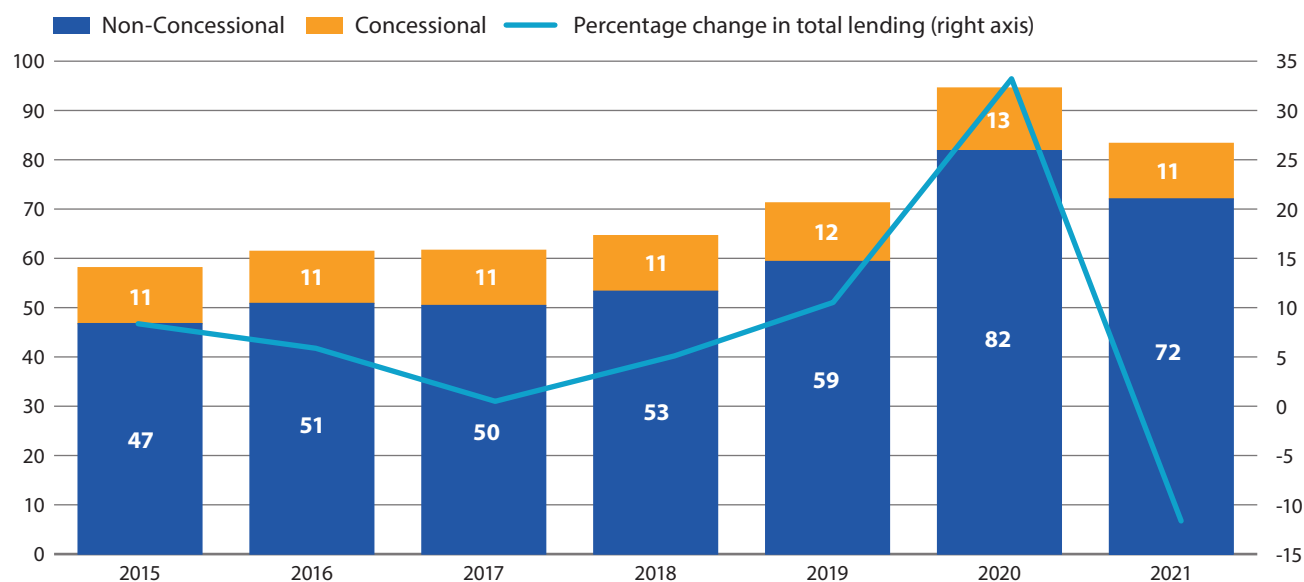
clean energy and low-carbon transport solutions can also help with the transition to sustainable industrialization (see box III.C.4). ODA support for increasing the productivity of primary sectors (agriculture, forestry and fisheries) and the rural economy is also key for inclusive transformations (see chapter II). In addition, ODA support for trade (see chapter III.D), public sector policy, macroeconomic policy and domestic resource mobilization (see chapter III.A) can support an enabling environment for investment in sustainable industrialization.<sup>30</sup> The system of PDBs, including MDBs, provides additional support for a sustainable inclusive transition, including through non-concessional loans (that are cheaper than borrowing on commercial markets).

## 3. Lending by multilateral development banks

**MDBs provide countercyclical support in times of crisis; in line with this role, lending by MDBs fell in 2021 as demand for countercyclical support eased.** After reaching a peak in 2020, all major MDBs except the European Investment Bank and a few other smaller regional MDBs, recorded a drop in lending activities in 2021 as demand for COVID-19 countercyclical support eased. Total gross MDB lending fell by 12 per cent (figure III.C.10)—led by declines in both non-concessional and concessional loans—but remained higher than pre-pandemic levels. For 2022, the World Bank Group reported increased commitments, totalling

Figure III.C.10  
Lending by MDBs, 2015–2021

(Billions of United States dollars, current)



Source: World Bank, International Debt Statistics.

\$115 billion, a record high.<sup>31</sup> Overall, the loans and assets of MDBs total around \$500 billion per year collectively (see table III.C.2). MDBs also play an important role in channelling support directly to governments using budget support<sup>32</sup> and providing advisory services.

**PDBs play a central role in supporting long-term investment in the SDGs and climate action.** PDBs already have a large footprint—the 528 development banks and development finance institutions (DFIs) have total assets of \$23 trillion and are estimated to finance around 12 per cent of investment globally. Launched in 2020, the Finance in Common initiative, in partnership with the International Development Financing Club, civil society and the private sector, helps to strengthen partnerships among PDBs and DFIs, with the aim of aligning financial flows in support of the 2030 Agenda and the Paris Agreement.

Table III.C.2  
Capitalization of selected MDBs, 2021

Institution	Existing paid-in capital (A)	Callable capital (B)	Subscribed capital (A + B)	Existing assets & loans
International Bank for Reconstruction and Development	\$20 billion	\$279 billion	\$298 billion	\$227 billion
African Development Bank	\$14 billion	\$194 billion	\$208 billion	\$32 billion
Asian Development Bank	\$7.5 billion	\$141 billion	\$149 billion	\$140 billion
Inter-American Development Bank	\$6 billion	\$171 billion	\$177 billion	\$110 billion
<b>TOTAL</b>	<b>\$47 billion</b>	<b>\$785 billion</b>	<b>\$831 billion</b>	<b>\$509 billion</b>

Source: S&P Global, MDB annual reports.

**Development banks have the potential to play a larger role in development finance.** In the Addis Ababa Action Agenda, Member States recognized the important role of MDBs and other DFIs in providing long-term development finance by mobilizing resources from capital markets, and stressed that “development banks should make optimal use of their resources and balance sheets, consistent with maintaining their financial integrity, and should update and develop their policies in support of the ... sustainable development goals”. The G20, the United Nations Secretary-General’s SDG Stimulus, the Bridgetown Initiative and other initiatives have also recognized the important role of PDBs and MDBs in particular, and called on the MDBs to scale up lending to help meet sustainable development challenges, including by optimizing their balance sheets. The African Development Bank (AfDB) is exploring the expansion of its lending through a special drawing rights (SDR) recycling initiative, which could also be considered by recently approved prescribed holders of SDRs (e.g., Caribbean Development Bank, Development Bank of Latin America, Inter-American Development Bank).<sup>33</sup> This initiative requires the support of donors to be successful.<sup>34</sup> The final report of the July 2022 G20 independent review of the capital adequacy frameworks of MDBs highlighted five areas for exploration, including the approach to defining risk tolerance, the financial benefits of callable capital,<sup>35</sup> the use of financial innovations, improving credit rating agency assessment of MDB financial strength, and transparency and information.<sup>36</sup>

**MDBs are taking action.** In the Addis Ababa Action Agenda, Member States encouraged MDBs “to establish a process to examine their own role, scale and functioning to enable them to adapt and be fully responsive to the sustainable development agenda”.<sup>37</sup> As of 2023, the World Bank is discussing a roadmap to better address the scale of development challenges and consider priorities for its evolution. The roadmap outlines three building blocks for this process: (i) review the Bank Group’s vision

and mission; (ii) review the Bank Group's operating model; and (iii) explore options to enhance its financial capacity and model, taking into account the recommendations made in the G20 capital adequacy framework review.<sup>38</sup> The roadmap lays out a timeline, with the adoption of proposals planned for the World Bank Group's Annual Meetings in October 2023. The European Bank for Reconstruction and Development (EBRD) is incrementally expanding its operations to sub-Saharan Africa and Iraq, which will help to meet the growing financing gap in these regions.<sup>39</sup> The European Investment Bank has established a new development arm, EIB Global, to increase its development impact outside Europe.<sup>40</sup> MDBs are also committing to greater action to address biodiversity loss by mainstreaming nature considerations into their policies, investments and operations, including through defining and making "nature-positive" investments.<sup>41</sup>

#### Increasing paid-in capital is also important to scale up lending.

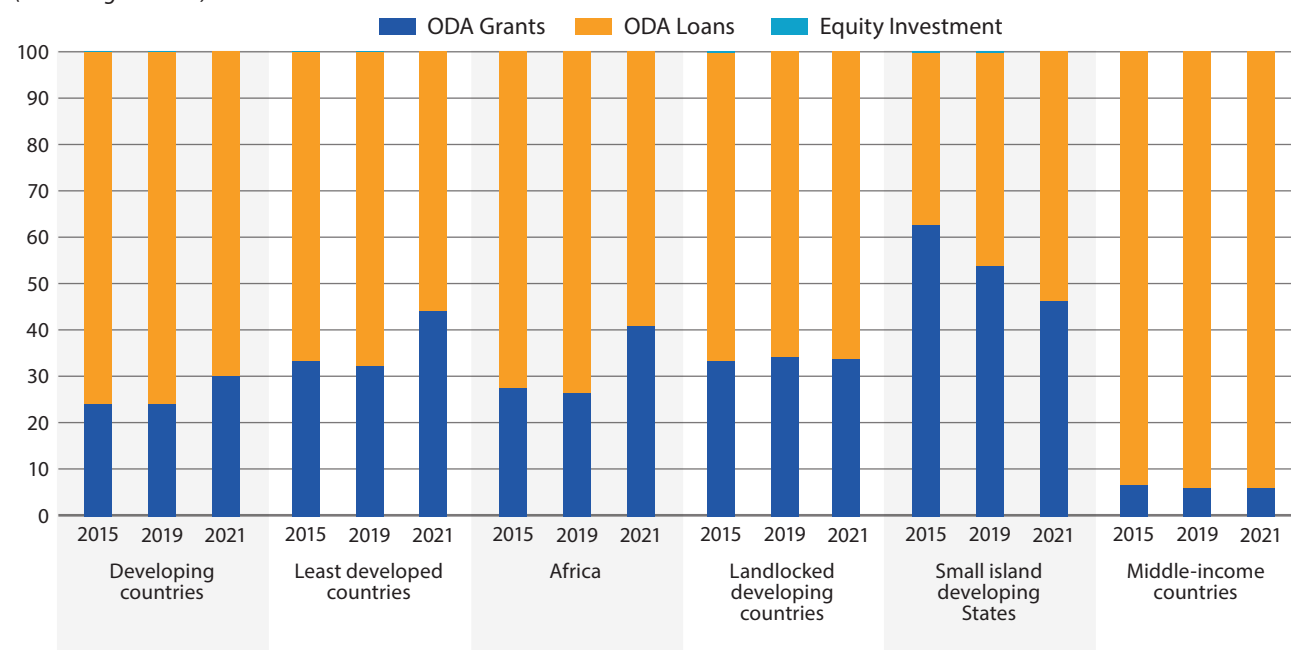
Although the World Bank and AfDB received a sizeable capital increase in 2018 and 2019, respectively, heightened development challenges since then would require further capital injections to meet the demand for MDB lending. There have been some positive developments. In December 2021, the International Development Association received a new replenishment of \$93 billion for the fiscal years 2022 to 2025. A year later, the African Development Fund, the concessional arm of the AfDB, received a new replenishment of \$8.9 billion for its 2023 to 2025 cycle, which was a 14 per cent increase over its previous cycle.<sup>42</sup> Additional leverage, including through capital adequacy reforms, and capital infusions would provide the room to increase lending and improve lending terms.

**First, prioritizing grants to LDCs and SIDS is important.** Since 2015, the share of grants to LDCs has increased while the share to SIDS has fallen significantly (figure III.C.11).

**Second, MDBs also provide very long-term non-concessional lending at affordable rates, including to MICs.** In recent years, multilateral development finance has also focused on MICs.<sup>43</sup> While some MICs can access private debt markets, others have difficulty accessing affordable, long-term commercial finance, underscoring the important role of MDB lending. Loans can also be long-term (30 to 50 years), with more significant grace periods to allow time for SDG-related investments to yield results in terms of contributing to economic growth, realizing improved well-being and productivity from human capital investments, and generating savings from resilience to shocks. Borrowing rates can be affordable: as of October 2022, the World Bank-administered International Bank for Reconstruction and Development (IBRD) loans are less than 150 basis points over US Treasuries for most of the bank's clients.<sup>44</sup> MDBs can further reduce the cost of borrowing for vulnerable countries, for example by mixing concessional and non-concessional<sup>45</sup> resources. In addition, greater use of state-contingent clauses in MDB lending can provide breathing room to countries hit by shocks by automatically suspending debt payments in the case of a disaster, economic or financial crisis, or other shock, as is already done by some bilateral and multilateral lenders. An example of this is the World Bank catastrophe deferred drawdown option and contingent emergency response component. State-contingent clauses could be structured to be net-present-value (NPV) neutral to have minimal impact on MDB credit quality. Debt sustainability issues should also be a factor in offering appropriate support to countries, including using debt sustainability analyses to differentiate liquidity from solvency crises, as called for in the United Nations Secretary-General's SDG Stimulus (see chapter III.E).

**Providing a greater share of lending to governments in local currencies would also contribute to lowering borrowers' debt**

Figure III.C.11  
Gross MDB disbursements by instrument and by country groups on a cash basis, 2015, 2019, 2021  
(Percentage of total)



Source: OECD Creditor Reporting System database.

**risk profiles.** This is particularly important when lending for projects is unlikely to generate foreign currency earnings. MDBs and other international financial institutions are better placed than sovereigns to manage currency risk since MDBs can diversify across currencies while sovereigns face a concentrated foreign exchange risk. Several MDBs have increased their local currency offerings. To date, however, the costs have been passed on to borrowers; MDBs could instead consider their large balance sheets as a diversified portfolio, as called for in the Addis Ababa Action Agenda.

**The network of PDBs can be leveraged to meet growing demands.**

The system can leverage the local knowledge and expertise of national and subregional development banks; MDBs can share global expertise with national and subregional development banks, thus helping these banks to build capacity where appropriate. A study of nine MDBs and select national development banks (NDBs) in four regions found that MDBs' lending to NDBs is uneven (ranging from extensive financial cooperation to relatively non-existent lending). Key barriers included currency mismatch, market conditions, availability of concessional financing, fiscal barriers, and political factors.<sup>46</sup> The study also found that there was no alignment or tracking of SDG financing within or among MDBs or between MDBs and NDBs in their respective regions. The Finance in Common initiative can help to address these challenges.

## 4. Blended finance

**After steady growth between 2012 and 2020, the expansion of blended finance has slowed.** Convergence, a global network for blended finance, reported that the value of blended finance transactions only picked up slightly after halving in 2020.<sup>47</sup>

**Blended finance, which uses public finance to crowd in private finance, is most relevant for investments in projects with high sustainable development impact that are not attracting private investment but still have a solid business rationale and potential cash flows to repay the private partner.** The objective is to make SDG investments that the private sector might not have done on its own, competitive with other investment opportunities—and to do this with minimum concessionality or subsidy (i.e., just enough to make a project attractive to commercial investors).

**To date, most blended finance deals have occurred in MICs.** LDCs receive a small share of blended finance—an average of 15 per cent of private finance mobilized between 2018 and 2020—through a small number of large-scale projects. The low proportion of deals in LDCs (as well as in conflict and post-conflict countries) highlights the fact that blended finance, like private finance, is drawn to areas with lower barriers to private capital mobilization. It can also indicate a tendency of blended finance to focus on less costly projects with lower risk profiles and potentially lower developmental impacts. In most cases, the developmental impact of deals is unknown, in part due to weak monitoring and reporting and poor transparency.<sup>48</sup> The 2021 OECD-UNDP Impact Standards for Financing Sustainable Development aims to address this gap.

**Blended finance is also focused on economic infrastructure and services.** Because blended finance is most effective in projects with a solid business rationale, the bulk of projects are in areas with the potential for financial profit. Almost two-thirds of mobilized private finance is focussed

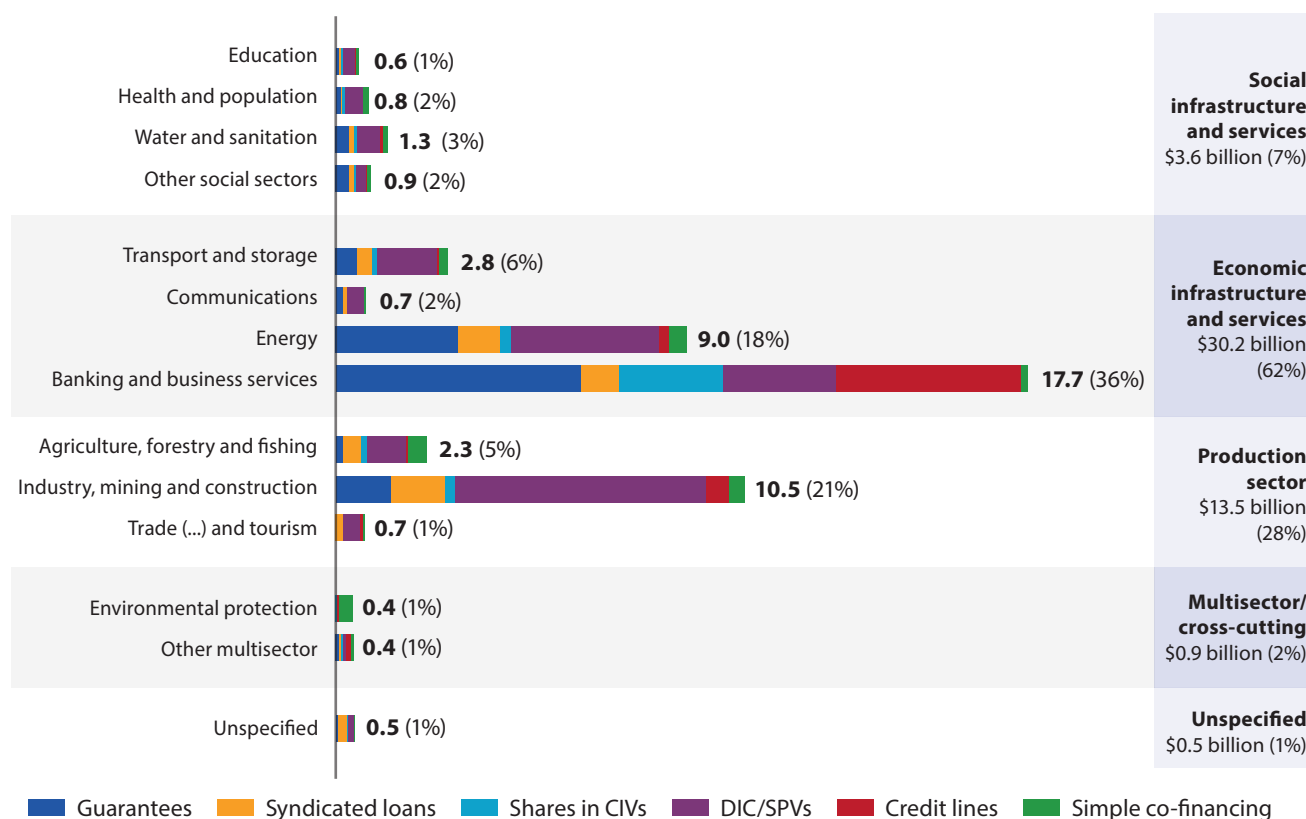
on economic infrastructure and services, including energy-related projects (figure III.C.12). Mobilized private finance for renewable energy totalled \$6.8 billion in 2018 to 2020,<sup>49</sup> with a large majority of mobilized private finance for climate action addressing mitigation. Given the profit potential of clean energy, a shift from traditional development assistance towards private finance mobilization in the clean energy sector, particularly for MICs, could potentially expand climate finance resources (see also section 6).<sup>50</sup> In addition, a significant portion of support flows into banking and business services, including on-lending to local markets, which can help to support the domestic business sector (see chapter III.B).

**Blended finance can thus play a key role in sustainable and inclusive industrialization.** Blended finance that supports economic infrastructure and services complements sustainable and inclusive industrial policies (see chapter II). Such national policies are similar to blended finance in that they aim to stimulate private investment in sustainable and productive assets with a positive development impact. When blended finance is aligned with the national priorities of countries, it brings national and global priorities together, leveraging local and international finance, capacities and knowledge. For example, the Acumen Resilient Agriculture Fund, an equity fund designed to build the climate resilience of smallholder farmers, is supported by the Green Climate Fund and several private entities.

**Despite high interest in blended finance, there have been a range of obstacles to scaling it up.** An OECD survey of 64 bilateral and multilateral providers highlighted that mobilizing private resources for development is one of their strategic objectives. However, the survey also showed that only 18 per cent of these institutions' portfolios ranked private finance mobilization as their main objective.<sup>51</sup> The OECD survey and others have highlighted the shortage of bankable/viable projects, perceived high risk/low return, and lack of financial/investment expertise as obstacles to ramping up private finance mobilization.<sup>52</sup>

**To scale up blended finance transactions, a new approach may be needed,** building on principles for blended finance (box III.C.2). As highlighted in earlier *Financing for Sustainable Development Reports*, this approach includes: First, blending using concessional finance needs to be aligned with country priorities and part of broader national sustainable development strategies. Projects that are aligned with national plans and that involve local and national actors are much more likely to have long-lasting impacts. INFFs provide a platform to tie financing to national priorities. Second, the primary focus of all blended deals should be development impact. If the goal of blending is to increase the volume of deals, blending will focus on where it is easiest to make deals. This would inevitably result in LDCs being overlooked by blended instruments. Development partners need to acknowledge this reality and customize blended instruments to local circumstances. DFIs also need to reflect this in staff internal objectives so the focus is on delivering impact rather than volumes. Third, analysis should always include measurement of the cost of blending versus other financing mechanisms. For example, the biggest infrastructure needs may be in social infrastructure that might not be profitable to private investors, even with enhancements. Water and sanitation—where commercial viability is often challenging due to equity concerns—has attracted a limited amount of private finance mobilized by official development finance; social sectors, such as health, education and gender equality, are scarcely covered (figure III.C.12). In those cases, public

Figure III.C.12  
**Mobilized private finance by sector, 2018–2020 average**  
 (Billions of United States dollars, current)



**Source:** OECD. 2023. "Private Finance Mobilised by Official Development Finance Interventions: Opportunities and Challenges to Increase Its Contribution towards the SDGs in Developing Countries" (OECD Development Co-operation Directorate).

**Note:** CIV – collected investment vehicles; DIC – direct investment in companies; SPVs – special purpose vehicles.

investments might be more appropriate, even if a complex blended deal could be arranged. Capacity development and transparency, participation and reporting are critical. The new INFF facility<sup>53</sup> can support capacity development, including helping countries to identify appropriate instruments

and pricing to provide sufficient risk-adjusted returns to investors without over-compensating them. Ensuring transparency and impact reporting, participation and monitoring throughout the life cycle of a project is important both to decision-making and to monitoring and review.

### Box III.C.2

#### Principles for blended finance extracted from the Addis Ababa Action Agenda<sup>a</sup>

1. Appropriate use
2. Sharing risks and rewards fairly
3. Alignment with sustainable development
4. Clear accountability mechanisms
5. Transparency
6. Participation, particularly of local communities, in decisions affecting their communities
7. Effective management, accounting, budgeting for contingent liabilities, and debt sustainability

8. Alignment with national priorities, promotion of country ownership and other relevant principles of effective development cooperation

In line with these principles, different groups of actors have defined principles for blending for their own activities, including the 2017 OECD/DAC Blended Finance Principles for Unlocking Commercial Finance for the SDGs, the 2017 DFI Working Group Enhanced Blended Concessional Finance Principles, and the Global Partnership for Effective Development Co-operation (GPEDC) Kampala Principles for effective private sector engagement through development co-operation. These share broader development effectiveness principles such as the importance of country ownership.

**Source:** UN/DESA and OECD.  
<sup>a</sup> A/RES/69/31.

**The Addis Ababa Action Agenda also calls on countries to share risk and returns fairly in blended finance** (box III.C.2). For deals with high financial upside potential, the public entity could use instruments with equity-like characteristics that allow it to share in the financial profit (over a threshold that covers the private partner's costs). Profits can then be used to fund other investments. This can be done most efficiently through a DFI or through pooling resources in a blended finance investment/venture fund (see chapter II). Blended finance deals should also be disaster-risk informed, clearly defining the risk reducing roles and responsibilities of the public and private sector to attract sufficient private investment.

## 5. South-South cooperation

### **Efforts to measure South-South cooperation are advancing.**

Following the breakthrough in 2021 by a subgroup on South-South cooperation as part of the Inter-agency Expert Group on SDG Indicators Working Group on Measurement of Development Support,<sup>54</sup> the United Nations Statistical Commission, in 2022, supported the development of an initial conceptual framework for the measurement of South-South cooperation, enabled by the co-custodianship of the United Nations Conference on Trade and Development (UNCTAD) and led by countries from the global South.<sup>55</sup> Preparatory work and early pilot initiatives rolled out in 2022, with wider regional work expected from 2023. UNCTAD is also currently building a mechanism for the reporting of South-South cooperation, with an advisory group expected to steer capacity-building efforts.<sup>56</sup>

**South-led development banks and financial institutions play a role in supporting developing countries.** The Asian Infrastructure Investment Bank approved 35 projects totalling \$7.3 billion in 2022, which benefited many MICs as well as some LDCs, SIDS and LLDCs.<sup>57</sup> In 2021, the New Development Bank approved 10 new loans worth \$5.1 billion related to COVID-19 support and infrastructure projects.<sup>58</sup> The New Development Bank is expected to continue to grow given its expanded membership (Bangladesh, Egypt, the United Arab Emirates and Uruguay joined in 2021). Subregional development banks and financial institutions such as those in Latin America and Africa also continue to support COVID-19 recovery efforts, regional integration and infrastructure development projects.

**Borrower-led MDBs, which are owned and controlled by borrower countries with little or no governance input from donor countries, are relatively small but rapidly growing.** The outstanding loan portfolios of 10 borrower-led MDBs grew from \$7.2 billion in 2000 to \$73.4 billion in 2021. This was underpinned by several borrower-led MDBs in Latin America, Africa and Eastern Europe/Central Asia,<sup>59</sup> and driven by internal reforms and improved access to bond market financing. For example, the West African Development Bank issued the first sustainability bond in Africa in 2021. The bond was issued to support governments to fund non-commercial SDG-related projects across the West African Development Bank's eight member countries: Benin, Burkina Faso, Côte d'Ivoire, Guinea Bissau, Mali, Niger, Senegal and Togo.<sup>60</sup> Some were quick to react to the COVID-19 pandemic as well as support their members tackle the impact of the war in Ukraine. The operations of borrower-led MDBs align more closely with their member countries' priorities compared to other MDBs but they may have more difficulty in accessing funding.<sup>61</sup> Leveraging their potential can also help to meet heightened demand.

### **South-South cooperation can support industrial development.**

BRICS countries (Brazil, Russia, India, China and South Africa) are exploring cross-border collaboration around industrial development and related policy matters to better respond to emerging development challenges and opportunities.<sup>62</sup> BRICS, through their Industry Ministers Meeting and a shared action plan, are considering joint strategies to boost trade and sustainable economic growth, strengthen industrial ties, promote technology transfer and innovation, and improve investment climates and job creation. They are also considering a proposal for joint training and skills development programmes, collaborative research and development and business development opportunities.

**Triangular cooperation complements South-South and North-South cooperation.** Data collected by OECD shows that triangular cooperation is deployed across all regions, with the largest share undertaken in Latin America and the Caribbean region although there has been a swift rise in Sub-Saharan Africa and Asia since 2018. While triangular cooperation is used across multiple sectors, it is a popular instrument for sharing experiences and knowledge on how to support government and civil society, protect the environment and tackle health issues.

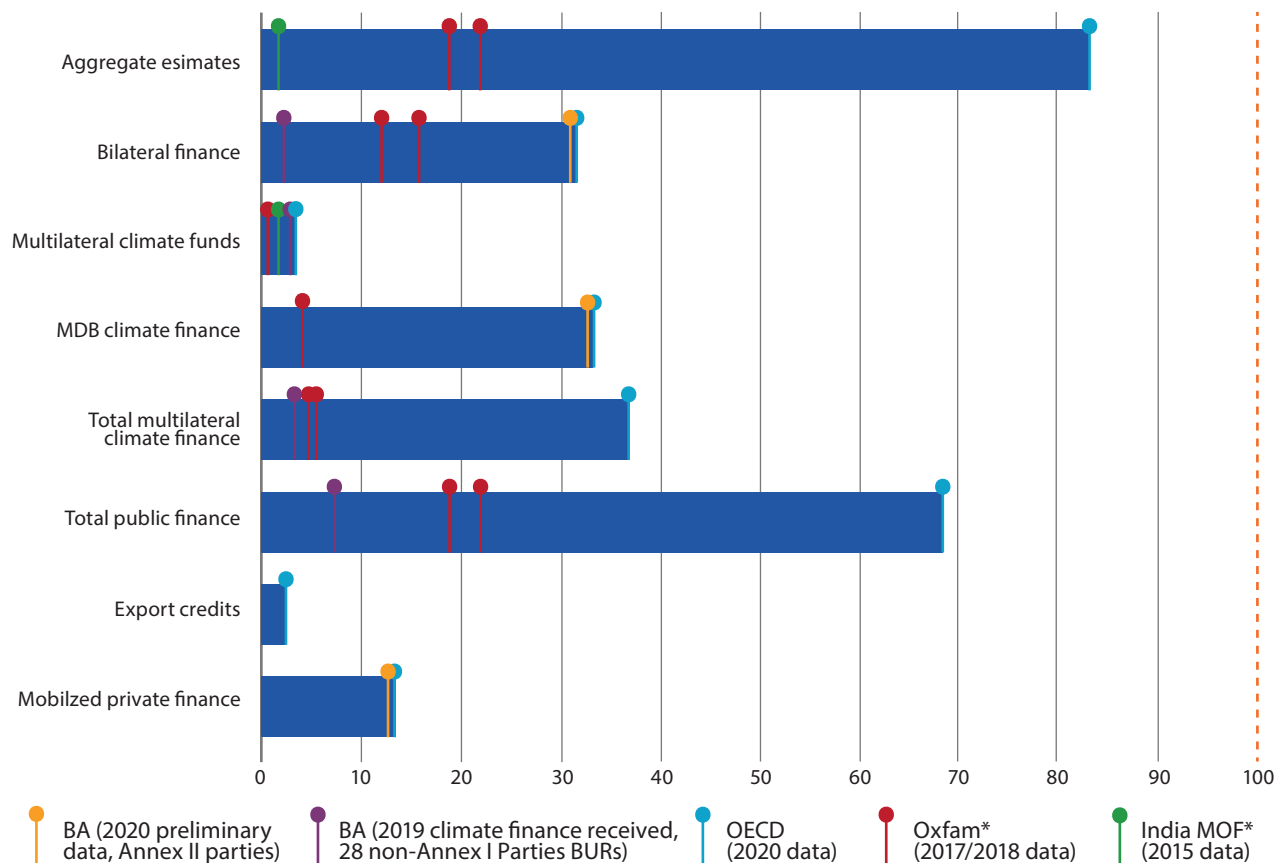
**The United Nations system continues to support South-South and triangular cooperation.** A 2021 survey indicated that 80 per cent of the 27 United Nations development system entities had included advancing South-South and triangular cooperation in their strategic frameworks or planning and programming instruments at the global and regional levels.<sup>63</sup> The United Nations Capital Development Fund and the Intergovernmental Authority on Development (IGAD) supported the harmonization of remittance policies across IGAD countries (Djibouti, Eritrea, Ethiopia, Kenya, Somalia, South Sudan, Sudan and Uganda). The International Labour Organization issued a peer-learning guide on South-South and triangular cooperation for decent work<sup>64</sup> as well as a good practices guide.<sup>65</sup> This adds to the available knowledge products by the United Nations Office for South-South Cooperation.<sup>66</sup>

## 6. Climate finance

**It is now widely accepted that the \$100 billion climate finance target was not met in 2020.** Under the climate agreements, developed countries agreed to jointly mobilize \$100 billion a year by 2020 from public and private sources to support climate action in developing countries. Despite a lack of agreed accounting methodologies and boundary conditions for assessing progress under the United Nations Framework on the Convention on Climate Change (UNFCCC), and a range of estimates (figure III.C.13), it is widely accepted that the goal was not achieved by 2020.<sup>67</sup> The latest OECD assessment of progress showed that climate finance totalled \$83.3 billion in 2020 (figure III.C.14).<sup>68</sup> Developed countries expressed confidence that climate finance would exceed \$100 billion by 2023.<sup>69</sup> Concerns have been raised about lack of clarity regarding the relationship between ODA and climate finance, and increased transparency could help to achieve the right balance between development and climate spending while highlighting their strong interlinkages.<sup>70</sup>

**Work commences on a new collective quantified goal on climate finance.** In 2021, the United Nations Climate Change Conference in Scotland (COP26) agreed on the process to set a net collective quantified goal on climate finance by the end of 2024, starting from a floor of \$100 billion

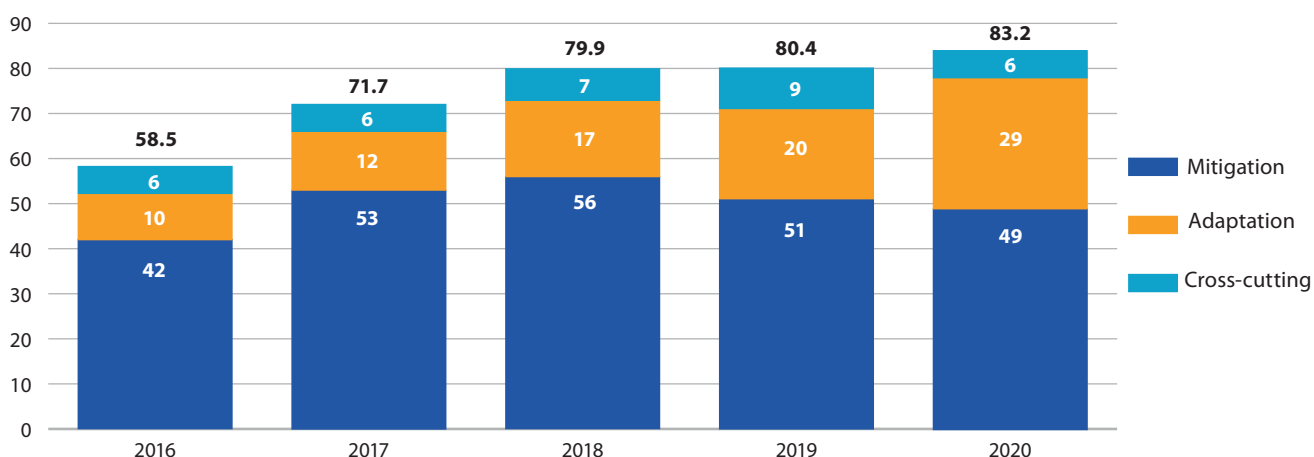
Figure III.C.13  
**Range of climate finance estimates per channel from sources of information in the latest available year**  
*(Billions of United States dollars)*



**Source:** UNFCCC Standing Committee on Finance. 2022. *Report on Progress towards Achieving the Goal of Mobilizing Jointly USD 100 Billion per Year to Address the Needs of Developing Countries in the Context of Meaningful Mitigation Actions and Transparency on Implementation*. Technical Report.

**Note:** Pins represent specific values from each source of information per channel. The extent of the bars represent the maximum value of estimates on the latest available year across sources of information. \*Analyses which make assumptions on sources and instruments which are not aligned with the language of the \$100 billion goal. Note that sources of information reflect datapoints for the latest available year that differ across sources of information and are therefore non-comparable; BUR – biennial update reports; MOF – Ministry of Finance.

Figure III.C.14  
**Climate finance provided and mobilized by component, 2016–2020**  
*(Billions of United States dollars)*



**Source:** OECD. 2022. *Aggregate Trends of Climate Finance Provided and Mobilised by Developed Countries in 2013-2020*; OECD. "Climate Finance and the USD 100 Billion Goal".



and taking into account the needs and priorities of developing countries.<sup>71</sup> An ad hoc work programme was set up from 2022 to 2024 with four technical expert dialogues each year. In 2022, the dialogues highlighted that the net collective quantified goal provides an opportunity to accelerate the implementation of the Paris Agreement and discussed: quantitative and qualitative elements; reflecting a long-term perspective; creation of incentives to allocate financial resources to address the needs and priorities of developing countries; and how the net collective quantified goal may be informed by a set of principles, including accessibility, inclusivity, predictability, measurability, transparency, and be time-bound.<sup>72</sup>

**The United Nations Climate Change Conference in Sharm El Sheikh (COP27) reached a breakthrough agreement to provide loss and damage funding for vulnerable countries hit hard by climate disasters.** The historic decision follows decades of slow progress in global

discussions on the issue of loss and damage (box III.C.3). A transitional committee, to be set up by March 2023, will make recommendations on how to operationalize both the new funding arrangements and the fund, for consideration and adoption at the 2023 United Nations Climate Change Conference (COP28).<sup>73</sup>

**Adaptation finance is increasing but not at the pace of climate impacts and a widening financing gap.** Adaptation finance rose significantly to \$28.6 billion in 2020 despite concerns over the impact of COVID-19 on climate finance, accounting for 34 per cent of total climate finance, its largest share yet (figure III.C.14). If this trend continues, the new commitment to double adaptation finance by 2025 could be met. However, the growth in adaptation finance has not kept up with climate impacts.<sup>74</sup> The adaptation finance gap is also growing, estimated at five to ten times greater than current adaptation finance flows.<sup>75</sup>

### Box III.C.3

#### A history of discussions on financing loss and damage

Proposed by SIDS in 1991 and long advocated by developing countries, finance for loss and damage is predicated on the principle that developed countries, majorly responsible for climate change, should provide support to developing countries for irreversible losses and costly damages from the impact of climate change. Advances in global discussions have been slow, with the term “loss and damage” first introduced at the United Nations Climate Change Conference held in Bali in 2007 (COP13).<sup>a</sup> In 2013 in Poland (COP19), the Warsaw International Mechanism for Loss and Damage was established to address the loss and damages “associated with the adverse effects of climate change, including impacts related to extreme weather events and slow onset events”.<sup>b</sup> These effects occur despite global mitigation and local adaptation efforts and have economic and non-economic impacts. While Article 8 of the Paris Agreement devotes attention to loss and damage, it was not included in relation to Article 9 on climate finance.<sup>c</sup> The guidelines agreed under the Enhanced Transparency Framework (ETF) recognized the potential overlap with adaptation action providing space for Parties to report on averting, minimizing and addressing loss and damage. In Glasgow, reporting tables agreed for climate finance under the ETF provided scope to report on loss and damage support provided, needed or received under additional information. However, it was not until the decision on funding arrangements for addressing loss and damage were agreed at Sharm el Sheikh, that the issue was identified as specifically separate to adaptation in the area of climate finance. The decision further emphasized that it should “not involve or provide a basis for any liability or compensation”.<sup>d</sup>

The Warsaw International Mechanism intended to enhance cooperation and facilitation of finance, technology and capacity-building support to help victims of climate change recover after extreme weather or slow-onset events,<sup>e</sup> possibly through solidarity-based instruments that transfer responsibility to the international community, such as taxation and transfers from developed countries to climate-vulnerable countries.<sup>f</sup> However, the focus has only been on private sector insurance-type mechanisms, such as risk pooling and transfer, catastrophe risk insurance, contingency finance, and climate-themed and catastrophe

bonds.<sup>g</sup> Critics argued that these market-based mechanisms place responsibility on the communities at risk, for example, by expecting them to pay an insurance premium.<sup>h,i,j</sup> They are also unlikely to be sufficient to meet the costs, with estimates ranging from \$50 billion to \$428 billion by 2030.<sup>k</sup> In addition, these mechanisms were not well suited to address slow-onset and non-economic events, which could be better served through development support for building resilience, including for social protection.<sup>l</sup> Several alternative options, including a dedicated loss and damage fund, have been discussed but had not previously gained traction in the Warsaw International Mechanism. Other options included solidarity taxes (e.g., financial transaction tax, airline levy), carbon taxes (e.g., levies on air and ship fuels, fossil fuel levies, global carbon tax) and issuance of additional special drawing rights.<sup>m</sup> The COP27 decision on establishing funding arrangements to address loss and damage, including a dedicated fund, is thus a historic breakthrough.

**Source:** UN/DESA.

**a** UNFCCC. 2022. “Chronology – L&D Workstream”. United Nations Climate Change.

**b** Ibid.

**c** Gewirtzman, Jonathan, et al. 2018. “Financing Loss and Damage: Reviewing Options under the Warsaw International Mechanism”. *Climate Policy* 18, no. 8 (14 September).

**d** Ibid.

**e** Farand, Chloe. 2019. “Loss and Damage: Who Pays for the Impacts of the Heated Earth?” *Climate Home News*, 3 December.

**f** Gewirtzman, Jonathan, et al. 2018. “Financing Loss and Damage: Reviewing Options under the Warsaw International Mechanism”. *Climate Policy* 18, no. 8 (14 September).

**g** Ibid.

**h** UNFCCC. 2022. “Chronology – L&D Workstream”. United Nations Climate Change.

**i** Farand, Chloe. 2019. “Loss and Damage: Who Pays for the Impacts of the Heated Earth?” *Climate Home News*, 3 December.

**j** Richards, Julie-Anne, and Liane Schalatek. 2017. “Financing Loss and Damage: A Look at Governance and Implementation Options”. Discussion Paper (Heinrich Böll Stiftung North America).

**k** Ibid.

**l** Gewirtzman, Jonathan, et al. 2018. “Financing Loss and Damage: Reviewing Options under the Warsaw International Mechanism”. *Climate Policy* 18, no. 8 (14 September).

**m** Roberts, Timmons J., et al. 2017. “How Will We Pay for Loss and Damage?” *Ethics, Policy & Environment* 20, no. 2 (4 May).

**As the largest providers, MDBs should play a leadership role in meeting climate finance targets, including on adaptation and increasing support to LDCs and SIDS with grants.** In 2020, MDBs accounted for around 40 per cent of total climate finance attributed to developed countries, compared with bilateral climate finance of 38 per cent.<sup>76</sup> In fiscal year 2022, the World Bank delivered a record \$31.7 billion to help countries address climate change.<sup>77</sup> Many MDBs also increased collaboration with dedicated climate Funds, such as the Green Climate Fund and the Global Environment Facility. To date, the Green Climate Fund and MDBs have co-invested over \$20.6 billion in climate finance.<sup>78</sup> In regard to achieving climate finance goals, the leadership of MDBs can help to spur similar action among other providers. This includes scaling up adaptation finance, which in 2021 only accounted for 35 per cent of total MDB climate finance of \$51 billion.<sup>79</sup> By fiscal year 2022, adaptation finance had reached 49 per cent of the World Bank's overall climate finance.<sup>80</sup> In other areas, the share of MDB finance to LDCs (20 per cent) and SIDS (1 per cent) is low compared to bilateral providers (25 per cent and 2 per cent, respectively) and multilateral climate funds (26 per cent and 7 per cent, respectively).<sup>81</sup> Increasing the overall share, including allocating more grants than loans, and continuing to ensure a balance between adaptation and mitigation finance, can help LDCs and SIDS to keep up with growing demands. The challenges facing SIDS include the measurement of "return" on mitigation investment and the difficulties of technically demonstrating adaptation needs, which might affect future allocations.<sup>82</sup> In addition, by expediting the alignment of their activities with the Paris Agreement and the SDGs, MDBs can help to meet climate targets. This includes realizing their commitment to end their support to fossil fuel projects as the European Investment Bank has done.<sup>83</sup> The World Bank aims to align all new operations with the Paris goals by 1 July 2023.<sup>84</sup>

**Country platforms such as the JETPs can help to boost climate action and sustainable industrialization.** A country platform provides a way to organize international development cooperation and climate change action at the country level. Broadly, it is a government-led, multi-stakeholder partnership used to attract and coordinate international public finance in support of common goals.<sup>85</sup> The JETP in South Africa, which was announced at COP26 and aims to help the transition away from coal, is an example of a country platform. Since then, JETPs have been announced for Indonesia, India, Viet Nam and Senegal (box III.C.4). Country platforms such as the JETP can also help to facilitate strategic collaboration between the government and the private sector, which is key for sustainable industrialization policy implementation (see chapter II).<sup>86</sup> Financing strategies to deliver on the aims of country platforms should be based on a detailed understanding of the different areas being financed.<sup>87</sup> INFFs can help country platforms to match different types of financing with the most appropriate investments as well as ensure coherence with different financing policies.

## 7. The quality, impact and effectiveness of development cooperation

**Changes in the financing for development landscape call for a stronger, shared understanding of how the development effectiveness agenda can inform policy and action at the country level.** Since the adoption of the Addis Ababa Action Agenda, international

### Box III.C.4

#### Just Energy Transition Partnerships

JETPs aim to help coal-dependent emerging economies make a just energy transition away from coal, including tackling the social consequences of the transition, such as through training and alternative job creation for affected workers and new economic opportunities for affected communities.<sup>a</sup>

The JETP model was pioneered at COP26 in 2021, where South Africa and an International Partners Group comprising France, Germany, the United Kingdom, the United States and the European Union announced an \$8.5 billion JETP, to be provided over the following three to five years in the form of concessional loans (63 per cent), commercial loans (18 per cent) and grants (4 per cent).<sup>b</sup> In 2022, at COP27, South Africa published its JETP Implementation Plan, which laid out its priority investment requirements in the electricity, new energy vehicles and green hydrogen sectors, totalling \$98 billion, much higher than the JETP commitment.<sup>c</sup>

The second tranche of JETPs for Indonesia, Viet Nam, India and Senegal was announced at the G7 Leaders meeting in Bali in November 2022.<sup>d</sup> The inclusion of Senegal, which is not currently a major coal producer/consumer or major carbon emitter but a future gas producer, widened the scope of the JETPs.<sup>e</sup> While negotiations are ongoing for JETPs in India and Senegal, JETPs have been established for Indonesia and Viet Nam. Canada, Italy, Norway and Denmark joined the International Partners Group for Indonesia and Viet Nam.

The aim of the JETP for Indonesia is to mobilize \$20 billion in public and private financing over a period of three to five years, using a mix of grants, concessional loans, commercial loans, guarantees and private investments. Ten billion dollars of public money will be mobilized by the International Partners Group members and at least \$10 billion of private finance will be mobilized and facilitated by the Glasgow Financial Alliance for Net Zero (GFANZ) Working Group.<sup>f</sup> Similarly for Viet Nam, the JETP aims to mobilize \$15 billion over a three-to-five-year period, with International Partners Group members mobilizing \$7.5 billion and the GFANZ Working Group \$7.5 billion.<sup>g</sup>

**Source:** UN/DESA.

- a** Kramer, Katherine. 2022. "Just Energy Transition Partnerships: An Opportunity to Leapfrog from Coal to Clean Energy". International Institute for Sustainable Development, 7 December 2022.
- b** Mustapha, Shakira. 2022. "Providing Climate Finance in the Context of a Looming Debt Crisis". ODI: Think change, 11 November 2022.
- c** Republic of South Africa. 2022. "South Africa's Just Energy Transition Investment Plan (JET IP) for the Initial Period 2023-2027".
- d** Kramer, Katherine. 2022. "Just Energy Transition Partnerships: An Opportunity to Leapfrog from Coal to Clean Energy". International Institute for Sustainable Development, 7 December 2022.
- e** Ibid.
- f** United Kingdom Government. 2022. "Indonesia Just Energy Transition Partnership Launched at G20", 15 November 2022.
- g** United Kingdom Government. 2022. "Political Declaration on Establishing the Just Energy Transition Partnership with Viet Nam", 14 December 2022.

development cooperation has seen significant shifts in its provision, modalities, focus and recipients. In terms of providers, there is increased delivery of ODA through multilateral rather than bilateral providers, a rise in South-South and triangular cooperation (see box III.C.5) and a nascent contribution of philanthropy. On modalities, there has been a growth of ODA through loans relative to grants, an increase in blended finance (though it remains small) and greater use of regional and subregional mechanisms (see box III.C.6) on broader measures of development support. In terms of focus, there has been a shift from a concentration on poverty to broader goals such as the SDGs and climate finance (particularly given the climate crisis and COVID-19 experience), as well as an increase in allocation for humanitarian aid. Changes in recipients are in part due to the graduation of low-income countries and LDCs to higher-income categories, a concentration of the poor and vulnerability in MICs, and increased attention to climate-vulnerable countries and those in conflict or post-conflict situations.<sup>88</sup> While a recent survey of providers and recipient countries indicated that the current development effectiveness agenda remains relevant, respondents also indicated the need for reform and revitalization due to the changed landscape and lagging attention to the agenda.<sup>89</sup> A shared understanding of development effectiveness principles by all actors can help policy and action at the country level.

### Box III.C.5

#### North-East Asia Development Cooperation Forum

East and North-East Asia are home to countries that have emerged as key providers of development assistance. Several countries (e.g., the Republic of Korea and China) have transitioned from being recipients to providing development assistance through various modalities (e.g., knowledge-sharing platforms, South-South and triangular cooperation, and multilateral mechanisms).

To improve the effectiveness of development cooperation efforts, the North-East Asia Development Cooperation Forum was set up in 2014. The annual engagement platform brings together researchers and experts to discuss experiences and potential areas of cooperation for North-East Asia.<sup>a</sup> Lessons from the COVID-19 pandemic have prompted partners to reflect on the new international development cooperation landscape,<sup>b</sup> including the cross-border and interconnected nature of development challenges, massive finance gaps to address global challenges (e.g., pandemic, climate change, energy crisis) and widening within-country inequalities among development assistance providers.<sup>c</sup>

**Source:** United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP).

**a** See UNESCAP. 2018. *Achieving the Sustainable Development Goals through Enhanced Development Cooperation in East and North-East Asia*.

**b** See UNESCAP, “6th North-East Asia Multistakeholder Forum on Sustainable Development Goals 2022”, 7–8 September 2022; Korea International Cooperation Agency. “The 15th Seoul ODA International Conference”, September 2022.

**c** See Xiaoyun, Li, et al. 2020. “New Landscape of International Development Cooperation in Post-Covid-19 – Implications for North-East Asia Countries”. North-East Asia Development Cooperation Forum Policy Brief, UNESCAP East and North-East Asia Office, 24 December 2020.

### Box III.C.6

#### Broader measures of development support

*Measurement of development support under the global indicator framework for the SDGs*

At its fifty-third session in March 2022, the United Nations Statistical Commission adopted the proposed new indicator 17.3.1<sup>a</sup> by the Inter-agency and Expert Group on SDG Indicators (IAEG-SDGs) Working Group on Measurement of Development Support. Indicator 17.3.1 aims to capture broader measures of development support under target 17.3: “Mobilize additional financial resources for developing countries from multiple sources”. The indicator follows the recipient perspective and complies with the Addis Ababa Action Agenda by distinguishing flows of different types and concessionality, which have different impacts on development. It includes gross receipts from developing countries of: a) official sustainable development grants; b) official concessional sustainable development loans; c) official non-concessional sustainable development loans; d) foreign direct investment; e) mobilized private finance on an experimental basis (subject to review in the 2025 review of SDG indicators); and f) private grants. The OECD and UNCTAD are the co-custodians of the new indicator and work is under way for the first global reporting on this indicator, including capacity-building.

The United Nations Statistical Commission also agreed to review the issue of the measurement of global and regional efforts in support of the SDGs. However, consultations indicated that national efforts were not sufficiently advanced to form the basis for further work. The Commission decided not to pursue a review at the international level at this time but is open to discuss the issue in the future.<sup>b</sup>

*Total official support for sustainable development*

Initiated by the OECD and developed by an international task force of experts created in July 2017, TOSSD aims to capture both cross-border resource flows and support to international public goods and global challenges with substantial benefits to developing countries. It includes concessional and non-concessional support from traditional and emerging bilateral and multilateral finance providers, including South-South and triangular cooperation providers. It also captures private finance mobilized by official interventions. TOSSD data on 2021 flows was published in January 2023, covering activities from 106 respondents, including 46 countries and 60 multilateral organizations. Several pilot studies have also been conducted.<sup>c</sup> TOSSD 2021 data includes activity-level information for \$395 billion of official support and an additional \$41 billion of private finance mobilized by official interventions.<sup>b</sup> TOSSD data is one of the data sources for indicator 17.3.1.

**Source:** UN/DESA.

**a** E/CN.3/2023/2.

**b** Ibid.

**c** See the TOSSD website at <https://www.tossd.org> and TOSSD data at <https://tossd.online>.

**Development cooperation platforms can help actors to navigate the changed landscape and accelerate behaviour change in line with the development effectiveness agenda.** There are currently two main global platforms dealing with the development effectiveness agenda—the United Nations Development Cooperation Forum and Global Partnership for Effective Development Co-operation (GPEDC). The Development Cooperation Forum holds a biennial forum, the latest in March 2023, generating and disseminating analysis and data through its biennial Development Cooperation Forum survey, the seventh being the most recent. The 2022 GPEDC Summit launched various instruments, including a new global partnership monitoring exercise to help members meet commitments on effective development cooperation and drive action at the country level (box III.C.7).<sup>90</sup> Ensuring the complementarity of global arrangements to advance the development effectiveness agenda is critical to meet the massive global development challenges and changed financing landscape.

### Box III.C.7

#### **New monitoring exercise of the Global Partnership for Effective Development Co-operation**

Launched in December 2022, the new Global Partnership monitoring exercise aims to provide evidence on progress made by members in implementing effective development cooperation commitments.<sup>a</sup> Monitoring findings aim to support multi-stakeholder dialogues to advise governments and partners on their joint actions to achieve the SDGs, including through INFFs. There is to be a focus on leave no one behind, data and statistical systems, as well as a new assessment area on private sector engagement in development cooperation against the Kampala Principles.<sup>b</sup>

**Source:** GPEDC.

**a** See Global Partnership for Effective Development Co-operation. “2022 Effective Development Co-Operation Summit Declaration”, 14 December 2022.

**b** See Global Partnership for Effective Development Co-operation. 2019. “Kampala Principles for Effective Private Sector Engagement through Development Co-Operation”.

**A shared understanding of development effectiveness principles is key in the new development financing landscape.** Shared principles include: aligning activities with country priorities, promoting country ownership, strengthening partnerships, increasing transparency and mutual accountability. However, harmonizing development effectiveness principles between traditional ODA providers and South-South cooperation has been challenging due to differences in historical context, scope and motivation. There are significant divides, such as on solidarity, equality, mutual benefit, respect for national sovereignty and non-interference in domestic affairs, as well as conditionalities related to human rights, good governance and democracy.<sup>91</sup>

**The COVID-19 pandemic demonstrated the importance of having in place risk-informed development cooperation.** This includes development cooperation policies that contain a comprehensive assessment of known risks, while building in sufficient flexibility to swiftly respond to potential future crises and emergencies. Such risk assessments should be reviewed and revised on a regular basis. According to the 2021/2022 Development Cooperation Forum Survey, national development cooperation

policies that built in disaster response contingencies were better prepared for the pandemic and able to rapidly mobilize resources for the COVID-19 response. Risk assessments can also be embedded in country results frameworks, which set out various performance targets, as well as through development cooperation information systems. These information systems act as the “nerve centre” of development cooperation—collecting, analysing and reporting information, identifying gaps, duplication of efforts and blockages to progress, and feeding analysis, evaluation and learning into decision-making on development cooperation. This information can be useful for risk planning, budget preparations and macroeconomic assessment, which can form a key part of INFFs. While countries may have information systems in place, lack of complete and timely data from development partners can hinder their effectiveness.<sup>92</sup>

#### **To enhance country ownership, donors should entrust more ODA to developing country governments and local stakeholders.**

While country-programmable aid has increased (see section 2) and direct budget support almost doubled during the pandemic,<sup>93</sup> less than half of ODA is channelled through the public sector of recipient developing countries; and only one third in LDCs (figure III.C.15). Compared to other country groups, the public sector in MICs receives a larger share of ODA, the majority of which is through loans (figure III.C.7). It appears that donors who channel more ODA through the public sector also rely more on loans than grants to these countries.<sup>94</sup> Many MICs have better governance systems in place to absorb loans directly. Channelling less ODA through partner governments may reflect political concerns in donor countries, including over state delivery; and those donors that bypass governments may be less inclined to align their objectives with country priorities.<sup>95</sup> INFFs can help countries to align development cooperation with country priorities and ensure more coordinated and needs-driven interventions by development partners—enhancing overall control over development cooperation by governments.<sup>96</sup>

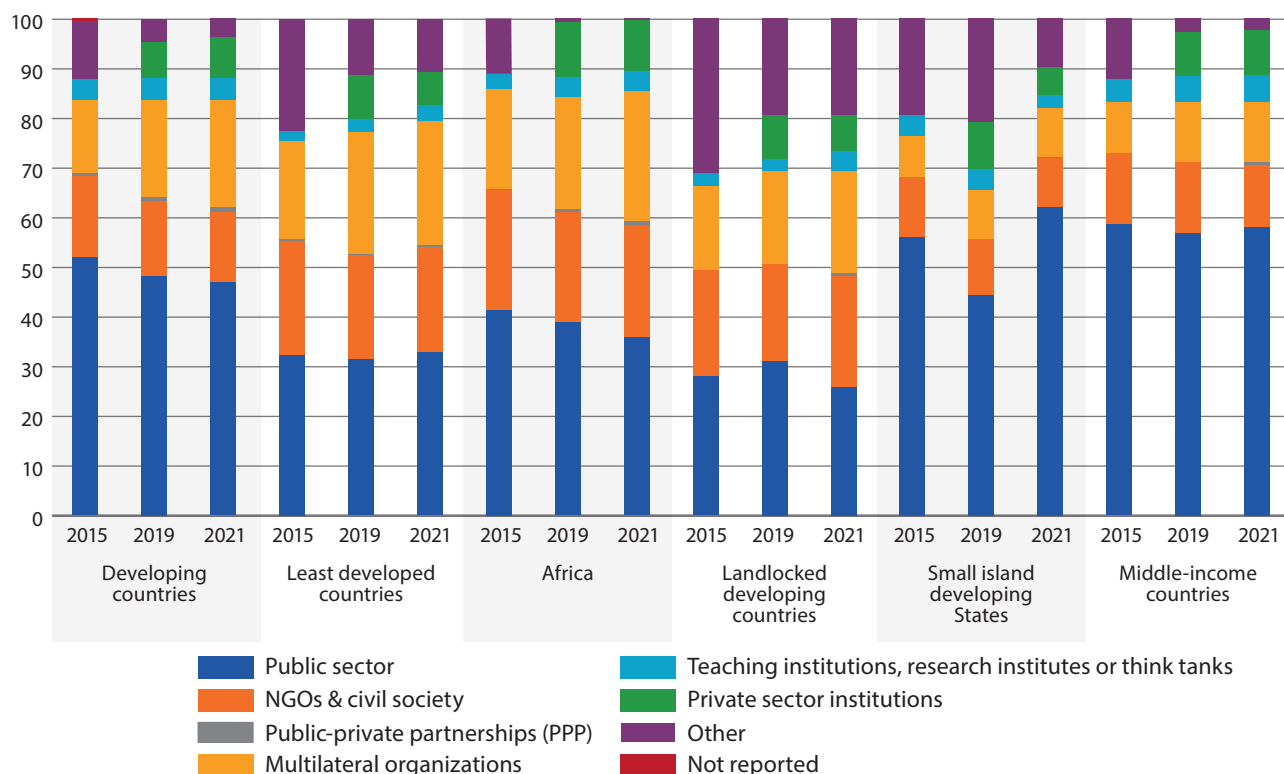
#### **Encouraging the participation of non-state actors in national development cooperation forums can help to better reach marginalized and vulnerable communities.**

National development cooperation forums are typically the primary platform for developing country governments, development partners and stakeholders to transparently discuss and enhance development cooperation efforts. While national governments generally invite all stakeholders to these forums, international development partners usually dominate, with less engagement by non-state actors, including civil society organizations (CSOs).<sup>97</sup> Lessons from the pandemic underscore the important role of non-government organizations and CSOs in reaching vulnerable communities. Many developing countries are making more concerted efforts to enhance (particularly local) CSO engagement in decision-making to improve the effectiveness of development cooperation.<sup>98</sup> Development partners can also help to develop the capacity of local CSOs.<sup>99</sup>

#### **Recent work to increase the transparency of the tax treatment of ODA-financed goods and services reveals considerable diversity in donor positions on the tax exemptions for ODA.**

At the end of 2022, of the 21 donors included in the new OECD tax transparency hub, 12 had either undertaken a review or were planning a review of policy in this area, while nine had no plans to review. In terms of the policy positions, six countries had no general policy, eight countries generally request exemptions, three sometimes request exemptions, and four never or rarely request exemptions.<sup>100</sup> There are also differences in how recipient countries approach the taxation of ODA.<sup>101</sup>

Figure III.C.15  
**Gross bilateral ODA disbursements by channel, 2015, 2019, 2021**  
 (Percentage of total)



Source: OECD Creditor Reporting System database.

## Endnotes

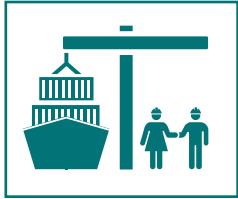
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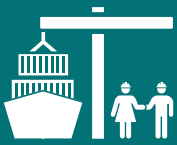




# International trade as an engine for development



## Chapter III.D



# International trade as an engine for development

## 1. Key messages and recommendations

**The war in Ukraine has impacted the trade rebound from the COVID-19 pandemic; the war has also affected food supplies, which has spurred a global food crisis.** The

growth in global trade in goods and services slowed in early 2023 after reaching a historical high in 2022. Maritime costs remain elevated due to continued shipping capacity shortages, underpinning the higher prices of imported goods. High food and fertiliser prices, currency depreciations against the United States dollar and export restrictions have also affected food supplies worldwide. The Black Sea Grain Initiative helped to resume exports of Ukrainian grain amid the ongoing war, and World Trade Organization (WTO) members agreed to exempt food purchases by the World Food Programme for humanitarian purposes from export restrictions to address growing food insecurity.

**The impact of the COVID-19 pandemic, digitalization and the climate crisis are bringing renewed attention to trade and industrial policy.** Trade measures can help to build or improve the competitiveness of domestic industries, supporting industrial policies. There is renewed attention on the role of industrial policy in tackling the climate crisis amid rapid digitalization. However, developed countries need to consider the impact of industrial policies on poorer countries. There is a risk of a new industrialization divide unless developing countries, in particular least developed countries (LDCs) and landlocked developing countries (LLDCs), are supported.

- *The international community needs to update multilateral rules on subsidies in the face of compounding challenges. More dialogue is needed to develop an agenda to better understand subsidy programmes and their consequences;*
- *LDCs and LLDCs should be prioritized for support, including for trade finance, trade facilitation measures and aid for trade.*

**While there is progress on implementing trade facilitation measures, the trade finance gap continues to widen.** Implementation of trade facilitation measures is

uneven, with LDCs needing more support. Current global challenges have also widened the trade finance gap.

- *Multilateral development banks (MDBs) and development finance institutions can help to scale up trade finance;*
- *Exploring opportunities in digital trade finance can help to narrow the trade finance gap.*

**Sustainable development considerations remain central to discussions in regional and multilateral trading systems.** The sustainability focus of the new WTO Agreement on Fisheries Subsidies marks an historic achievement by the WTO and will be instrumental in tackling harmful fisheries subsidies. Regional trade agreements (RTAs) have expanded, with environment and labour issues increasingly featured. Recent trends also show a new wave of sectoral agreements based on regulations mechanisms. More international investment agreements (IIAs) are being terminated than new ones signed, with newly concluded IIAs featuring reform-oriented provisions, including promoting corporate social responsibility standards and addressing gender equality and women's economic empowerment. However, immediate IIA reforms are needed to better support climate action as the current IIA regime, largely based on old-generation IIAs, can constrain states taking measures to combat climate change and protect the environment, with a high risk of investor-State dispute settlement (ISDS) cases.

## 2. Trade and industrial policy

**There is a clear interplay between industrial policy and trade.** Industrial policy aims to transform a country's productive and supply capacity. This affects the composition of goods and services that the country can trade in the world market.<sup>1</sup> Trade measures are instruments to implement industrial policy to build or improve the competitiveness of domestic industries vis-à-vis foreign competitors.<sup>2</sup>

**An open and predictable trading system is essential for effective industrialization.** Trade allows domestic industries to have access to the capital goods, primary and intermediate inputs and services necessary for building and upgrading productive capacity. Beyond access to inputs, interactions with foreign firms through backward and forward linkages can promote technology diffusion and knowledge spillover. A study of 27 emerging economies shows that both competition from foreign firms and linkages with foreign firms, through importing, exporting or supplying multinationals, increases product innovation and the adoption of new technologies and enhances product quality.<sup>3</sup>

**There is renewed attention on the role of industrial policy in tackling the climate crisis amid rapid digitalization.** Industrial policy has received renewed attention as a strategy for achieving green growth and climate goals. For example, clean energy transition and industrial transformation are critical components in reducing carbon dioxide emissions and adapting to the impact of climate change through nationally determined contributions under the Paris Agreement.<sup>4</sup> Industrial strategies must also account for the various ways in which digital technologies can affect their development. Leading economies, such as G20 members, will likely focus on maintaining industrial leadership and on supporting innovation in digital technologies; in contrast, the main challenge for developing countries is ensuring access to technologies, including through trade, and enhancing absorptive capacities.<sup>5</sup>

**When developed countries pursue sustainable industrial policies, they need to consider the impact on poorer countries.** The European Union is set to introduce the Carbon Border Adjustment Mechanism (CBAM) in 2026, which will require importers of certain carbon-intensive products to buy certificates to account for embedded emissions. The CBAM is intended to complement the European Union emissions trading system and address carbon leakage, that is, shifting production of carbon-intensive goods from the European Union to third countries that have more carbon-intensive production methods. Such mechanisms remain controversial as they could increase the price of goods from countries without carbon pricing.

**Successive global supply shocks, including the COVID-19 pandemic and the war in Ukraine, have triggered a significant increase in government interventions, many of which share the same characteristics as industrial policy instruments.** During the COVID-19 pandemic, tariff and non-tariff measures were widely used to promote or restrict the import and export flows of “essential” goods, such as medical supplies and food.<sup>6</sup> To combat the triple crises of food, fuel and finance following the war in Ukraine, many governments also resorted to a variety of subsidies. In addition, linking supply shocks with national security concerns, several developed and emerging economies have enacted measures to gain or maintain a competitive edge in strategic industries, such as semiconductors, artificial intelligence, electric vehicles or decarbonization technologies.

## 2.1 Understanding subsidies in modern industrial policy and strengthening multilateral cooperation

**Subsidies can help to support certain industries; but they can also have adverse effects on trade and the allocation of resources.** Properly crafted subsidies can correct market failures, spur technological

innovation and diffusion, and provide social safety nets. Subsidies may take the form of direct payments, price support, tax incentives or other economic incentives, with the purpose of nurturing infant industries, boosting the competitiveness of domestic “strategic” industries or meeting national security concerns (e.g., food security), among others. While the provision of subsidies may serve legitimate policy objectives, they can also have adverse effects on trade and the efficient allocation of resources, such as providing unfair advantages to inefficient firms in wealthier countries. Hence, subsidies are subject to multilateral regulations, namely the WTO Agreement on Subsidies and Countervailing Measures (SCM Agreement) and the WTO Agreement on Agriculture. The latter’s primary objective is to discipline agricultural policies that create distortions to production and trade, including through certain types of subsidies. The SCM Agreement regulates subsidies based on the principle that the more trade distorting the subsidy, the stricter the disciplines applied. Export subsidies contingent on local content requirements that are the most trade distorting are prohibited and can be challenged under the WTO’s Dispute Settlement Mechanism. Other subsidies are deemed to be “actionable”, that is, subject to countervailing measures or challenges by other WTO members when a WTO member is adversely impacted.

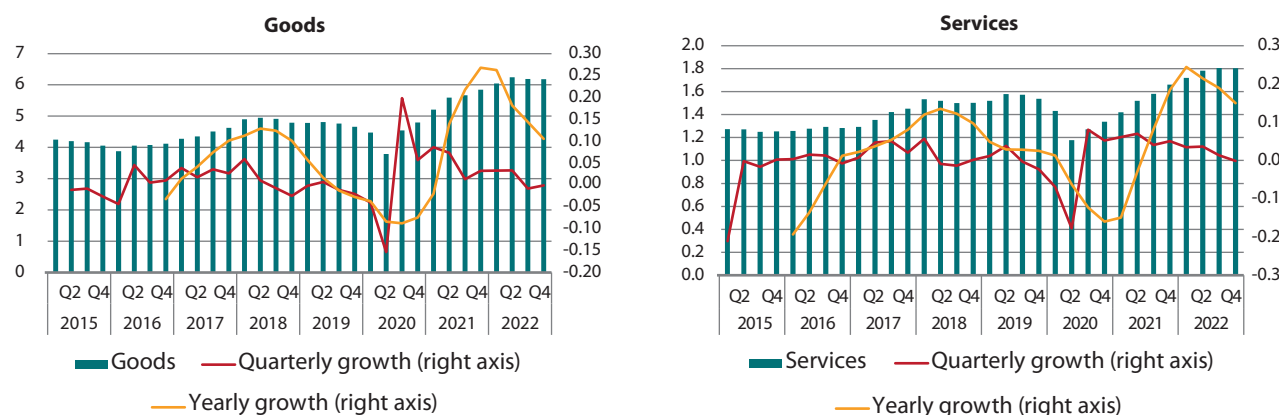
**There is a need to update multilateral rules on subsidies in the face of compounding global challenges, including the climate crisis and rapid digitalization.** Recent announcements of new subsidy programmes in some major economies covering key sectors such as electric vehicles, renewable energy and semiconductors, have raised questions about current multilateral rules. To enhance the transparency, openness and predictability of global trade, broad-based cooperation is needed to update the multilateral rules on subsidies.<sup>7</sup> More work is required to develop an agenda to better understand present subsidy programmes and their consequences for trade partners and the global good.

## 2.2 Addressing inequality to avoid a new “industrialization divide”

**LDCs face significant challenges in industrializing their economies and need international support to narrow the industrialization divide.** While developed and emerging economies are focusing on sustainable industrial policies, such as greening or digitalizing their existing productive industries, many low-income developing countries remain focused on diversifying their commodity-dependent economies. From 2018 to 2020, commodities still accounted for 63 per cent of the total merchandise exports of LDCs.<sup>8</sup> Although the share of manufacturing value added (MVA) in LDCs grew faster than in other economies between 2010 and 2020, the actual value of MVA per capita in LDCs remains quite low overall—at a fraction of that in industrialized economies.<sup>9</sup> Amid the current global challenges, LDCs face the additional challenges of narrowing existing technological, digital, infrastructural and services gaps.<sup>10</sup> Limited fiscal space due to low domestic resource mobilization (see chapter III.A) and a high debt burden (see chapter III.E) also constrain LDCs from industrializing their economies. Without support from the international community, LDCs will further lag behind developed and advanced economies, widening the industrialization divide.

**LLDCs also face structural impediments to industrialization and trade competitiveness.** LLDCs continue to rely on primary commodity exports, which made up 83.9 per cent of their total merchandise exports

Figure III.D.1

**World trade in goods and services, 2015–2022***(Trillions of United States Dollars, percentage)*

Source: UNCTAD.

Note: Data for 2022 are estimates.

in 2021. Transport connectivity constraints hinder growth in manufacturing, which has slowed further due to the COVID-19 pandemic. LLDCs need technical and financial support for industrialization and manufacturing as well as assistance with infrastructure development, trade facilitation and transit services to alleviate their transport connectivity issues.

### 3. Trends in international trade

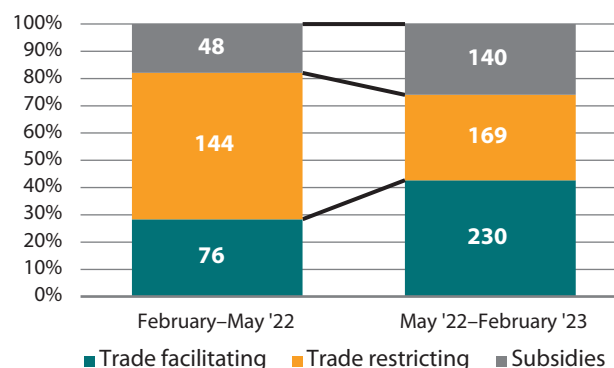
#### 3.1 Impact of the war in Ukraine

**International trade rose to an all-time high in 2022 but growth slowed following the impact of the war in Ukraine.** The global trade in goods and services reached an all-time high of \$32 trillion in 2022 (figure III.D.1), underpinned by a surge in e-commerce transacted by businesses and consumers in the wake of the pandemic. However, the growth in trade slowed following the outbreak of war in Ukraine. Many developed and emerging economies implemented trade-restricting measures such as export bans on agricultural products and fertilisers (figure III.D.2) to mitigate the supply shocks triggered by the war (see chapter I). By February 2023, many of these restrictions had been lifted, with more trade-facilitating measures in place such as eliminating import tariffs on wheat and other staple foods, and price subsidies to importers and businesses. The outlook for global trade remains pessimistic due to lower economic growth, commodity price fluctuations, sustained inflation in many economies (see chapter I) as well as the ongoing impact of the war in Ukraine and restrictive trade policies.

**Commodity prices rose steeply following the outbreak of war in Ukraine; while prices have fallen more recently, they remain elevated.** Prices of all commodities shot up following the outbreak of war in Ukraine, especially fuel and food prices (figure III.D.3). In October 2022, fuel prices were 99 per cent higher than in December 2019, with food prices 34 per cent higher. Prices have since eased but remain elevated due to the ongoing impact of the war.

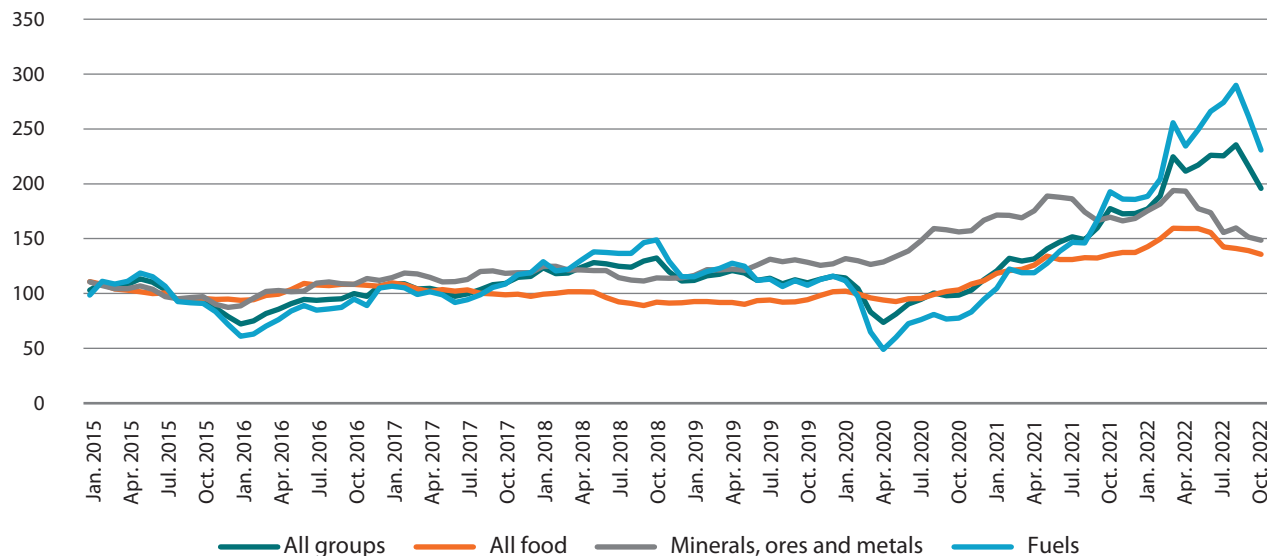
**High food and fertiliser prices, currency depreciations against the US dollar and export restrictions have affected food supplies worldwide, underpinning a global food crisis.** Economies and supply chains had yet to fully recover from the COVID-19 pandemic when the war in Ukraine broke out. In March 2022, both the United Nations Food and Agriculture Organization (FAO) food price index and fertiliser prices<sup>11</sup> rose to record highs, and although prices have since declined, they remain at historically high levels (see chapter I). Many developing countries also saw their currencies fall against the US dollar. This affected net-food-importing developing countries as the price of imported wheat increased significantly. For example, estimates suggest that Pakistan would have to pay 132 per cent more to buy the same quantity of wheat that it purchased in 2020 due to an 89 per cent increase in the world wheat price and a 43 per cent increase due to the Pakistani rupee's depreciation against the US dollar.<sup>12</sup> The Black Sea Grain Initiative, signed in July 2022, has helped to resume

Figure III.D.2

**Trade-related measures in agriculture and fertilizers, February 2022–February 2023***(Percentage)*

Source: UNCTAD.

Figure III.D.3  
Commodity price index, 2015–2022  
(Index)



Source: UNCTAD.

Note: 2015=100; data for 2022 are estimates.

exports of Ukrainian grain via the Black Sea amid the ongoing war and has contributed to stabilizing global wheat and maize prices.<sup>13</sup> As of February 2023, more than 20 million metric tons of grains and other foodstuffs have been exported from Ukraine.<sup>14</sup> FAO has also proposed a Food Import Finance Facility to ease immediate food import financing costs for low-income countries.<sup>15</sup>

**Trade growth in LDCs surged on the back of high commodity prices, outpacing other country income groups (figure III.D.4), but their share of world trade remains unchanged.** LDCs saw a major spike in their exports—composed mostly of primary commodities—in tandem with higher prices in 2022. However, their share of exports remained at around 1 per cent of global exports in goods and below 1 per cent of global exports in services in 2021 (figure III.D.5)—still below SDG target 17.11 to double this share to around 2 per cent by 2020. In contrast, the share of developing country exports in world exports has steadily increased (figure III.D.5), with trade growth among developing countries (South-South trade) outpacing other trade flows (figure III.D.4).

### 3.2 Trends in transport, trade facilitation and trade finance

#### Maritime transport

**Maritime transport costs remain elevated due to continued shipping capacity shortages.** Container shipping rates, as reflected in the Shanghai Containerized Freight Index, peaked in mid-2021, four times higher than pre-pandemic levels (figure III.D.6). Rates have since fallen but remain elevated due to the slow recovery of shipping service capacity post-pandemic coupled with the rebound in trade volumes.<sup>16</sup> High freight rates are underpinning higher prices of imported goods worldwide.

#### Trade facilitation

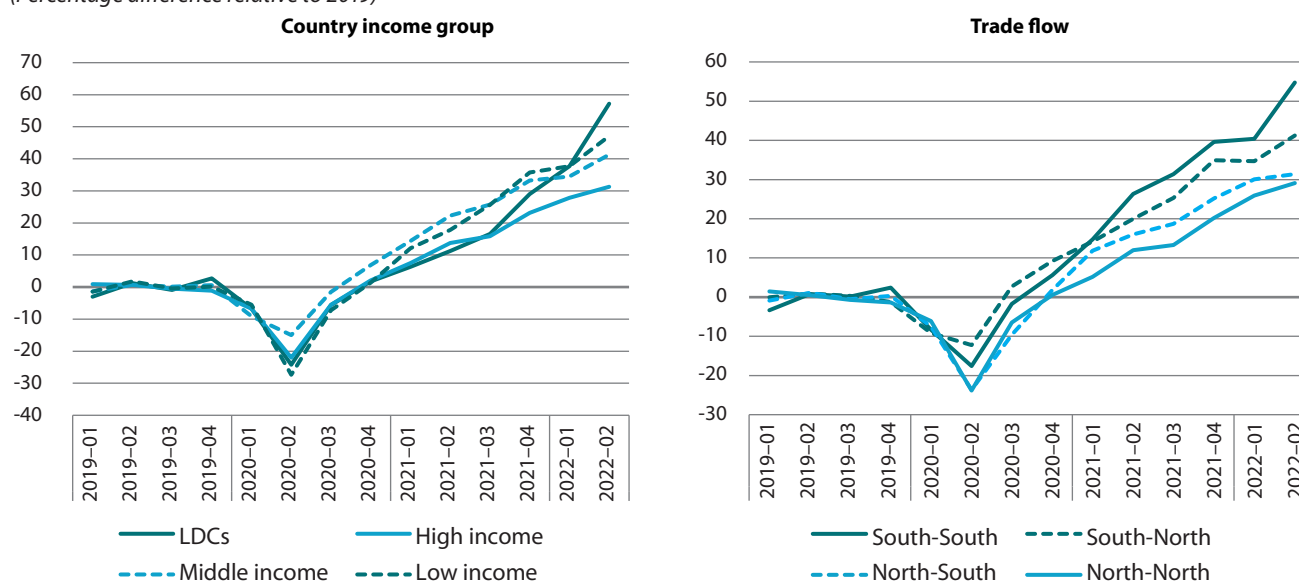
**Progress on implementing trade facilitation measures has advanced but implementation is uneven, with LDCs needing more support.** The 2017 WTO Agreement on Trade Facilitation (TFA) aims to simplify, standardize, harmonize and modernize procedures for the cross-border trade in goods. A total of 154 out of 164 WTO members had ratified the Agreement by February 2022, while the overall implementation rate stood at 74 per cent at the end of 2022 (figure III.D.7). Developed country WTO members have implemented all their commitments, while the implementation rate for developing country members stood at 77 per cent and that for LDCs at 38 per cent. Coupled with their less advanced starting point, LDCs face additional constraints such as knowledge gaps and limited resources and support, partly due to COVID-19 restrictions. To improve their implementation rate, LDCs require more support, particularly in complex areas such as border agency cooperation, risk management, authorized operators, single window systems and test procedures.

**Strengthening collaboration among key actors within and across borders is crucial to trade facilitation.** National Trade Facilitation Committees can help to bring together all relevant stakeholders, including the private sector, to advance reforms needed for trade facilitation as well as for crisis preparedness and risk management. Establishing regular contacts with neighbouring countries can also help to coordinate cross-border procedures in a transparent manner, including ensuring digital interconnectivity and the interoperability of systems (see chapter IV) as well as improving trade compliance, risk management and revenue collection. For example, through the UNCTAD Automated System for Customs Data (ASYCUDA), Bangladesh and Burundi were able to increase their customs revenues by 33 per cent and 19 per cent, respectively, between 2020 and 2021, while Djibouti had increased them by 95 per cent by 2021.<sup>17</sup>

Figure III.D.4

### Trade trends by country income group and by trade flow

(Percentage difference relative to 2019)

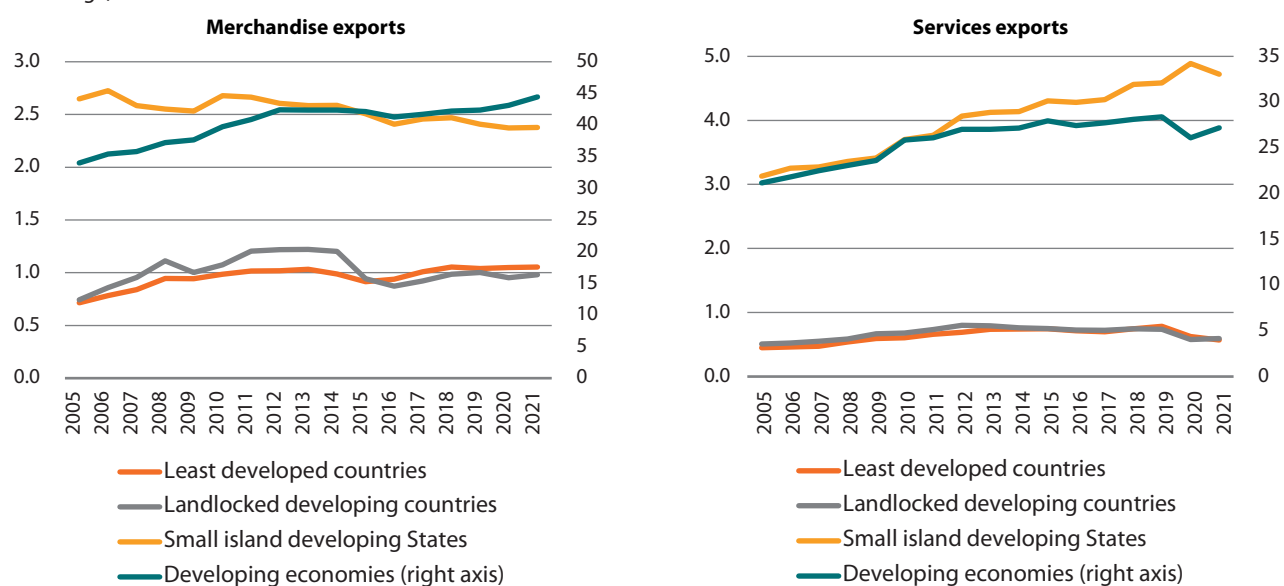


Source: UNCTAD.

Figure III.D.5

### Share in world exports by country group, 2005–2021

(Percentage)



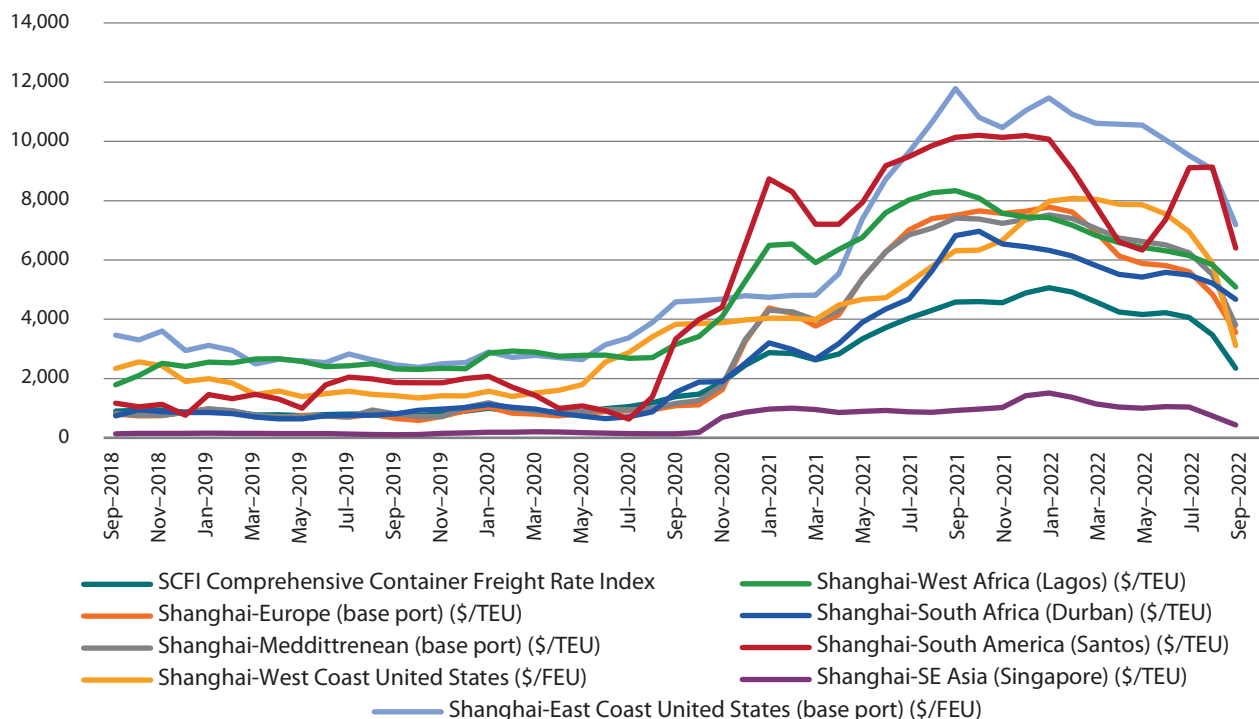
Source: UNCTAD.

### Trade finance

**Current global challenges are expected to widen the trade finance gap.** Trade finance—credit facilities used by importers and exporters to transact business—is important for enabling trade. Although trade finance is routinely provided by banks to importers and exporters in advanced economies, developing countries face chronic shortages.<sup>18</sup> In

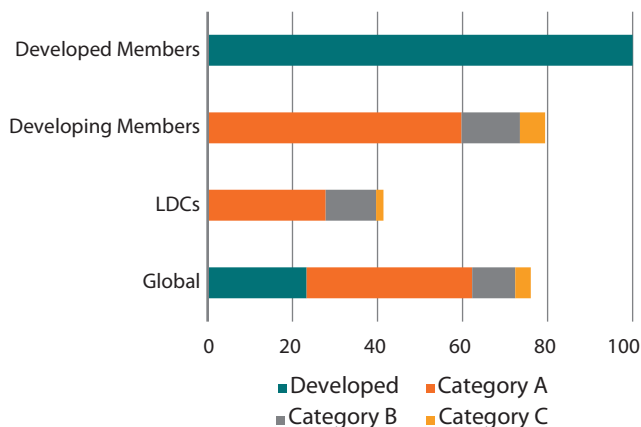
2020, the trade finance gap widened to \$1.7 trillion, affecting small- and medium-sized enterprises (SMEs), especially those run by women.<sup>19</sup> Collateral requirements, lack of credit history and archaic and bureaucratic application processes hinder SMEs' access, disproportionately affecting women-owned SMEs.<sup>20</sup> The war in Ukraine, inflation and the food and fuel crises are expected to exacerbate the gap. Country risk has increased in

Figure III.D.6  
**Shanghai Containerized Freight Index (SCFI), September 2018–September 2022**  
 (Index)



Source: UNCTAD.  
 Note: Monthly spot rates for selected routes; TEU—20-foot container; FEU—40-foot container.

Figure III.D.7  
**Progress on the WTO TFA implementation commitments**  
 (Percentage)



Source: WTO.  
 Note: Developing and LDC members can request more time and capacity-building support to implement the TFA. To benefit from these flexibilities, they must designate all measures into categories A, B and/or C which have the following implementation timings: Category A – developing members will implement the measure by 22/02/2017 and LDCs by 22/02/2018; Category B – members will need additional time to implement the measure; Category C – members will need additional time and capacity-building support to implement the measure.

some regions due to a more uncertain international political environment and the prospect of global stagflation. Local currency values have fallen, in some cases dramatically, making trade finance in foreign currency scarce. The strain can be seen through dwindling foreign exchange reserves.

**Multilateral development banks (MDBs), development finance institutions and their trade finance programmes can help to bridge the trade finance gap.** During the pandemic, MDBs rallied to support trade flows, providing an estimated \$35 billion in trade finance.<sup>21</sup> However, this constitutes only a fraction of the trade finance gap. The International Finance Corporation (IFC) and the WTO are working together to explore ways to improve the availability of trade financing for regions in need. They are looking to improve the estimation and analysis of trade finance gaps with a view to directing capacity-building and other resources where unmet demand is greatest, particularly in Africa (box III.D.1). They are also working with governments and other multilateral institutions to support SMEs and strengthen the ability of local financial institutions to meet compliance challenges, similar to efforts by the Asian Development Bank, the African Development Bank and the European Bank for Reconstruction and Development.

**Digital trade finance has the potential to address the growing trade finance gap.** Digital trade finance has the potential to narrow the trade finance gap by providing a more efficient, resilient and inclusive trading system. The Pan-African Payment and Settlement System is an example of how the use of new technologies and working practices can cut

transaction times to minutes and reduce depository requirements to those sufficient for overnight settlements. Digital trade finance costs less and is easier to manage, potentially making trade finance more readily available to new SME entrants. Digital trade finance can also support the tracking and mapping of trade flows, improving the transparency of trade finance. Important steps must be taken to realize its potential: (i) Global standards are needed to drive interoperability between various platforms and components of the trade ecosystem (from exporters to shippers, ports, customs, warehousing and logistics, and finance to importers).<sup>22</sup> (ii) Governments need to adopt legislation that recognizes digital documents in law. The United Nations Committee for International Trade Law has drafted model legislation and a few governments have adopted the Model Law on Electronic Transferable Records.<sup>23</sup>

### Box III.D.1

#### Trade finance in West Africa

A survey of banks in the four largest economies of the Economic Community of West African States (ECOWAS)—Côte d'Ivoire, Ghana, Nigeria and Senegal—found that these countries' trade expansion was vastly constrained by limited and costly access to trade finance. Trade finance supported only 25 per cent of trade in these countries, lower than the African average of 40 per cent and the global average of 60-80 per cent. Rejection rates by banks for trade finance applications are high, averaging 21 per cent of requests and 25 per cent in value terms. Rejections fall disproportionately on SMEs, particularly those owned by women. The unmet demand for trade finance—the trade finance gap—is around \$14 billion annually for the four economies combined.

Banks report that common barriers to trade finance availability include difficulty meeting the requirements of foreign correspondent banks, insufficient collateral for the high perceived risk of borrowers and shortages of low-cost funding. Increasing the availability of trade finance and lowering its costs could boost ECOWAS merchandise exports and imports by around 8 per cent, or around \$14 billion in annual trade.

**Source:** World Trade Organization. 2022. *Trade Finance in West Africa*.

## 3.3 Trends in regional trade agreements and international investment agreements

### Regional trade agreements

**RTAs have steadily expanded.** By the end of 2022, 355 RTAs had been notified to the WTO (figure III.D.8), the majority in Europe (159), East Asia (101) and South America (70) (figure III.D.9). The WTO Secretariat estimates that there are 60 additional RTAs that are currently in force but have not been notified to the WTO, including the Regional Comprehensive Economic Partnership Agreement in the Asia-Pacific region<sup>24</sup> and the African Continental Free Trade Area.<sup>25</sup> While the main component of RTAs is market access in goods and services, RTAs increasingly cover “behind the border” regulatory issues, such as competition, state-owned enterprises, government procurement, e-commerce, environment and labour.

**Environment and labour issues are an increasingly important feature of RTAs.** In 2022, almost 60 per cent of RTAs notified to the WTO and in force contained provisions on trade and the environment and 35 per cent on trade and labour (see section 5.3). For example, as of 15 October 2022, 127 of 223 signed and enforced preferential trade agreements in Asia and the Pacific had sustainable development-related provisions, including provisions related to labour protection, human rights, gender, health, the environment and SMEs.<sup>26</sup> There are varied approaches in how these provisions are included in RTAs. For example, the European Union has a stand-alone trade and sustainable development chapter that includes environment and labour provisions, while other RTAs treat them separately. These provisions generally commit parties to honour their international commitments, such as those under multilateral environmental agreements. They also typically recognize that parties have a right to set their own laws but that they should not be used to restrict investment or trade. In 65 per cent of RTAs with trade and environment provisions, there are commitments to prevent a “race to the bottom” to ensure that partners do not weaken their environmental legislation to attract investment or trade. To ensure implementation, recent RTAs have made these commitments subject to consultations and/or dispute settlement through various mechanisms. However, around a third of RTAs with environment provisions exclude them from dispute settlement.

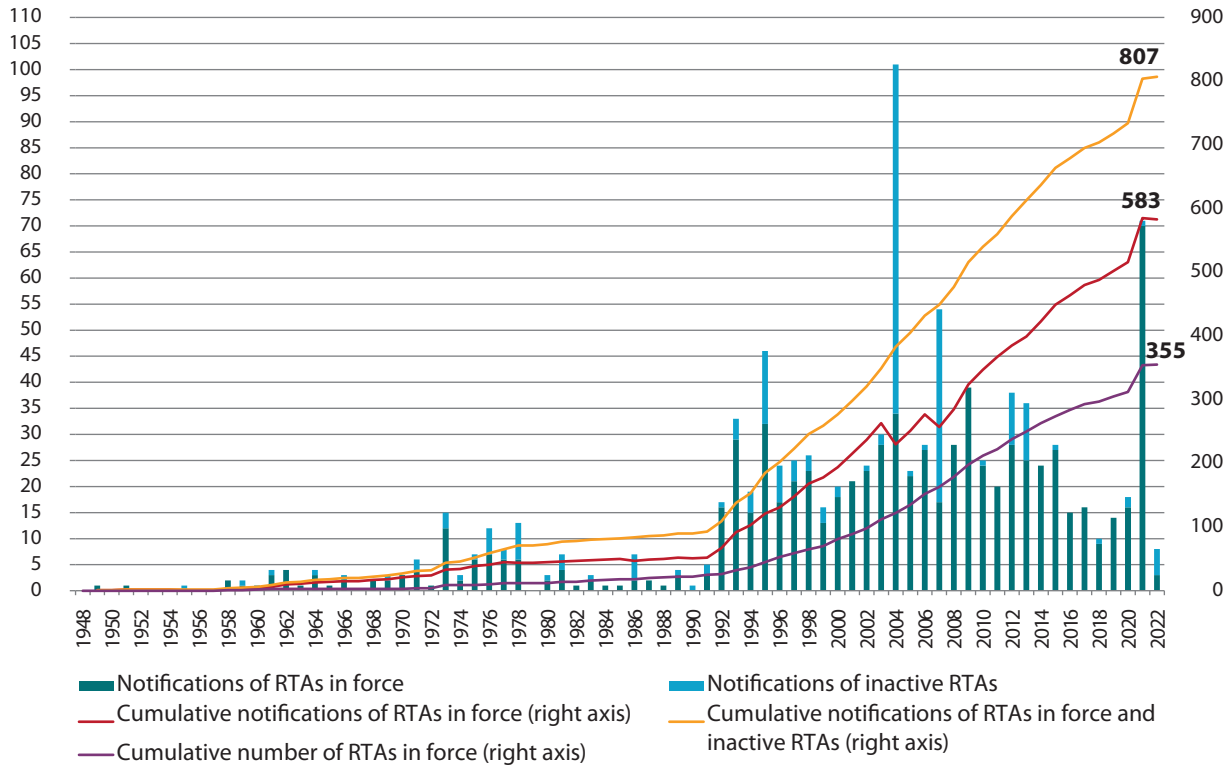
**Recent trends also show a new wave of sectoral agreements based on regulations mechanisms.** These include mutual recognition agreements to make it easier to meet trade conformance testing requirements. There are also non-market, access-based agreements on trade and technology, including: the digital trade agreements between Singapore and several countries; the digital economy partnership agreement between Chile, New Zealand and Singapore; the EU-US Trade and Technology Council, which meets regularly to discuss trade and investment issues related to technology standards and data governance; and the Smart African Alliance which includes 32 African countries, international organizations and global private sector players and aims to accelerate the digitalization of the African continent. In other areas, the Supply Chain Ministerial Forum involving 19 partners was set up in 2021 to tackle supply chain challenges. There are also broader initiatives that have emerged, such as the Americas Partnership for Economic Prosperity, which aims to address labour standards, supply chain issues and pandemic responses and cooperate on climate issues;<sup>27</sup> and the Indo-Pacific Economic Framework for Prosperity, which aims to address digital economy and technology standards, labour standards, energy efficiency standards and cooperation on tax, among other areas.<sup>28</sup>

### International investment agreements

**More IIAs are being terminated than new ones signed (figure III.D.10).** In 2021, for the fourth consecutive year, the number of treaty terminations exceeded new IIAs. There were 13 new IIAs (six bilateral investment treaties and seven treaties with investment provisions), compared to 86 IIA terminations, of which 75 were terminated by mutual consent, four were unilateral terminations, four were replacements (as newer treaties entered into force) and three IIAs expired. By the end of 2021, there were a total of 2,558 IIAs in force.



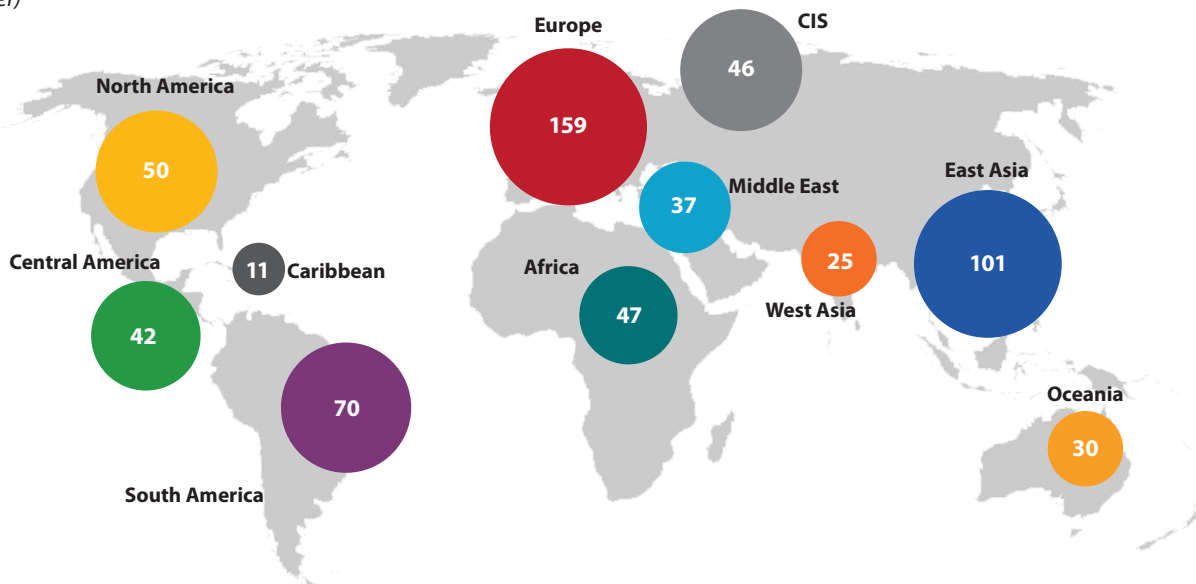
Figure III.D.8  
**RTAs notified to the WTO, 1948–2022**  
 (Number)



Source: RTA Section, WTO Secretariat, 31 December 2022.

Note: Notifications of RTAs: goods, services & accessions to an RTA are counted separately. The cumulative line shows the number of RTAs/notifications that were in force for a given year. The notifications of RTAs in force are shown by year of entry into force and the notifications of inactive RTAs are shown by inactive year.

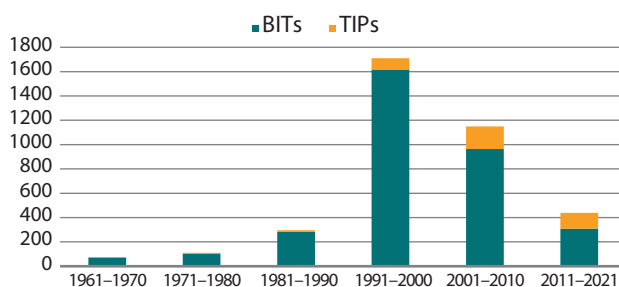
Figure III.D.9  
**RTAs by region**  
 (Number)



Source: RTA Section, WTO Secretariat, December 2022.

Note: CIS – Commonwealth of Independent States.

Figure III.D.10  
**Number of IIAs signed, 1961–2021**  
 (Number of IIAs by decade)



Source: UNCTAD.

Note: BITs – bilateral investment treaties; TIPs – treaties with investment provisions.

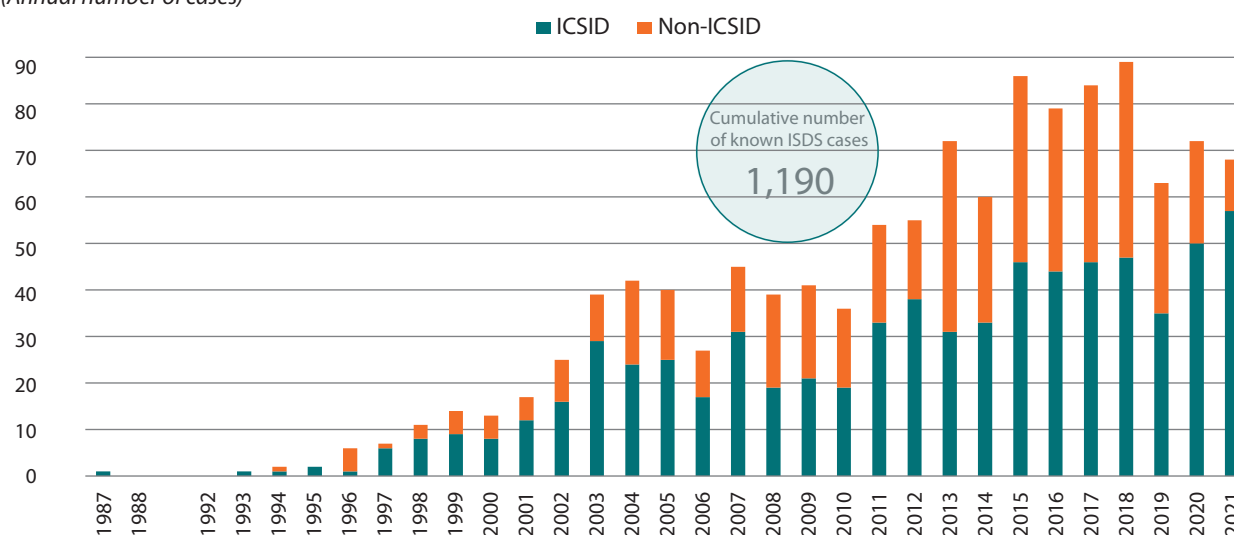
**Newly concluded IIAs feature reform-oriented provisions to preserve regulatory space and promote investment for development.**<sup>29</sup> For example, some IIAs have provisions to promote corporate social responsibility standards as well as gender equality and women's economic empowerment. There is also greater attention to investment promotion and facilitation, climate change, anti-corruption and human rights. Investor-State arbitration remains at the core of broader IIA reform actions, and countries continued to implement many related reform elements in IIAs signed in 2021.

**The number of new investor-State dispute settlement (ISDS) cases remained high.** In 2021, investors initiated 68 publicly known

ISDS cases under IIAs (figure III.D.11). As some arbitrations can be kept confidential, the actual number of disputes filed in 2021 and previous years is likely to be higher. To date, 130 countries and one economic grouping are known to have been respondents to one or more ISDS claims. Two IIAs signed in the 1990s—the Energy Charter Treaty and the North American Free Trade Agreement—continued to be the instruments invoked most frequently. The cumulative number of known ISDS claims reached 1,190 by 1 January 2022.

**More immediate IIA reforms are needed to better support climate action.** The current IIA regime, largely based on old-generation IIAs, can constrain States from taking measures to combat climate change and protect the environment, with a high risk of ISDS.<sup>30</sup> For example, investors in the fossil fuel sector and more recently in the renewable energy sector, are frequent ISDS claimants against different types of State conduct. The 1994 Energy Charter Treaty is often invoked by fossil fuel investors to mitigate the losses incurred due to government policies on environmental protection, human rights and local communities. Around 92 per cent of claimants are from high-income countries, with 70 per cent of arbitrations initiated against developing countries.<sup>31</sup> Around 53 per cent of the total arbitration claims were issued on the legal basis offered by the Energy Charter Treaty. While new-generation IIAs are better in safeguarding the States' right to regulate, both old and recent IIAs lack provisions that support climate action. States are, however, willing to take action to align their investment policies with their climate goals. For example, despite a reform proposal, many States have withdrawn from the Energy Charter Treaty. More immediate IIA reform steps are needed to alleviate ISDS risks and create the necessary policy space for States to take urgent climate action.

Figure III.D.11  
**Trends in known treaty-based ISDS cases, 1987–2021**  
 (Annual number of cases)



Source: UNCTAD, ISDS Navigator.

Note: (i) Information has been compiled from public sources, including specialized reporting services. UNCTAD's statistics do not cover investor-State cases that are based exclusively on investment contracts (State contracts) or national investment laws, or cases in which a party has signalled its intention to submit a claim to ISDS but has not commenced the arbitration. Annual and cumulative case numbers are continually adjusted because of verification processes and may not match exact case numbers reported in previous years. (ii) ICSID – International Centre for Settlement of Investment Disputes.

## 4. Current Issues in the multilateral trading system

### 4.1 Agreements and decisions at the Twelfth WTO Ministerial Conference

#### *Fisheries subsidy agreement*

**The sustainability focus of the new WTO Agreement on Fisheries Subsidies represents a historic achievement.** The Twelfth WTO Ministerial Conference (MC12), held on 17 June 2022, adopted a binding multilateral agreement on fisheries subsidies, the first-ever multilateral trade agreement with environmental sustainability at its core, and only the second agreement reached at the WTO since its inception. The WTO Agreement on Fisheries Subsidies tackles some forms of harmful fisheries subsidies, a key factor negatively influencing the sustainability of the world's fish stocks. The new rules will become operational when the Agreement enters into force, which requires two thirds of WTO members to deposit their instruments of acceptance. WTO members have also agreed to continue negotiations on the mandate on fisheries subsidies set forth in the 2001 Doha Ministerial Declaration, including subsidies contributing to overcapacity and overfishing and the associated special and differential treatment provisions for developing countries.

**By curbing harmful fisheries subsidies, the WTO Agreement on Fisheries Subsidies is expected to significantly contribute to global efforts to preserve oceans and reverse the decline in fish stocks.**

Based on FAO's assessment, the fraction of fishery stocks within biologically sustainable levels decreased to 64.6 per cent in 2019, 1.2 per cent lower than in 2017. This fraction was 90 per cent in 1974. In contrast, the percentage of stocks fished at biologically unsustainable levels has increased since the late 1970s, from 10 per cent in 1974 to 35.4 per cent in 2019.<sup>32</sup> Fisheries subsidies create perverse incentives to fish in unsustainable ways and levels, regardless of operational costs in many cases. The WTO Agreement on Fisheries Subsidies creates a new multilateral framework by: (i) curbing subsidies to illegal, unreported and unregulated fishing,<sup>33</sup> which will support the combat and elimination of such detrimental practices; (ii) prohibiting fisheries subsidies on overfished stocks, an essential element to facilitate the recovery of stocks; and (iii) prohibiting fisheries subsidies when the high seas are not regulated for fishing activities, reinforcing the importance of fisheries management and cooperation between countries towards the global sustainability of stocks. The Agreement supports achieving SDG 14 (conserve and sustainably use the oceans, seas and marine resources for sustainable development), particularly SDG target 14.6.<sup>34</sup>

**The WTO Agreement on Fisheries Subsidies also created a Fisheries Funding Mechanism to support WTO members in meeting the new obligations.** With the new regulatory framework, countries must meet various new obligations, including notification issues, implementation and adjustments in multiple national fisheries policies. Some areas may be challenging to adapt for compliance, especially for developing countries and LDCs, including fisheries management elements, monitoring, control and surveillance, and setting up or strengthening fisheries information and management systems. The WTO Fisheries Funding Mechanism has been established to provide technical assistance and capacity-building

to support WTO members in meeting these new obligations. The WTO, in collaboration with the FAO, the World Bank and the International Fund for Agricultural Development, will bring their collective expertise together within the fund framework to support WTO members and to maximize the expertise of each agency, avoiding duplications.

#### *COVID-19 vaccines*

**WTO members adopted the Pandemic Declaration and the Trade-Related Aspects of Intellectual Property Rights (TRIPS) COVID-19 Vaccines Decision at MC12.** These two instruments—the Ministerial Declaration on the WTO response to the COVID-19 pandemic and preparedness for future pandemics (Pandemic Declaration) (box III.D.1) and the Ministerial Decision on the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS COVID-19 Vaccines Decision)—provide the trade-related framework to improve access to COVID-19 vaccines and medical technologies as well as to enhance technology transfer and the geographical diversification of manufacturing capacities.

#### **Box III.D.2**

#### **The Ministerial Declaration on the WTO response to the COVID-19 pandemic and preparedness for future pandemics (Pandemic Declaration)<sup>a</sup>**

The Pandemic Declaration covers a wide range of trade policy areas:<sup>b</sup>

- Ministers recognized “the role of the multilateral trading system in supporting the expansion and diversification of production of essential goods and related services needed in the fight against COVID-19 and future pandemics”. They affirmed their commitment to transparency and timely information sharing on trade-related measures taken to identify potential disruptions in supply chains.
- The Declaration highlighted that emergency trade measures to tackle COVID-19 be “targeted, proportionate, transparent, temporary, and do not create unnecessary barriers to trade or unnecessary disruptions in supply chains”; and encouraged regulatory cooperation and information sharing to expedite access to essential medical goods.
- The Declaration reiterated the Doha Declaration on the TRIPS Agreement and Public Health (2001); that the TRIPS Agreement should be interpreted and implemented in a manner supportive of WTO members’ right to protect public health; and that members have the right to fully use the flexibilities provided for in the TRIPS Agreement and the Doha Declaration.
- The Declaration underscored the importance of promoting technology transfer and for developed members to provide incentives to transfer technology to LDC members. Several programmes reported under this provision cover health technologies.<sup>c</sup>

**Source:** UNCTAD.

**a** WTO. 2022. Ministerial Declaration on the WTO response to the COVID-19 pandemic and preparedness for future pandemics, WT/L/1142.

**b** Other issues not covered below include balance of payments, development, export restrictions, food security, intellectual property, regulatory cooperation, tariff classification, trade facilitation, trade in services and transparency.

**c** See IP/C/R/TTI series of documents, available on e-TRIPS.

### Box III.D.3 The Ministerial Decision on the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS COVID-19 Vaccines Decision)<sup>a</sup>

The Decision provides a platform for eligible members to work together to overcome potential intellectual property obstacles to expanding and geographically diversifying COVID-19 vaccine production capacity.

According to the Decision, eligible members may produce vaccines without consent or consultation with right holders and can export any proportion of the resulting production to other eligible members, either directly or through international humanitarian programmes. Thus, the Decision enables eligible members to collaborate and exploit economies of scale by establishing production hubs that are designed to serve the needs of other members, free from the obligation to retain the predominant portion of production within the borders of the producing member.

The Decision is not self-executing, and its implementation depends on domestic action as intellectual property rights are granted and administered at the domestic level; and depends on specific domestic plans to establish or expand vaccine production. Members of regional intellectual property systems (e.g., *l'Organisation Africaine de la Propriété Intellectuelle*) could take advantage of regional coordination to implement regional plans to expand vaccine production capacity and could benefit from partnerships with technology holders.

While the Ministerial Decision is limited to COVID-19 vaccines, the decision to extend coverage to the production and supply of COVID-19 diagnostics and therapeutics will be considered in 2023.<sup>b</sup>

**Source:** WTO.

<sup>a</sup> WTO. 2022. Ministerial Decision on the TRIPS Agreement, WT/L/1141.

<sup>b</sup> See report of the TRIPS Council to the General Council as agreed on 16 December 2022, IP/C/95.

## 4.2 Negotiations on agriculture

**WTO members agreed to exempt food purchases by the World Food Programme from export restrictions and addressed issues on the emergency response to food security.** At MC12, there were two major outcomes to address food insecurity.<sup>35</sup> The first, the Ministerial Decision exempting food purchases by the World Food Programme for humanitarian purposes from export restrictions,<sup>36</sup> is expected to save time and money in delivering critical relief to people in need. The Decision also acknowledges the right of members to ensure their domestic food security. The second, the Ministerial Declaration on the emergency response to food insecurity,<sup>37</sup> aims to achieve a fair and market-oriented agricultural trading system, support food security and improved nutrition, and promote sustainable agriculture and food systems, considering the interests of small-scale food producers in developing countries (box III.D.4).

**Discussions are ongoing on ways to advance negotiations on several agricultural issues.** These issues include: domestic support provided to farmers; public stockholding for food security purposes under which procurement is made at administered prices; market access for food

and agricultural products; export-related mechanisms such as export finance regrouped under the export competition pillar; export restrictions applied to food and agricultural products; cotton, a product of particular importance for cotton-producing LDCs; the special safeguard mechanism to allow developing countries to temporarily raise tariffs in response to a sudden surge in import volumes or a price depression; and the cross-cutting issue of transparency. Negotiations on these issues have been affected by intractable differences on domestic support. The WTO Director General convened an agriculture retreat in October 2022 to discuss ways to advance negotiations, building on the MC12 momentum.

### Box III.D.4 Ministerial Declaration on the emergency response to food insecurity<sup>a</sup>

The Declaration underscores that trade—along with domestic production—plays a vital role in improving global food security. It expresses members' commitment to take necessary steps to facilitate trade and improve the functioning and long-term resilience of global markets for food and agriculture, including for fertilizers and other inputs. It stresses the importance of members not imposing export restrictions in a manner inconsistent with WTO disciplines, and of ensuring that emergency measures introduced to address food security concerns minimize trade distortions as far as possible and are temporary, targeted and transparent. The Declaration also encourages members with available surplus stocks to release them on international markets. In addition, it reaffirms the importance of ensuring that information is properly available to ensure markets function well and to mitigate against volatility. It acknowledges in this regard the importance of fulfilling WTO notification requirements as well as the positive role played by the Agricultural Market Information System, which was initiated over a decade ago by the G20.

The Ministerial Declaration also acknowledges the specific needs of LDCs and net food-importing developing countries (NFIDCs), and launched a dedicated work programme in the WTO Committee on Agriculture (CoA) to examine how the Marrakesh Decision on Measures Concerning the Possible Negative Effects of the Reform Programme on LDCs and NFIDCs could be made more effective and operational, taking into account the needs of LDCs and NFIDCs to increase their resilience in responding to acute food instability.<sup>b</sup> A working group has been set up to deliberate on the thematic areas approved under the work programme and to finalize its report and recommendations by 30 November 2023 for the approval of the CoA.

**Source:** WTO.

<sup>a</sup> WTO. 2022. Ministerial Declaration on the emergency response to food insecurity, WT/MIN(22)/28.

<sup>b</sup> WTO. 2022. Work Programme Pursuant to Paragraph 8 of the Ministerial Declaration on the Emergency Response to Food Insecurity. Document G/AG/35.

**4.3 Negotiations on special and differential treatment**  
**Despite divergent views, many members are committed to continuous engagement on special and differential treatment (S&DT) provisions.** Members reaffirmed the S&DT provisions for

developing country members and LDCs (box III.D.5) as an integral part of the WTO and its agreements in the MC12 outcome document. In February 2023, at an informal meeting on WTO reform, members discussed the opportunities, challenges, and way forward for development within the WTO context. Members raised the following elements to frame the work on development: inclusivity; member-driven consensus decision-making; transparency; respect for the principle of self-determination of developing country status; and of S&DT as an established principle in the WTO architecture. The aim of this work would be to deliver an outcome by the Thirteenth WTO Ministerial Conference.

### Box III.D.5 Issues on special and differential treatment in the WTO

S&D provisions are flexibilities granted to developing countries and LDCs with the aim of increasing their trade opportunities and safeguarding their interests, e.g., by providing longer periods for the implementation of WTO agreements and provision of technical assistance. Over 100 such provisions exist in the WTO's agreements and decisions.

In the 2001 Doha Ministerial Declaration, ministers agreed that all S&D provisions would be reviewed with a view to strengthening them and making them more precise, effective and operational. Since then, the G90 has made several proposals on the S&D provisions, with recent discussions focused on 10 agreement-specific proposals on topics including transfer of technology, trade-related investment measures, technical barriers to trade, sanitary and phytosanitary measures, customs valuation, subsidies and countervailing measures, and the accession of LDCs to the WTO.

There are divergent views on the 10 proposals. Some members support the proposals and continue to believe that they provide a good basis to take the discussions in the CTD SS forward. However, other members continue to repeat their concerns about the proposals. For example, it is felt that progress in the discussions on S&D will require a focus on the smaller and most vulnerable developing countries—which is not appropriately reflected in the proposals—and that the proposals appear to suggest that trade rules are not conducive to development.

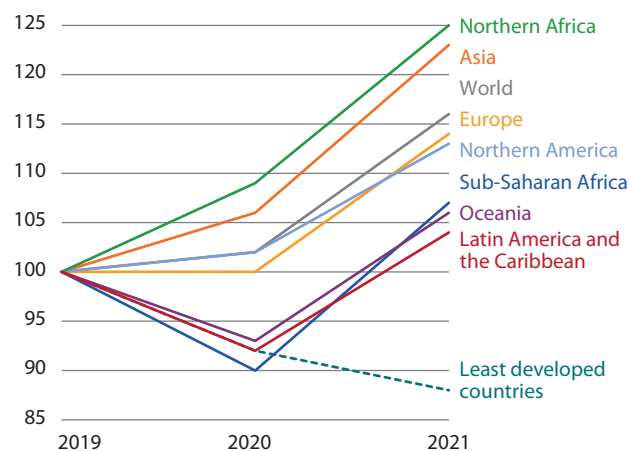
Source: WTO.

## 4.4 Cross-border e-commerce

**Digitally delivered services experienced strong growth during the COVID-19 pandemic.** While the pandemic greatly disrupted trade in other services (such as transport and travel), digitally deliverable services remained resilient, increasing as a share of total services exports (figure III.D.12). These services include telecommunications, computer and information services, financial and insurance services as well as various business services such as professional and management consulting. Worldwide, their share rose from 52 per cent in 2019 to 63 per cent in 2021. The share of digitally deliverable services in total services exports increased across all regions. However, digitally deliverable services in LDCs declined during the 2019-21 period, likely due to low pre-existing digitalization

levels and poor digital connectivity issues that may have worsened as a result of increased demand during the pandemic.

Figure III.D.12  
**Digitally deliverable services exports, 2015–2021**  
(Index of export value in current prices)



Source: UNCTAD. 2022. "Supporting countries to measure the digital economy for development".

Note: 2019=100

### E-commerce can benefit SMEs, women and marginalized groups.

Digital trade allows firms to expand their pool of potential customers and increase their export earnings by reducing export barriers. For example, the Africa Trade Exchange, a business-to-business e-commerce platform, helps to improve cross-border trade, including by addressing agricultural and input scarcity resulting from the war in Ukraine and supporting the implementation of the African Continental Free Trade Area Agreement.<sup>38</sup> It has the potential to significantly reduce barriers that firms, especially SMEs, face in pursuing export opportunities.<sup>39</sup> E-commerce also has the potential to benefit women and marginalized groups by making available the purchase of a larger variety of products at lower cost. E-commerce can also foster the service economy, in which many women are employed, and increase access to information about entrepreneurial possibilities, knowledge and skill. Overall, digital solutions relieve mobility constraints, discrimination and even exposure to violence faced by women entrepreneurs.<sup>40</sup> Yet, there are several barriers affecting women's participation, including shortcomings in education, skills and knowledge, limited access to productive resources and networks, time poverty and discriminatory gender norms. It is estimated that e-commerce markets in Africa and Southeast Asia, for example, could grow by around \$14.5 billion and \$280 billion, respectively, between 2025 and 2030 if better training is provided to women digital entrepreneurs.<sup>41</sup>

### Efforts are being made to reinvigorate the Work Programme on Electronic Commerce, both in the General Council and in the WTO bodies<sup>42</sup> charged with its implementation.

At MC12, members agreed to reinvigorate discussions under the Work Programme and extend the moratorium on customs duties on electronic transmissions until the 13th Ministerial Conference or March 2024. Discussions on the moratorium—including on scope, definition and impact of the moratorium—are expected to continue until then. The General Council has had

several discussions since MC12, including on issues ranging from bridging the digital divide and the legal and regulatory framework, to cooperation with other stakeholders and sharing of experiences. Some members have also presented submissions to advance the discussions, including ideas to reinvigorate the Work Programme, a submission on consumer protection in e-commerce and one sharing perspectives on customs duties on electronic transmissions. Discussions on these and other topics identified by members will continue in 2023.

**E-commerce discussions are also advancing under the Joint Statement Initiative on e-commerce.** A group of 87 WTO members continues to negotiate possible new rules on trade-related aspects of e-commerce. Negotiations are organized under six broad themes: enabling e-commerce; openness and e-commerce; trust and e-commerce; cross-cutting issues, such as transparency, domestic regulation and cooperation; telecommunications; and market access. On the margins of MC12, the co-convenors issued a ministerial statement acknowledging the progress made, underlining the importance of developing global rules on e-commerce and charting the way forward. In addition, together with Switzerland, they launched the E-commerce Capacity Building Framework to strengthen digital inclusion and help developing countries and LDCs to harness the opportunities of digital trade. Participants have also reached a consensus on articles on e-signatures and e-authentication, e-contracts, consumer protection, paperless trading, open government data, unsolicited commercial electronic messages (spam), and transparency. In addition, substantive progress has been made in the areas of open internet access, cybersecurity and electronic transactions frameworks. Building on this progress, negotiations are advancing on several other articles, such as electronic invoicing and privacy issues. Participants aim to finalize negotiations by the end of 2023 or early 2024.

## 5. Strengthening synergies between trade and sustainable development

**Trade can contribute to sustainable development by reducing food insecurity, fostering the energy transition and creating decent jobs.** Trade can help to increase the availability of food and improve nutrition and access to food by creating jobs and raising incomes. However, significant market distortions, protectionism and underinvestment in public goods continue to adversely affect the functioning of global markets. Persistent challenges also remain in the role of trade in climate action, decent jobs and gender equality. Increasing aid for trade can help developing countries, especially LDCs, to address these challenges.

### 5.1 Trade and food security

**Maintaining open international markets is necessary to secure food supply worldwide, particularly during a crisis.** At MC12, ministers emphasized the vital role trade plays in improving food security and nutrition. However, global food and agriculture markets continue to be characterized by significant distortions and high levels of protection as well as low levels of investment in public goods. Furthermore, where environmental regulations are absent, inadequate or poorly implemented, food and agricultural products in domestic and international markets may not reflect their true costs over time. Progress has been made in curbing

agricultural export subsidies, which have fallen sharply since the 2000s. In contrast, harmful fisheries subsidies continue to exacerbate overfishing (see section 4.1). Many support programmes still incentivize unsustainable consumption and production patterns and undermine fair competition in global markets. At the national level, food security can be strengthened by supporting developing countries to improve trade policy. For example, the International Trade Centre is helping developing countries to strengthen the agriculture and agri-food value chain and improve their trade policies.<sup>43</sup> Food security can also be strengthened through adopting internationally recognized voluntary marketing standards, such as the UNECE agricultural quality standards, which facilitate market access and trade.<sup>44</sup>

### 5.2 Trade and climate change

**Climate-smart trade policy can help with the global energy transition.** Trade and climate change are intricately connected.<sup>45</sup> Trade can have a negative impact on climate as trade directly contributes to emissions due to transportation and trade procedures but it can also have a positive impact as trade is crucial for spreading technologies that can help with the global energy transition. Since 2000, trade in energy from renewable sources has increased 2.7 times and trade in energy systems and components has quadrupled.<sup>46</sup> As tariffs on renewable energy products are generally higher than those on fossil fuels, trade policy can help to reduce trade barriers affecting environmental goods and services to support the energy transition.<sup>47</sup> A group of WTO members is exploring options to reach an agreement on reducing or eliminating tariffs and non-tariff measures affecting specific environmental products, including solar panels and wind turbines. These are part of broader efforts undertaken by WTO members through the Trade and Environmental Sustainability Structured Discussions (TESSD) to consider how trade policy can support environmental and climate goals and promote sustainable production. The TESSD are focusing on technical barriers to trade for environmental goods; identification of action areas for environmental services; cooperation on carbon pricing and non-pricing measures; mapping of trade aspects of the circular economy; and the environmental impact of subsidies.<sup>48</sup>

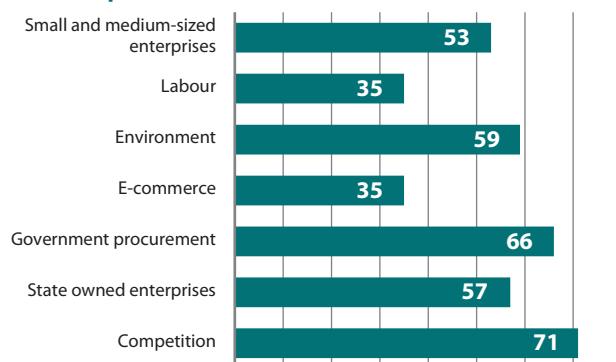
**Maritime shipping, which accounts for over 80 per cent of global merchandise trade volume, remains heavily dependent on fossil fuels.** Despite efficiency improvements, total emissions from the global fleet increased by 4.7 per cent in 2021, led by increases from container ships, dry bulk and general cargo vessels.<sup>49</sup> Decarbonization of maritime transport will help to reduce the carbon footprint of traded products. However, the current cost of alternative fuels (liquefied natural gas, methanol, green hydrogen or electricity) is two to five times higher than that of conventional fuel. Policy efforts should aim at incentivizing the shift to low- and zero-emission fuels and technologies, including through carbon pricing.<sup>50</sup> A shift away from fossil fuel subsidies to investments in renewable energy can also help the energy transition (see chapter III.A and the 2022 *Financing for Sustainable Development Report*).

### 5.3 Trade agreements and decent work

**Trade agreements can help to promote decent work priorities by including provisions to comply with international labour standards.** By the end of 2022, 35 per cent of RTAs that were notified to the WTO and in force, contained provisions on trade and labour (figure III.D.13). These provisions commit parties to honour their

international commitments under International Labour Organization (ILO) Conventions (box III.D.6). Much like agreements with environment provisions, agreements with labour provisions maintain national policy space without restricting investment or trade. Historically, labour provisions in RTAs have been more aspirational than legally enforceable. Around 45 per cent of RTAs with labour provisions specifically exclude them from dispute settlement. However, recent agreements involving developed economies show more willingness to enforce labour provisions. For example, the United States-Canada-Mexico Agreement (USMCA) introduced a rapid response labour mechanism to fast-track the resolution of labour disputes. Institutional mechanisms can also help to advance trade and labour considerations. For example, in January 2023, the United States and Japan launched a “Task Force on the Promotion of Human Rights and International Labour Standards in Supply Chains”, a bilateral framework to combat worker exploitation and forced labour in global supply chains. Several other recent trade and economic initiatives are also looking at addressing decent work priorities through supply chain reorganization, including the Indo-Pacific Economic Framework, the Americas Partnership for Economic Prosperity, and the EU-US Trade and Technology Council.

Figure III.D.13

**Selected provisions in RTAs**

**Source:** RTA Section, WTO Secretariat, December 2022. Figures are based on a batch of 341 RTAs notified to the WTO and currently in force. For more details on these provisions: <http://rtais.wto.org/>.

**Box III.D.6****The ILO/IFC Better Work programme**

The ILO/IFC Better Work programme monitors compliance with international labour standards and national legislation, including where incorporated in labour provisions in trade agreements focusing on the garment industry.

- Launched in 2001, Better Factories Cambodia monitored compliance with labour standards at the workplace under the 1999 US-Cambodia Bilateral Textile Agreement. All exporting garment factories participated in the programme, with compliance with

**5.4 Women in trade****Gender-based discrimination and barriers often constrain women’s access to domestic and international markets, preventing them from reaping the full benefits of trade.**<sup>51</sup>

Women’s involvement in international trade is still minimal compared to that of men in developing countries, as women tend to have more limited access to inputs, resources, services and opportunities in education, technology and markets, among others.<sup>52</sup> Trade and trade policies can have gender-differentiated redistributive impacts, which should be considered in international trade agreements and national policies on gender equality. In addition, it is essential to formulate and implement gender-responsive policies and programmes aligned across all relevant sectors, including but not limited to trade and agriculture, labour, social protection, health and education.

**Achieving gender equality through trade policy has gained momentum in recent years.**

The first move by WTO members came through the 2017 Joint Declaration on Trade and Women’s Economic Empowerment, adopted at the Eleventh WTO Ministerial Conference. The Declaration was significant in establishing the link between gender equality, women’s economic empowerment and trade,<sup>53</sup> with commitments to make trade and development policies more gender-responsive, including by sharing experiences on women’s participation in trade and improving gender-disaggregated trade data. In 2021, an informal working group on trade and gender was formed to advance these issues. Ministers further reiterated their commitments to address trade and women’s economic empowerment at MC12.<sup>54</sup> Recent free trade agreements (FTAs) have also made efforts to address gender issues. For example, the 2021 UK-Australia FTA contains a stand-alone chapter on trade and gender equality,<sup>55</sup> which aims to promote women’s access to online business tools and strengthen digital skills, reinforced through the digital trade chapter.

**5.5 Aid for trade****Aid for trade rose steeply in 2020 but fell below pre-pandemic levels in 2021.**

SDG target 8.a calls for increased aid-for-trade support for developing countries, particularly LDCs. Launched in 2005, the Aid for Trade initiative helps countries to build their supply-side capacity and trade-related infrastructure. Since the launch of the initiative,

national law and international labour standards improving significantly under the programme.

- Established in 2009, Better Work Haiti assesses and promotes compliance with core labour standards and national labour law in the factories that are eligible for tariff advantages under the Haitian Hemispheric Opportunity through Partnership Encouragement and the Haiti Economic Lift Program.
- Better Work Jordan helps to monitor and promote decent work conditions in factories exporting to the European Union.

**Source:** ILO.

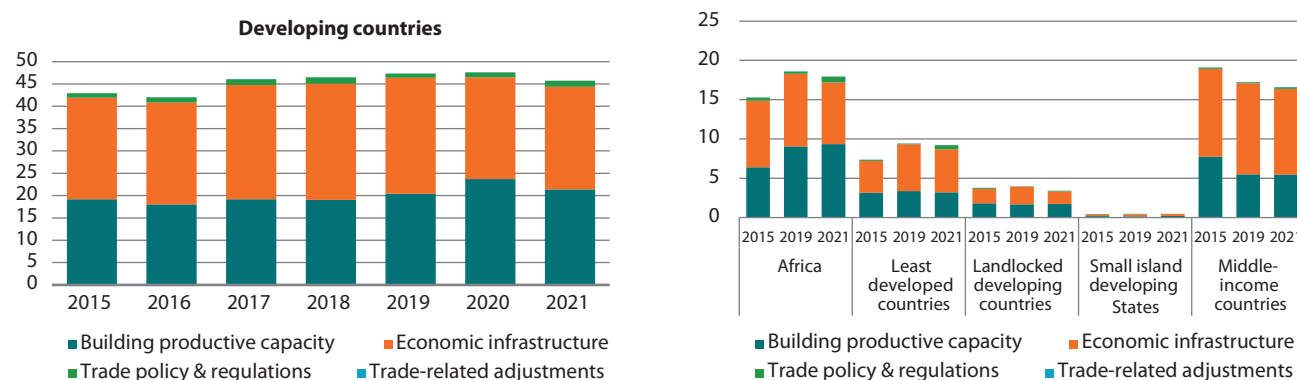
aid-for-trade disbursements have increased steadily but were relatively stagnant from 2015 before increasing to \$48.7 billion in 2020, following support for the COVID-19 pandemic response. Aid for trade declined in 2021 to below pre-pandemic levels (figure III.D.14). Support for LDCs has

increased although support to LLDCs requires attention (figure III.D.14). In 2022, the Eighth Global Review of Aid for Trade highlighted that aid for trade has grown in importance due to the economic and trade impacts of the pandemic, with trade facilitation the most frequently cited aid-for-trade priority.<sup>56</sup>

Figure III.D.14

### Aid for trade disbursements to developing countries, 2015–2021

(Billions of United States dollars, 2020 constant prices)



Source: OECD Creditor Reporting System database.

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# Debt and debt sustainability



## Chapter III.E



# Debt and debt sustainability

## 1. Key messages and recommendations

**Debt challenges show no signs of abating for many poor and vulnerable countries, threatening the achievement of the Sustainable Development Goals (SDGs).** While the global debt picture was varied in 2022, debt risks have risen in many of the poorest and most vulnerable countries. Debt overhang poses a significant obstacle to sustainable development. Addressing these challenges and improving the international financial and debt architecture remains an urgent priority.

**Global public debt as a share of gross domestic product (GDP) fell in 2022, but debt dynamics diverged across countries and debt vulnerabilities worsened in many developing countries.** Globally, the debt-to-GDP ratio fell from its high in 2021 due to the rebound in economic activity along with increasing inflation (which lowers the real value of debt). However, this number masks significant differences across countries, with non-fuel-exporting least developed countries (LDCs) and other low-income countries (LICs)<sup>1</sup> seeing further debt increases. Moreover, a range of debt indicators, such as debt service burdens, sovereign spreads and external financing needs, all point to rising debt vulnerabilities and further diminishing fiscal space for investment in the SDGs and climate action. About 60 per cent of countries that use the IMF/World Bank Debt Sustainability Framework (LIC DSF) are assessed at high risk of debt distress or in debt distress, twice the level in 2015; in total, 52 developing countries—home to half the world's population living in extreme poverty—suffer from severe debt problems and high borrowing costs.

**Rising debt vulnerabilities were driven by a confluence of global shocks.** Most governments adopted fiscal measures to mitigate the impact of rising energy prices following the outbreak of war in Ukraine, and developing countries were also compelled to spend to mitigate the impact of higher food prices. Global monetary policy tightening contributed to increased debt vulnerabilities in developing countries by

raising borrowing costs and reversing capital flows, leading to depreciating currencies in many countries.

**The trend towards a more heterogeneous creditor landscape also continued.** Over the past 25 years, LDCs and other LICs have diversified their creditor base, with the share of borrowing from non-Paris Club official bilateral creditors and private creditors rising significantly. These trends continued in 2021 and 2022. While providing a welcome source of new financing, the greater diversity of creditors has exacerbated creditor coordination challenges in the resolution of debt crises. Most recently, in the face of diminished access to bond markets, many LDCs and other LICs returned to the syndicated loan market, which provides less transparent, shorter maturity funding, in turn increasing debt vulnerabilities.

**With rising vulnerabilities and a more heterogeneous debt composition, effective public debt management is essential.** Key priorities are the development and implementation of debt management strategies, domestic market development, improved information and transparency, and enhanced capacity support for debt managers. The international community is scaling up the delivery of capacity development to LDCs and other LICs in all areas of public debt management.

**Both creditors and debtors have a shared responsibility to increase debt transparency.** Borrowers should improve their legal frameworks and upgrade their systems of debt recording and reporting as well as their capacity and information-sharing procedures; creditors should promote transparent financing practices and refrain from confidentiality agreements.

**Developing countries need support to enable them to scale up investments in climate action and the SDGs in the face of severe debt challenges.** For countries that do not yet have unsustainable debt burdens but have limited fiscal space, innovative financing instruments such as

debt-for-climate swaps could free up resources for sustainable development. For countries with unsustainable debt, early and deep restructurings are needed.

**Amid rising debt vulnerabilities, the international debt resolution architecture needs continued improvement to incentivize sufficiently deep and rapid restructurings.** Early debt resolutions can help countries to avoid doing “too little too late”. The more heterogeneous creditor landscape adds complexity to the task. Enhanced collaboration among creditors—including bilateral creditors and private creditors—can contribute to comprehensive and appropriate debt treatment. Contractual improvements in debt agreements—enhanced collective action clauses (CACs), climate resilient debt clauses and majority voting provisions in loan agreements—should continue to help strengthen the debt resolution framework.

**The Common Framework should continue to improve and its coordinated approach expanded to other countries.** Beyond finalizing the debt treatment of countries that have already applied for the Common Framework, several steps may strengthen implementation, namely: greater clarity on the steps and timelines of the process; debt service suspension for the duration of any negotiations; clarification on how comparability of treatment will be enforced; and an expansion of this coordinated approach to other countries. It is imperative to further strengthen the debt architecture to achieve more predictable, timely and orderly processes for countries under the Common Framework and for those not covered by it.

## 2. Overview of global debt trends—debt dynamics in the context of multiple crises

### 2.1 Debt trends across income groups

**Global public debt as a share of GDP fell in 2022 but remains above pre-pandemic levels.**<sup>2</sup> Global public debt reached 91 per cent of GDP in 2022, falling 4 percentage points compared to 2021, but remaining 7.5 percentage points higher than before the pandemic. Over the past year, debt as a share of GDP fell by 5.5 percentage points of GDP in developed countries. Although most middle-income countries saw comparable declines in public debt-to-GDP ratios, debt increases in China, Thailand, Philippines and Pakistan caused debt for the group to remain unchanged on a weighted-average basis. The debt of LDCs and other LICs was broadly unchanged, falling by less than a percentage point for the group (LDCs’ debt decreased by slightly more than 2 percentage points), but this conceals substantial differences within the group. While oil-exporting LDCs and other LICs saw debt fall by 12 percentage points on average, non-oil-exporting LDCs and other LICs saw their debt-to-GDP increase by 2.7 percentage points. Small island developing states (SIDS), which were hit particularly hard by the pandemic, saw their debt fall significantly in 2022, but also remaining above pre-pandemic levels.

**Debt levels and vulnerabilities are expected to remain elevated in the face of high borrowing costs and large financing needs.** Despite the rebound in economic activity in 2021 and 2022, output is expected to remain below pre-pandemic trends in developing countries, raising

financing needs and contributing to revenue shortfalls. This is in contrast with developed countries, which have largely overcome the impact of the pandemic (see *2022 Financing for Sustainable Development Report*). As a result, a range of debt indicators, such as debt service burdens, sovereign spreads, external financing needs and debt sustainability analyses, all point to rising debt vulnerabilities, further diminishing fiscal space for investment in the SDGs and climate action.

**Debt service payments claim high shares of public revenue in a growing number of developing countries.** In 2022, 25 developing countries had to dedicate more than a fifth of their total revenues to servicing public external debt. This is the highest number of countries crossing that threshold since 2000, which also marked the beginning of the last large-scale debt relief initiative for developing countries, the Heavily Indebted Poor Countries initiative (figure III.E.2). In LDCs and other LICs, interest payments on public external debt resumed their upward trajectory in 2021 after the small respite in 2020 due to the Debt Service Suspension Initiative (DSSI) (figure III.E.3).

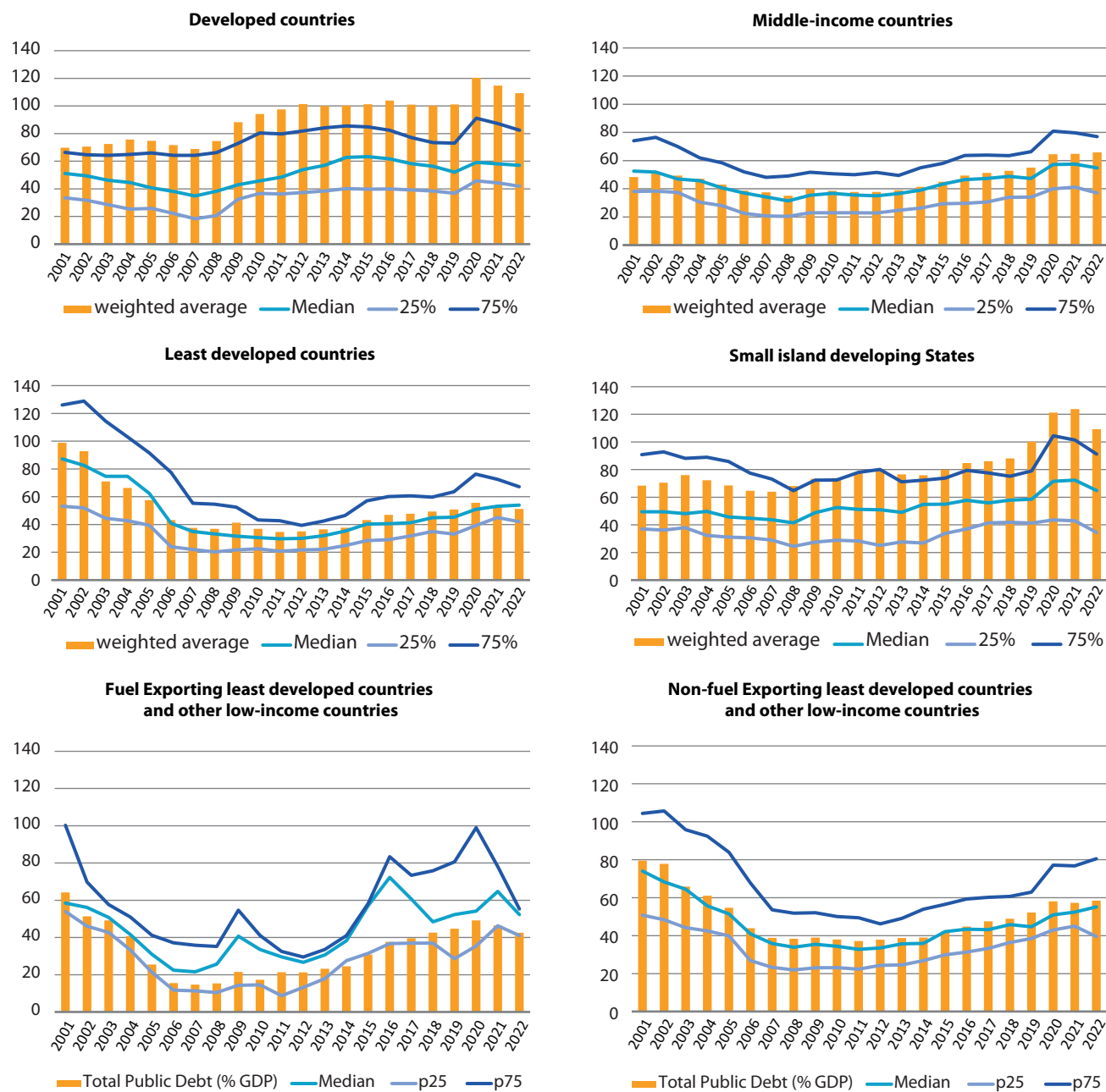
**Rising vulnerabilities are reflected in deteriorating financing conditions for developing countries, illustrated by widening sovereign bond yield spreads.** At the beginning of 2019, only three countries had spreads at levels that make it prohibitively expensive to access capital markets (over 1,000 basis points above US Treasuries) (figure III.E.4). Average spreads on developing country debt rose steadily throughout 2022, reflecting the tightening of global financial conditions in addition to the fiscal and debt vulnerabilities of individual countries, and peaked around September. At the start of 2023, 14 countries still faced prohibitively high borrowing costs in markets, with a median spread of 2,750 basis points.

**External financing needs are projected to increase further, particularly in LDCs and other LICs.** The external financing needs of LDCs and other LICs are expected to increase from \$172 billion in 2021 to \$220 billion in 2027. This includes both fuel- and non-fuel-exporting countries despite different short-term dynamics; the external financing needs of both groups are projected to remain at historically high levels from 2022 to 2027 due to high debt amortizations that need to be refinanced. The average annual amortization falling due in 2022 to 2027 is \$120 billion (including around \$12.9 billion of payments suspended during DSSI), compared to \$55 billion in the pre-crisis period (2010 to 2019) (figure III.E.5). The tightening of global financial conditions may undermine the availability of external financing to meet increasing needs. Estimates of the overall financing needs of LDCs and other LICs to respond to the COVID-19 pandemic, accelerate investment to resume the income convergence path with advanced economies and build adequate external buffers have been around \$440 billion over the next five years.<sup>3</sup>

### 2.2 Debt risk ratings

**The risks of fiscal crises and debt distress in developing countries remain elevated, particularly in LDCs and other LICs.** In 2022, the short-term risk of a fiscal crisis remained largely stable for developed countries and deteriorated for many middle-income countries and emerging markets. Debt risk ratings for LDCs and other LICs remained elevated. Debt risk ratings for LDCs and other LICs remained elevated. Around 60 per cent of countries that use the IMF/World Bank Debt Sustainability Framework (LIC DSF) are assessed at high risk of debt distress or in debt

Figure III.E.1  
**Public debt evolution in developed and developing countries, 2000–2022**  
 (Per cent of GDP)



Source: IMF WEO October 2022, IMF staff and UNDP calculations.

Note: Total public debt (percentage of GDP) is calculated as weighted average.

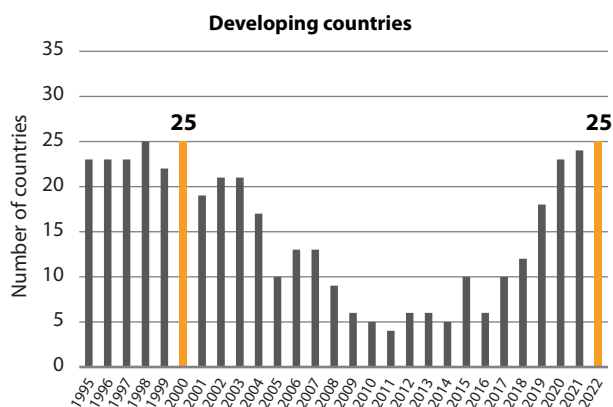
distress, twice the level in 2015 (figure III.E.6). Fifteen countries' debt risk ratings have been downgraded since the beginning of the pandemic: two fuel-exporting and 13 non-fuel-exporting countries. Several countries experienced debt risk rating upgrades, mostly reflecting the positive results from debt restructuring (e.g., Chad, Cabo Verde, the Gambia, Mauritania, Mozambique and South Sudan). Among the countries assessed at high risk of debt distress or in debt distress, four countries have requested a

Common Framework debt restructuring: Chad, Ethiopia, Zambia and most recently Ghana. Somalia and Sudan are undertaking debt restructurings under the Heavily Indebted Poor Countries initiative. Several others (e.g., Djibouti, Lao PDR, Malawi) have also recently announced their intention or interest to restructure their debt through bilateral negotiations.

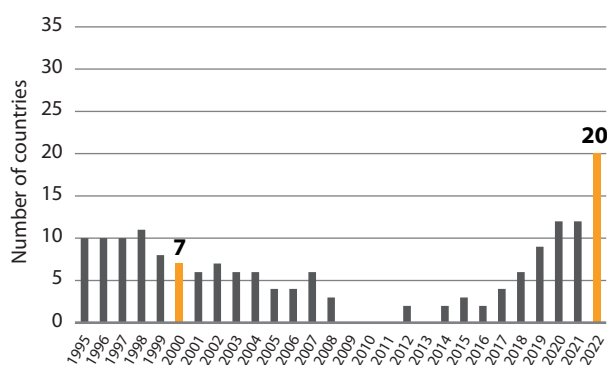
**A large number of developing countries face debt challenges and extremely high market-based financing costs; while they**

Figure III.E.2

**Developing countries with total external debt service payments of more than 20 per cent of revenue**



**Least developed countries and other low-income countries**



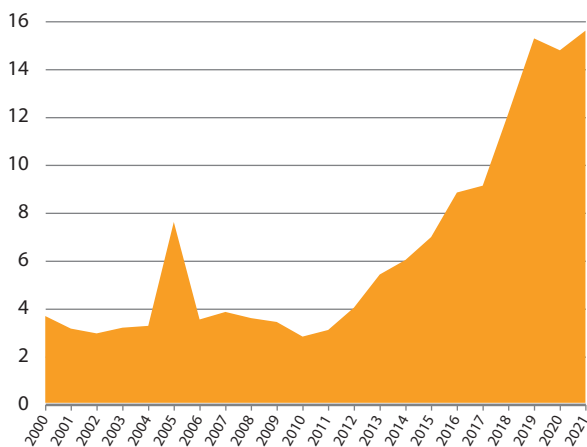
**Source:** UNDP and IMF staff based on general government revenue data from the IMF’s WEO October 2022 and external (public and publicly guaranteed) debt data from the World Bank’s IDR 2022.

**Note:** Debt service here covers both interest and principal. Developing countries here include those low- and middle-income countries covered by the *International Debt Report 2022*.

Figure III.E.3

**Interest payments on external public debt of LDCs and other LICs**

(Billions of United States dollars)

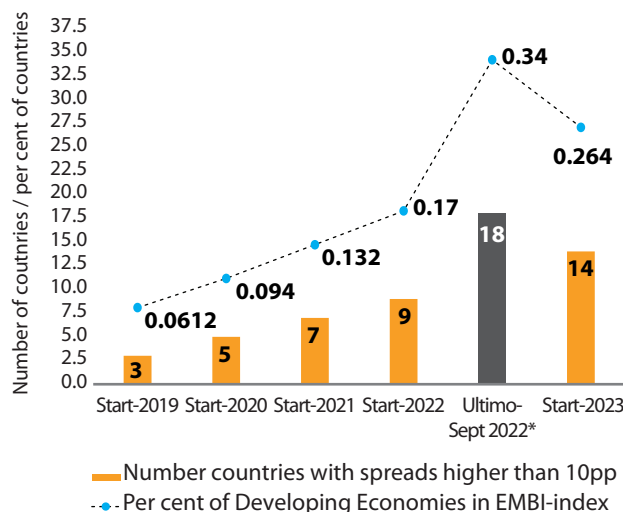


**Source:** IMF staff calculations based on World Bank International Debt Statistics Database.

represent only a small share of the global economy and hence may not pose a systemic risk for global financial stability, they are home to 40 per cent of the world’s poor, and among the most climate-vulnerable countries.<sup>4</sup> There are different ways to assess the total number of developing countries suffering from severe debt problems or facing a fiscal crisis. According to an IMF methodology for assessing the risk of a fiscal crisis using machine learning, 32 per cent of all emerging markets are at high risk as of end-2022, up from 25 per cent in 2021.<sup>5</sup> When all countries are included that have either a credit rating of “substantial risk, extremely speculative or default” and/or a Debt Sustainability Analysis risk rating of “in distress or at high risk of debt distress” and/or a bond spread of more than 1,000 basis points, then almost 40 per cent

Figure III.E.4

**Developing countries with bond spreads higher than 1,000 basis points**



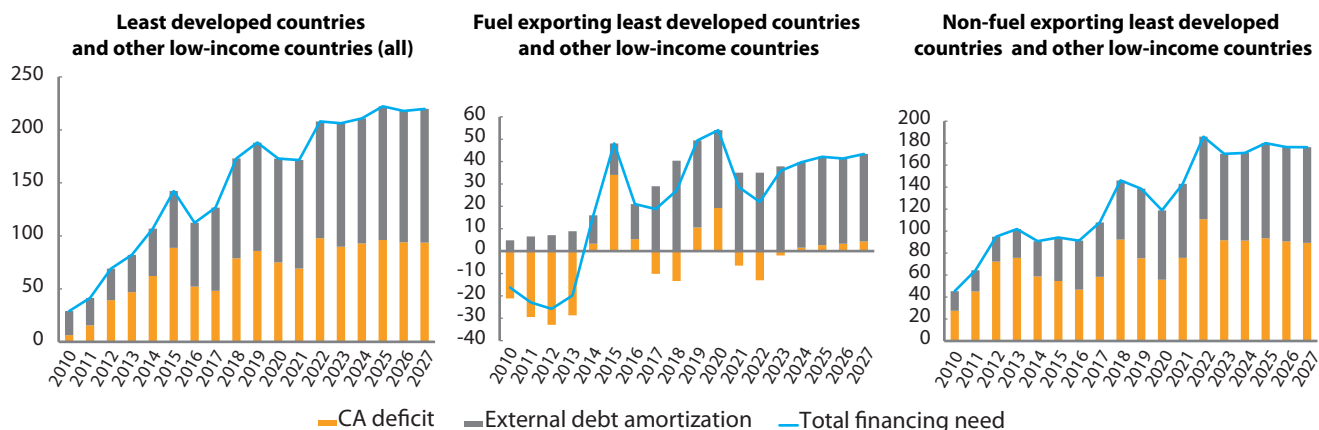
**Source:** UNDP based on data from Haver Analytics / JPMorgan’s Global Emerging Market Bond Index (EMBI).

**Note:** the EMBI index measures the spread of United States dollars denominated debt to similar maturity US Treasury bonds. Start refers to the first day of reporting in January. \*As of 30 September 2022. In 2019, spreads were reported for 49 developing countries, and 53 from and including the start of 2020. Figure only includes low- and middle-income countries in the EMBI.

of all developing countries (a total of 52 countries) suffer from severe debt problems and extremely expensive market-based financing.<sup>6</sup> Together, these 52 countries account for only 2.5 per cent of the global economy but 15 per cent of the global population (around 1.2 billion people) and 40 per cent of all people living in extreme poverty. They include more than half of all LDCs (26 LDCs), 16 SIDS and more than half of the world’s top 50 most climate vulnerable countries.

Figure III.E.5

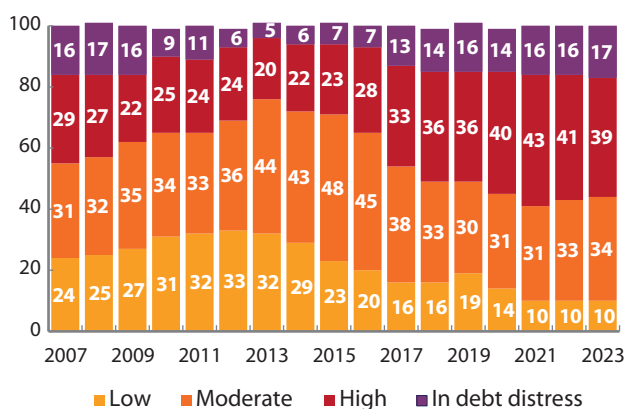
### Gross external financing needs of LDCs and LICs (Billions of United States dollars)



Source: IMF WEO database, October 2022.

Figure III.E.6

### External debt distress ratings for LDCs and other LICs using IMF/World Bank LIC DSF, 2007–2023 (Percentage of LDCs and other LICs per risk category)



Source: IMF/World Bank Debt Sustainability Framework, data as of 20 February 2023.  
Note: Percentage of LDCs and other LICs in each debt distress risk category.

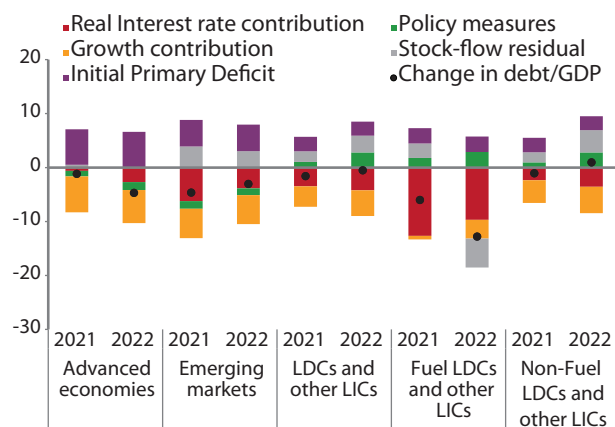
## 2.3 Drivers of debt and debt vulnerabilities

**Global crises and shocks have been key drivers of the rising debt vulnerabilities of developing countries.** While dynamics varied across countries, rising food and energy prices, tightening global financial conditions, US dollar appreciation and a reversal in cross-border capital flows made for an extremely challenging global macro-environment for many countries.

**Debt dynamics varied across countries.** Debt fell in developed countries, as economic activity and revenues rebounded and governments wound down pandemic era support measures. Rising prices also deflated debt-to-GDP ratios across the board. However, dynamics were more varied in developing countries. Emerging markets and middle-income countries benefited from a stronger recovery, as did fuel-exporting LDCs and other LICs. Debt continued to grow in non-fuel-exporting LDCs and other LICs: this was due to fiscal pressures caused by rising fuel and food prices and

Figure III.E.7

### Drivers of change in public debt, 2020–2022 (Percentage of GDP)



Source: MF Fiscal Monitor, October 2021, and IMF staff calculations and update (as of 30 November 2022).

Note: The stock-flow residual is the change in the debt ratio resulting from factors such as bailouts or changes in exchange rates. The drivers of change in each country income group were calculated as simple averages. LICs include DSSI-eligible countries plus Eritrea, Sudan and Zimbabwe.

currency depreciations that increased US dollar denominated debt. Fuel exporters faced similar inflationary pressures, but these were mitigated by appreciating national currencies (see figure III.E.7).

**Most governments adopted fiscal measures to mitigate the impact of rising energy prices. LDCs and other LICs were also compelled to spend on food price mitigation, amplifying the impact on fiscal balances and debt.** Countries across income groups deployed fiscal support to counter the impact of high food and fuel prices following the war in Ukraine, exerting further upward pressure on public debt. On average, countries spent around 0.4 per cent of GDP to mitigate rising energy costs, with emerging markets spending slightly more than



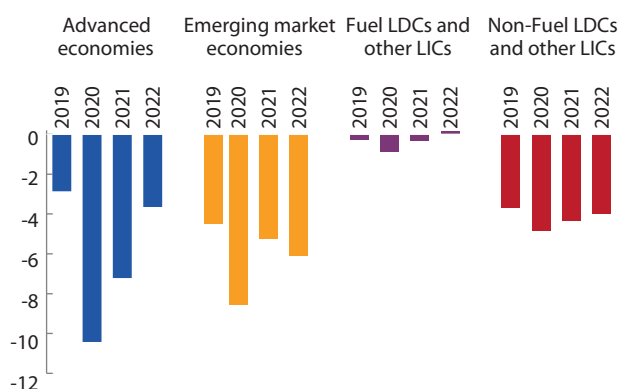
other groups. LDCs and other LICs spent another 0.17 per cent of GDP on food price measures, with middle-income and developed countries spending about 0.13 per cent and 0.04 per cent of GDP on food price mitigation, respectively (figure III.E.8).

**The global tightening of monetary policy also contributed to increasing debt vulnerabilities in developing countries by raising domestic and external borrowing costs, depreciating national currencies and draining liquidity.** Beyond measures needed to counter inflationary pressures, monetary authorities in developing countries have been compelled to follow the global policy tightening to contain currency movements, regardless of their exchange rate regime, compounding the impact on domestic borrowing costs (figure III.E.9). The current tightening

cycle is especially challenging for resource-poor countries, as unlike in previous episodes US dollar appreciation is accompanied by higher commodity prices. Tighter financial conditions and the prospect of lower global demand usually dampen commodity prices, particularly the price of oil, but the war in Ukraine has kept them at elevated levels (figure III.E.10).

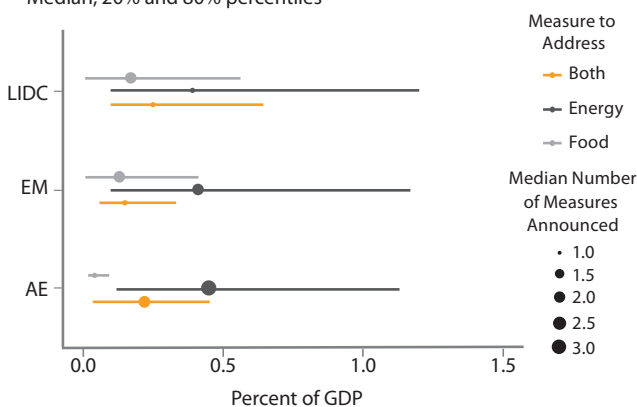
**Developing countries also saw a sharp reversal in cross-border capital inflows in 2022, exacerbating liquidity constraints and further raising the cost of external refinancing.** Such reversals are typically triggered by rising interest rates, global market volatility and risk aversion—but they also put further pressure on domestic interest rates and currencies. Further tightening of global financial conditions may thus elevate the risk of debt distress in many developing countries.<sup>8</sup>

Figure III.E.8  
**Fiscal support in response to rising fuel and food prices, by income group**  
(Percentage of GDP)



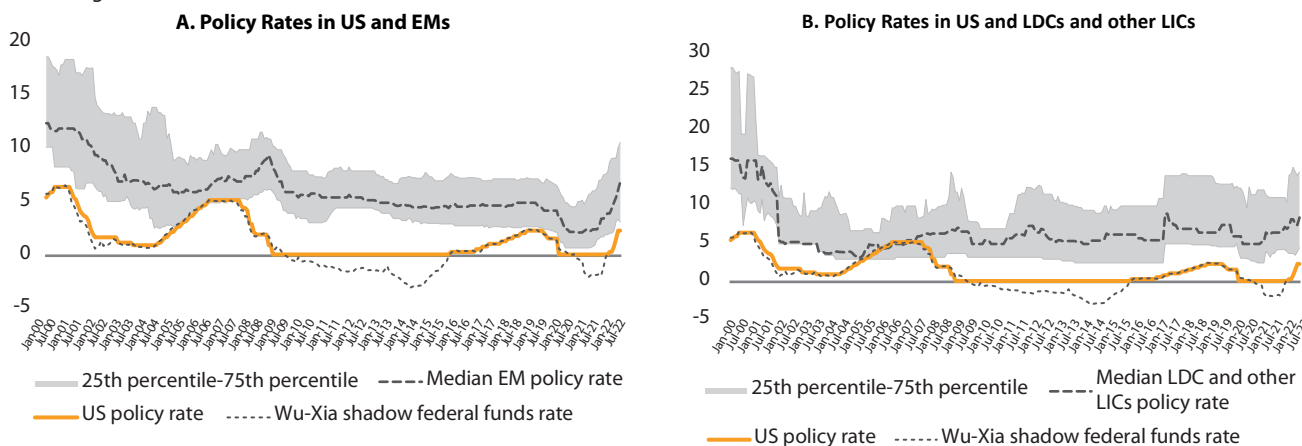
Source: IMF WEO October 2022, IMF staff calculations.

Median Country Spending on Announced Measures by Type  
Median, 20% and 80% percentiles



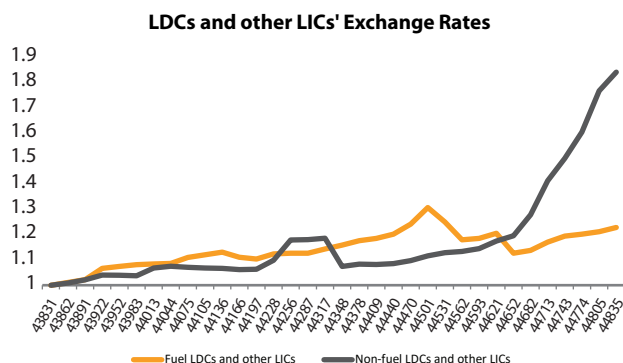
Source: IMF staff calculations based on data from IMF Fiscal Monitor October 2022. Note: Whiskers reflect the 20th and 80th percentiles. Dots reflect the median and the number of announced measures of each type.

Figure III.E.9  
**Emerging markets, LDCs and other LICs tracking the US tightening cycle**  
(Percentage)



Sources: IMF International Financial Statistics database, Board of Governors of the Federal Reserve System, and Wu and Xia (2016)<sup>7</sup>

Figure III.E.10  
**Currencies of LDCs and other LICs, especially non-fuel LDCs and LICs, have been under pressure**  
*(domestic currency per United States dollars, Index January 2020=1, mean by country group)*



Sources: IMF International Financial Statistics database and Haver Analytics.  
 Note: The fuel LDCs and other LICs group does not include South Sudan. Underlying series are period average exchange rates.

### 2.4. Changes in the composition of debt

Over the past two decades, the creditor landscape has become much more heterogeneous, particularly in LDCs. Most notably, the share of total external debt owed to Paris Club official bilateral creditors fell from 41 per cent in 1996 to 10 per cent in 2021, while the share owed to non-Paris Club official bilateral creditors rose from 7 per cent to 19 per cent over the same period. The share of private creditors in total external debt also nearly doubled, from 13 per cent to 24 per cent, due to bond issuances. Only the share of multilateral debt remained steady at a significant 47 per cent in 2021, up from 40 per cent in 1996 (see figure III.E.11).<sup>9</sup>

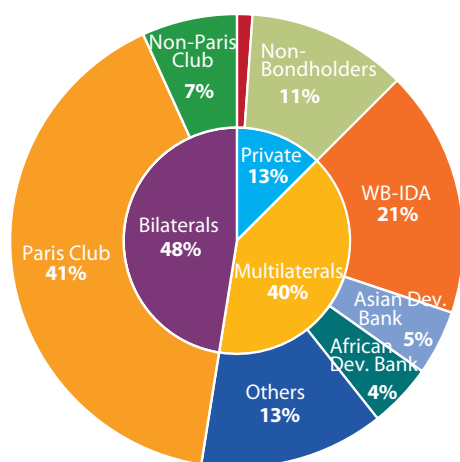
Financing patterns in 2021 and 2022 continued the trend towards greater heterogeneity in creditor composition. In 2021, the stock of LDC and other LICs' external public debt owed to bondholders grew from approximately \$73 billion to \$88 billion. The strong bond issuance reflected continued market access during 2021 prior to the tightening of global financial conditions observed in 2022. Credit from official bilateral lenders, including China, continued to grow in 2021, though at a slower pace. Support from multilaterals also increased, although it did not match the increase during 2020, which was driven by the COVID-19 pandemic response<sup>10</sup> (see figure III.E.12).

Faced with diminishing access to bond markets, many LDCs and LICs resorted to syndicated loans, which could be harder to restructure. Issuance of Eurobonds by developing countries fell sharply during the first 10 months of 2022 compared to the same period in 2021:<sup>11</sup> almost by half in emerging markets (from \$145 billion to \$74.6 billion), and 79 per cent in LDCs and other LICs (from \$18.7 billion to \$4 billion). The market virtually dried up for non-fuel-exporting LDCs and other LICs. Many countries shifted to syndicated loans instead. Such loans increased significantly across developing countries: Syndicated loans in emerging markets rose by 62 per cent to \$39 billion, and borrowing by LDC and other LICs rose by 93 per cent to \$12 billion. Syndicated loans usually have shorter maturities and are less transparent than sovereign bonds. They typically include significantly fewer creditors than sovereign bonds (i.e., a consortium of banks compared to many dispersed bondholders), but they also include fewer safeguards against holdouts in debt resolution compared to Eurobonds (although work is currently being carried out to introduce majority voting provisions into syndicate loan contracts, see section 4.6).

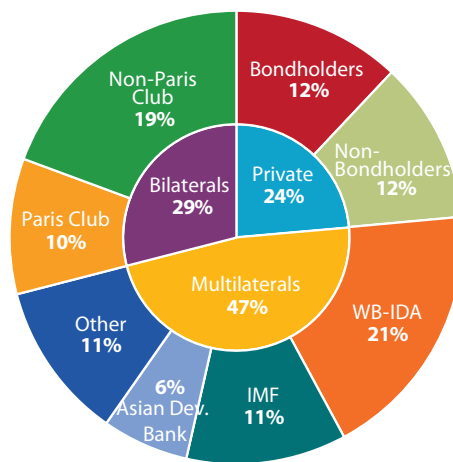
Developing countries continued to increase their local currency borrowing in 2022. Local currency debt financing for the median LDC and other LICs rose from about 11 per cent of GDP in 2010 to almost 21 per cent of GDP in 2021, at a comparable pace to foreign currency debt increases.<sup>12</sup>

Figure III.E.11  
**External creditor landscape in LDCs and other LICs**  
*(in per cent of total PPG debt stock)*

End-1996: Distribution of LDCs and other LICs Creditors

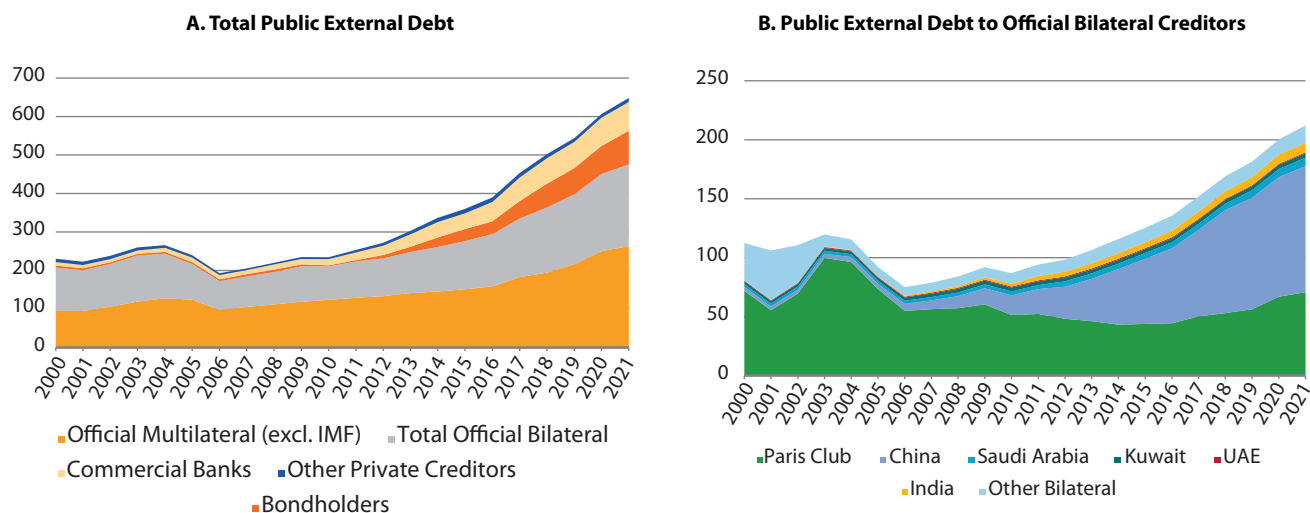


End-2021: Distribution of LDCs and other LICs Creditors



Sources: World Bank IDS and staff calculations.  
 Note: As of 6 December 2022.

Figure III.E.12

**Evolving external public and publicly guaranteed debt composition in LDCs and LICs, 2000–2021***(Billions of United States dollars)*

Sources: IMF staff calculations based on World Bank International Debt Statistics database.

Domestic bond markets can contribute to financial resilience and mitigate exchange rate risks at a time of tightening external conditions. At the same time, domestic sovereign borrowing can crowd out credit to the private sector and intensify the sovereign-bank nexus, with larger holdings of domestic sovereign debt at domestic banks. With an increasing number of countries at high risk of debt distress, this exacerbates risks of an adverse feedback loop that could undermine macro-financial stability in these countries.

### 3. Addressing the crisis

**In the wake of multiple global shocks, many countries face difficult trade-offs between maintaining fiscal sustainability and investing in structural transformation, including productive investment, climate action and the SDGs.** Domestic efforts must be complemented by international actions to mitigate systemic risks, support quick and fair debt restructurings when necessary and create fiscal space for sustainable development investments.

#### 3.1. Domestic efforts

**Effective public financial management, transparency, sound debt management and responsible borrowing help to reduce the likelihood of debt crises.** Countries should pursue policies tailored to their risk of debt distress and to the nature of debt vulnerabilities. Countries at low risk of debt distress can maintain development spending while maintaining fiscal sustainability. Those at moderate risk of debt distress have relatively smaller fiscal space to deal with shocks, while countries with high risk of debt distress often face difficult trade-offs between financing sustainable development needs and fiscal consolidation. For example, forgoing investments in sustainable transformations not only undermines development progress but could heighten vulnerabilities—to disasters, other external

shocks and ultimately debt sustainability—down the line. Where needed, countries may seek pre-emptive debt restructuring to free up fiscal space. Other pre-emptive, maturity-managing tools that countries can use include debt reprofiling operations, swaps or other liability management operations. Countries facing solvency or large and growing financing constraints may need to restructure their debt, including through the Common Framework where relevant (see below).

#### 3.2 The international crisis response to date

**To avoid debt crises and meet large financing needs, international and multilateral financing support remains critical.** With external financing needs expected to increase over the coming years amid high global uncertainty, developing countries and vulnerable countries, such as many LDCs, other LICs and SIDS, will continue to need significant international support. Overall, multilateral creditors scaled up support during the acute phase of the COVID-19 pandemic, and disbursements remained slightly above pre-pandemic levels in 2021 (see chapter III.C.). Financial support from the IMF to LDCs and other LICs from 2020 to the end of November 2022 totalled US\$32.3 billion. New instruments such as the Resilience and Sustainability Trust and the temporary Food Shock Window were operationalized (see chapter III.F. for more details). Resilience and Sustainability Trust support is conditional on long-term debt sustainability assessments, which take into account climate change and/or health expenditure impact, thus underlining the link between sustainable development and sustainable debt.

**In response to the pandemic, the Group of 20 (G20) agreed on a Common Framework for Debt Treatment to support LDCs and other LICs with unsustainable debt in achieving orderly restructurings.** Under the Common Framework, G20 and Paris Club creditors agreed to coordinate and cooperate on debt treatments for DSSI-eligible countries that need debt relief in the context of and consistent with the

parameters of an Upper Credit Tranche (UCT) quality IMF programme. The Common Framework requires that participating debtor countries seek debt treatment on terms at least as favourable from other official bilateral and private creditors.

**Despite some recent progress, implementation has been slow, undermining confidence and limiting take-up.** Since November 2020, four countries have requested treatment, with Ghana, in early 2023, joining Chad, Ethiopia and Zambia. Three countries that initially requested treatment have seen the formation of creditor committees responsible for coordinating a solution among the main actors. In November 2022, Chad reached the first Common Framework agreement with its official bilateral creditors (China, India, Saudi Arabia and France) and its private creditors on a debt restructuring consistent with the parameters of its Fund-supported programme. The agreement will provide Chad with debt service relief (in 2024) and protection against downside risks, including the risk of a drop in oil prices. Zambia's official creditor committee provided financing assurances that have allowed IMF Executive Board approval of an Extended Credit Facility-supported programme in August 2022, but to date there is no agreement among creditors on the debt treatment. The long delays and uncertainties surrounding these treatments, due to significant difficulties and delays in forming creditor committees, reaching agreement among creditors and implementing memorandums of understanding, have been a major challenge. This has undermined confidence in the process, with some debtor countries reluctant to request a debt treatment under the Common Framework. More work needs to be done to accelerate implementation of the Common Framework. Similar challenges in current restructurings outside the Common Framework (such as in regard to Sri Lanka or Suriname) as well as the elevated debt vulnerabilities and the uncertain global environment underscore the importance of improving mechanisms for sovereign debt restructuring (as discussed later in this chapter).

## 4. Debt transparency and debt management

### 4.1 Transparency

**Against the background of rising public debt vulnerabilities, debt transparency remains a critical challenge.** Transparency is important to ensure that governments and creditors take informed decisions and that debt sustainability assessments are based on a comprehensive coverage of the entire public sector debt burden. It is also critical for governments to be able to adequately monitor and mitigate debt-related fiscal risks.

**Debt transparency is also essential for ensuring effective debt restructuring.** Comprehensive and accurate debt data is necessary to estimate the debt relief needed to restore a borrower's debt sustainability. In addition, only the maximum level of disclosure can generate the trust that creditors need to achieve an equal burden sharing (see also below).

**Achieving higher levels of transparency is a shared responsibility of borrowers and creditors.** Borrowers should improve their legal frameworks and upgrade their debt recording and reporting systems, their capacity and their information-sharing procedures to facilitate timely and

comprehensive reporting. Creditors, on the other hand, should promote transparent financing practices and provide detailed information about their lending portfolios, which can fill in any data gaps in regard to borrowers, and refrain from including confidentiality agreements in their lending.

**Some progress has been made on both fronts, but many challenges remain.** The number of countries eligible to borrow from the International Development Association (IDA) that do not publish any debt data has declined from 40 per cent to 23 per cent in the last two years, in part due to the World Bank's new lending policy that promotes public debt data disclosure. Countries like Benin, Burkina Faso, Madagascar and Nepal have made impressive progress on debt disclosure. On the creditor side, following the G20 recommendations on responsible lending, some countries have started disclosing their lending portfolios. The United States, for instance, started uploading the details of every loan to sovereigns on its Treasury website. The OECD's Debt Transparency Initiative has established a data repository that allows private creditors to publicly disclose financing to developing countries on a voluntary basis. However, progress has been uneven, and some countries have backtracked on their debt-reporting standards either because of inadequate debt recording and reporting systems, weak legal and institutional frameworks or insufficient capacity.<sup>13</sup> Innovative information technology solutions could be explored to improve debt recording, validation and reporting. Such reforms could further improve the quality and the coverage of existing data collection exercises, including the World Bank's International Debt Statistics, which is the most comprehensive database for external debt.

### 4.2 Debt management and capacity support

**Amid rising vulnerabilities and a more complex debt composition, effective public debt management is essential.** Although fiscal policy is the main driver of public debt levels and public debt vulnerabilities, effective debt management is an important element of the toolkit of prudent macroeconomic policies. As the composition of public debt in developing countries has evolved from traditional multilateral and Paris Club borrowing towards non-Paris Club bilateral and commercial creditors, including through a large increase in the volume of domestically issued debt, the challenges facing debt managers have increased in tandem. But while many debt management offices are structured according to international practices of back, middle and front office, several countries face capacity challenges.<sup>14</sup>

**Improvements in public debt management are thus critical and can contribute to mitigating debt vulnerabilities.** Effective debt management is built on both technical capacity and a strong institutional framework, which requires a clear mandate, resources and political support. While capacity development provision covers all areas of public debt management, specific attention should be given by governments to the basic enabling conditions: governance, resources, information and policy (box III.E.1).

**The development and implementation of debt management strategies as well as domestic market development continued to be the main priorities for debt managers.** A survey of debt management offices in LDCs and other LICs identified the integration of cash and debt management, and the implementation of debt management strategy through an annual borrowing plan, as the most challenging areas. This is

consistent with other issues revealed by the survey, including challenges in issuing benchmark government bonds and engaging in liability management operations to manage the redemption profile. Moreover, respondents highlighted a strong desire to both deepen the investor base and support the development of the local debt market.

**Insufficient resources and inadequate information flows undermine effective debt management.** Debt managers noted that resourcing, both in terms of staffing and physical/information technology equipment, and institutional arrangements surrounding data recording, monitoring and receiving debt data (including from other parts of government), are among the main impediments to effective debt management. Resource constraints are more evident among fragile and conflict-affected States and small and developing States.

**While public debt management capacity has improved, progress will remain gradual.** Improvements can be seen in all aspects of debt management, from the implementation of public debt management strategies to developing local currency bond markets to improvements in debt management frameworks. That said, these achievements have come slowly and with frequent setbacks, e.g., in the context of the pandemic. In this regard, debt management capacity development should be undertaken and assessed over a time horizon of years, not months, and its success relies heavily on strong political support from the authorities.

### Box III.E.1

#### Getting a GRIP on public debt management

**Governance.** Robust sovereign debt management starts with adequate legal and institutional arrangements and authority for debt management activities, consistent with sound practices. A comprehensive public debt management law that clearly delineates responsibilities and reporting requirements is essential for an effectively operating debt management office.

**Resources.** The debt management office needs to be provided with adequate human and physical capacity. The resources allocated to public debt management need to be commensurate with the tasks to be fulfilled by the debt office and the complexity of the current (and expected) debt portfolio.

**Information.** For a debt management office to fulfil its tasks effectively, it must have ongoing access to all relevant data and information. This may include data collected from multiple other parts of government, making it critical that the debt manager has the authority to request this information. Likewise, it must have the necessary capacity to record and manage debt data effectively. In particular, the debt management office needs to be provided with reliable and comprehensive budget and cash management forecasts from the Treasury at high frequency.

**Policy.** Debt policy should ensure consistency with the overall macro-economic framework through appropriate coordination mechanisms with fiscal and monetary authorities. Moreover, debt management policy should be supported, and approved, by the highest levels of government and legislature.

**Source:** IMF.

**The IMF delivers capacity development to LICs in all areas of public debt management.** The bulk of capacity development has focused on the technical aspects of debt portfolio management and debt strategy formulation and implementation but has also covered capacity development, the institutional aspects of debt management, market development and debt recording. The IMF also provides technical assistance on legal frameworks, strengthening public debt management policy frameworks, tax issues related to public debt, and fiscal risks.

**The World Bank has delivered technical assistance to low- and middle-income countries through a range of modalities.** A significant amount of assistance is funded by the joint World Bank-IMF administered Debt Management Facility, but support is also provided increasingly in the context of World Bank operations. Debt Management Performance Assessments and customized Reform Plans aim at strengthening debt management institutions and functions. Debt Management Strategy and domestic market development assistance are aimed at helping countries to develop and implement cost-reducing and risk-minimizing debt strategies and develop the local currency bond market. A second trust fund, the Government Debt and Risk Management programme, provides customized advisory services for strengthening public debt and risk management capacity and institutions in select middle-income countries.

**The United Nations Conference on Trade and Development (UNCTAD) also supports developing countries in strengthening capacity for effective debt management, focusing on the “downstream” areas of debt recording, monitoring and reporting.** These efforts complement the technical assistance in “upstream” areas (including governance, debt sustainability analysis and debt strategy) provided by the IMF, World Bank, other international financial institutions and regional entities. UNCTAD’s Debt Management and Financial Analysis System Programme provides support to 60 developing countries to ensure the availability of high-quality debt data needed for reporting and decision-making, the accuracy and completeness of public debt records, and comprehensive and timely reporting. It also aids with the implementation of debt reorganization initiatives.

## 5. Sustainable debt financing and the SDGs

**Large financing needs for climate action and the SDGs have increased interest in financial instruments and analytical approaches that more closely link debt financing to sustainability considerations.** Thematic bonds and debt-for-SDG swaps could provide the financing for sustainable development. Countries with additional borrowing space can issue thematic bonds, while debt-for-SDG swaps could be particularly beneficial for countries that have high levels of debt but do not face unsustainable debt situations. (Countries with unsustainable debt generally require a more comprehensive restructuring of debt; debt resolution is discussed in section 6.) Efforts are also under way to improve the understanding of the interplay between long-term investments in the SDGs and climate action, the closing of financing gaps for SDG investments, and long-term debt sustainability. The Secretary-General has put forward a comprehensive SDG Stimulus to scale up SDG and climate investments in support of these and other proposals, while addressing debt overhangs (see box III.E.2).

### Box III.E.2 The SDG Stimulus

The SDG Stimulus put forward by the United Nations Secretary-General calls for urgent action to significantly scale up investments in the SDGs. It sets forth three areas for immediate action: (i) reducing the cost of debt for developing countries and addressing the rising risks of debt distress (ii) significantly scaling up affordable long-term financing for development, with multilateral development banks uniquely positioned to accelerate investment; and (iii) expanding contingency financing for countries in need to enhance their ability to respond to shocks.

In the area of debt, the SDG Stimulus calls for both immediate actions and longer-term reforms to the sovereign debt architecture.

The SDG Stimulus proposes: (i) an independent review and evaluation of past debt initiatives, with a view to assess the benefits, impact and shortcomings of the mechanisms, and propose improvements to the Common Framework and debt architecture to arrive at an improved multilateral debt relief initiative; (ii) the development of concrete tools to incentivize or enforce the participation of private creditors in debt restructurings to ensure comparability of treatment; (iii) the expansion of debt swaps where appropriate; and (iv) more systematic use of state-contingent debt instruments. The SDG Stimulus also calls for concrete steps towards a permanent mechanism to address sovereign debt distress.

Scaling up long-term finance must go hand in hand with debt management, as countries that are facing a solvency crisis are unable to increase their borrowings. Several strands of work are ongoing in the United Nations system with a view to better distinguishing solvency and liquidity crises and understanding the interplay between SDG financing

needs and debt sustainability, while incorporating the impacts of such long-term investments in the SDGs and resilience (such as through the SDG Stimulus) on debt sustainability.

In his SDG Stimulus, the Secretary-General proposed a “solvency-focused” sustainability analysis, which could complement existing assessments, to help official creditors better distinguish between liquidity and solvency crises. The United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) is developing an approach that considers a country’s SDG spending needs, structural development policies and national SDG financing strategies to illustrate trajectories of government debt under different scenarios of public policies, financing strategies and adverse shocks. Application on a pilot Asia-Pacific country (Mongolia) will be discussed in the forthcoming ESCAP Economic and Social Survey of Asia and the Pacific 2023. UNCTAD is developing a Sustainable Development Finance Assessment (SDFA) framework focused on the dual vulnerabilities of debt and climate in developing countries that do not currently have the fiscal space to mobilize sufficient resources to finance a green transition and the achievement of the SDGs. It shows that a range of policy options is available to developing countries to maintain or attain external financial and external and public debt sustainability while also achieving the SDGs. UNCTAD is also working on incorporating climate-related costs into the SDFA framework, and to adapt the tool to the needs of specific country groups (e.g., SIDS).

**Source:** UN/DESA based on: United Nations Secretary-General’s SDG Stimulus to Deliver Agenda 2030. February 2023. ESCAP and UNCTAD.

**Note:** This box summarizes ongoing work in the United Nations, but the description of the proposals, workstreams and positions in this box have not been endorsed by members of the Inter-agency Task Force on Financing for Development.

## 5.1 Sovereign green or SDG-linked bonds

**Thematic bonds could offer additional resources for sustainable investment.** The issuance of sustainable, green or SDG-linked sovereign debt creates new opportunities for sovereign issuers although it comes with challenges. Issuances have expanded, providing greater financing choices for governments; however, this requires an increase in the monitoring and evaluation capacity of authorities.

**There is a growing demand for investment in sustainable assets, and sovereign issuers are trying to take advantage of this surge in interest.** Green bonds are more oversubscribed on average compared to conventional bonds, which could translate into lower borrowing costs for sovereigns. Some studies have found that green bonds issued by developing countries have benefited from a “greenium”, which has been estimated at between 5 and 50 basis points,<sup>15</sup> though with more issuances that premium could disappear over time (see chapter III.B). Sovereign green bond issuances have increased significantly since Poland pioneered them in 2016, but they remain concentrated in developed countries, with European sovereigns accounting for the vast majority of issuances. Countries have also started issuing other types of sustainable bonds, such as social, sustainability and SDG bonds, which tie the use of proceeds to predefined investments, and sustainability-linked bonds. The latter relate debt-service

payments to improvements in predefined environmental or social indicators, usually an increase in coupon payments if the promised targets are not being achieved (see chapter III.B).

**The objectives for sustainable bond issuance should be well defined and integrated into a sovereign’s debt management strategy and issuance plans.** Commonly cited objectives for sustainable debt issuance include: (i) raising the issuer’s profile in the global arena; (ii) leading the way in building markets for sustainable debt instruments inside a country; and (iii) accessing cost-effective funding and diversifying the investor base. The latter depends on the size of the “greenium” but should also take into account the pre- and post-issuance costs associated with sustainable bonds as well as costs associated with changes to government operations that are needed to issue such bonds credibly and successfully. Cost savings are also not of a scale that would make such bonds a suitable instrument for countries that already have high debt levels and that face high spreads in global markets. In countries that continue to have borrowing space, donors could consider supporting the issuance of sustainability-linked bonds, e.g., by providing support to the development of localized standards and guidelines, or by providing a grant element or a guarantee, essentially allowing them to provide a form of budget support for SDG-linked investments (see also chapter III.B).<sup>16</sup>

## 5.2 Debt for climate and SDG investment swaps

**Debt-for-investment swaps can free up resources for SDG and climate investments and could be further scaled up.** Debt for climate and SDG investment swaps, which have attracted growing interest, allow countries to redirect debt service payments towards investments in sustainable development and climate action. They are a useful instrument in countries that do not yet have unsustainable debt burdens but that have limited fiscal space for SDG investments; they are not a means to restore debt sustainability in countries with solvency challenges. There have been more than 100 debt-for-nature swap operations since the late 1980s in Latin America and, after a hiatus, they have regained popularity since 2015. Despite successful examples of such debt swaps—e.g., debt-for-food-security swaps by the World Food Programme that have mobilized \$118 million for investments in nutrition, agriculture and school feeding in five African countries (see also *2022 Financing for Sustainable Development Report*)—uptake has remained limited, in part due to high transaction costs. A reference framework, e.g., with template term sheets and performance indicators, could help to standardize contracts. This could be complemented by official financial support, such as partial guarantees or collateralization (see also box III.E.3 on debt-for-climate swaps). Several regional and thematic debt swap initiatives are advancing on these issues, including, for example, the Climate/SDGs Debt Swap and Donor Nexus Initiative launched by the United Nations Economic and Social Commission for Western Asia (see also *2022 Financing for Sustainable Development Report*).

## 6. Debt crisis resolution

**Amid rising debt vulnerabilities, the international debt architecture needs to be improved to allow for sufficiently deep and rapid restructurings.** Progress towards an architecture that allows for more effective and fair restructurings is urgently needed, particularly in view of

a more heterogenous creditor landscape, greater reliance on commercial finance, especially by LDCs and other LICs, and amid geopolitical uncertainty.<sup>17</sup> Early debt resolutions can help countries to avoid doing “too little too late”; if restructurings are delayed or too shallow, protracted debt crises can ensue, which can set back development progress by up to a decade.<sup>18</sup> The current architecture requires continued improvement to deliver on this objective.

This section discusses options and approaches to improve debt resolution frameworks in the areas of debt transparency and strengthened debt analytics, contractual approaches, domestic debt restructurings, and in the global architecture, for restructurings under the Common Framework and beyond.

### 6.1 Transparency and timely recognition of debt sustainability problems to support debt resolutions

**Improving debt transparency supports cooperation in restructuring negotiations.** Comprehensive and detailed information on public debt helps to ensure that all creditors can assess the severity of a country's debt burden and how the reduction in a country's debt service as part of a restructuring is shared among creditors. It allows sovereigns to manage investor relations effectively and build trust among involved actors. In that context, the IMF's role in setting programme parameters and performing debt sustainability analysis (together with the World Bank in the case of countries using the LIC DSF) provides a quantitative anchor to inform restructuring negotiations and consensus-building.

**Timely recognition of debt sustainability problems is another priority to support debt restructurings when they are needed.** As part of its mandate to foster economic and financial stability, the IMF plays a central role in the prevention and resolution of sovereign debt crises. The IMF (i) conducts surveillance of its members' policies for systemic stability, including through debt sustainability analyses prepared jointly

#### Box III.E.3

##### Debt for climate swaps

Climate and public debt risks are intertwined. Climate change negatively impacts productive capacity and revenue potential while increasing the likelihood of costly natural disasters, all of which undermine countries' fiscal and debt sustainability outlook. Public debt risks and vulnerabilities constrain policy space while making borrowing more expensive, limiting investment in climate mitigation and adaptation which exacerbate climate-related risks. Debt-for-climate swaps have emerged as a promising instrument for dealing simultaneously with climate and debt challenges.

While the case for debt-for-climate swaps is strong under some circumstances, other types of climate-conditional financial instruments are preferable at times. Generally, climate-conditional grants (or grant/loan combinations) are a more efficient way of supporting public investment in a recipient country. In addition, debt swaps are not the right tool to address unsustainable debt situations which require more comprehensive restructuring. Debt-for-climate swaps can be beneficial when they catalyse climate action and help to mobilize resources, including

through private financing and/or for middle-income countries that are less likely to receive grants.

So far, debt-for-climate swaps have remained a niche instrument due to high transaction costs associated with project identification, structuring and monitoring. In addition, the pool of debt held by creditors that could potentially be interested in debt swaps has remained relatively small.

Policy measures could help to scale up debt-for-climate swaps, supporting climate instruments holistically while leveraging creditors' appetite for financing climate action. Such measures could include bundling related projects and policy reforms, linking debt-for-climate swaps to the budgetary use of funds, and developing standardized climate performance indicators, among other initiatives to reduce transaction and agency costs. The measures could be complemented by official financial support in the form of partial guarantees or Brady-bond style collateral. The recent Belize and Barbados swaps were supported by U.S. International Development Finance Corporation, and the Inter-American Development Bank and The Nature Conservancy, respectively.

**Source:** IMF, based on Chamon et al. 2022. “Debt-for-Climate Swaps: Analysis, Design, and Implementation”, IMF WP/22/162.

with the World Bank Group for those countries using the LIC DSF; (ii) assists members in solving their balance-of-payments problems through IMF-supported programmes to restore the member to medium-term external viability; and (iii) in particular, in cases of unsustainable debt and a request for an IMF-supported programme, assists the member in designing a macroeconomic adjustment framework and setting the debt restructuring envelope that is necessary to put debt on a sustainable path while being consistent with the IMF-supported programme's parameters.<sup>19</sup>

**The IMF continues to strengthen the analytical tools to assess debt sustainability.** Most recently, it started the roll-out of the new Sovereign Risk and Debt Sustainability Framework for market access countries (SRDSF) that was approved by the Executive Board in January 2021; a guidance note has been prepared (of the LDCs and other LICs covered in this chapter, Angola, Fiji, Kosovo, Mongolia and Pakistan use the SRDSF).<sup>20 21</sup> The SRDSF will help to signal sovereign stress more accurately and better assess debt sustainability in market access countries, which is a prerequisite for most international financial institution lending. Compared to its predecessor, the SRDSF will provide more comprehensive and consistent debt coverage, enhanced debt transparency, clearer signals of sovereign debt risks based on improved analytical methods, and new risk assessments at three different horizons (short, medium and long term). After a pilot phase, the SRDSF roll-out started in September 2022 for all programme countries. All market access countries have been implementing the new framework since December 2022.

**Public debt has been established as a cross-cutting theme in the World Bank Group to address vulnerabilities in a comprehensive and integrated manner.** The main building blocks of the World Bank's engagement on public debt vulnerabilities have remained consistent over time, including: i) debt sustainability; ii) debt transparency; iii) debt management; and iv) implementing global debt initiatives. They have been implemented through operational engagements, analytical work and technical assistance. The Sustainable Development Finance Policy was instrumental in mainstreaming public debt issues into operations and country-specific work. Under the Sustainable Development Finance Policy's Debt Sustainability Enhancement Program, moderate, high-risk and in-debt-distress countries need to propose annual policy and performance actions to address main debt sustainability and transparency issues. Setting policy and performance actions has been critical to further integrating public debt issues into operations, technical assistance programmes and country dialogue systematically across International Development Association (IDA) countries.

## 6.2 Contractual approaches

**CACs and bond exchanges have helped to speed up restructurings, but challenges remain.** Restructurings of sovereign bonds take significantly less time than in the past. Participation rates are also higher than in the past, and more restructurings are pre-emptive (before payments are missed) than in previous periods. This largely reflects the increased use of enhanced CACs, which allow vote pooling across bond series, unlike the first generation of CACs which had to be voted on separately for each bond series. However, a number of outstanding bonds do not include enhanced CACs: While over 90 per cent of issuances of international sovereign bonds since 30 June 2020 have featured enhanced CACs, around 50 per cent of all outstanding bonds still do not include them.<sup>22</sup> Non-bonded debt also

currently requires unanimous creditor consent to change payment terms. This increases the potential for a small number of holdout lenders to hinder a restructuring supported by the majority. This issue is becoming more acute, given the increasing heterogeneity of the creditors holding such instruments and the disproportionate impact it has on LDCs. Collateralized debt, which has become more prevalent among LDCs, also poses specific challenges during restructurings.<sup>23</sup>

**Other contractual features, such as state-contingent clauses and majority voting provisions, could further strengthen borrower resilience and facilitate restructurings.** Contingent features in debt instruments could help to deal with uncertainty and protect the sovereign from downside risk (see previous *Financing for Sustainable Development Reports*). So far, state-contingent debt instruments have mostly been used in restructurings where first-mover problems do not apply. Most state-contingent provisions have taken the form of hurricane or other disaster clauses or conditioned some payments on GDP or commodity prices. A restructuring of Grenada's debt applied a disaster clause, while the 2022 bond issuance by Barbados includes provisions for tropical storms, earthquakes, flooding and pandemics. To facilitate greater uptake of such clauses in issuances, the UK Treasury recently convened a Private Sector Working Group, including members of the Institute of International Finance, to develop a set of climate resilient debt clauses. Such clauses will automatically defer debt payments following the occurrence of certain climate events and natural disasters (such as droughts, earthquakes, flooding and extreme weather). They would free up liquidity to support emergency relief in the aftermath of such events, promoting resilience. Public actors are also well placed to more systematically include such clauses in their lending, and there is some momentum to expand on existing experiences by bilateral (France) and multilateral (Inter-American Development Bank) lenders. For example, the United Kingdom's export credit agency (UKEF) has announced that it will include climate resilient debt clauses in its lending. Public lenders and development banks should discuss including such clauses in their lending where appropriate.

**Majority voting provisions in sovereign loans would allow for easier amendment of payment terms.** Syndicated loans currently require unanimous creditor consent to change payment terms, which means that one or a small number of holdouts or non-responsive lenders can derail a restructuring supported by a majority of creditors. This increases complications for restructuring such debt and undermines inter-creditor equity. Official and private creditors have cooperated to develop model majority voting provisions for payment terms in syndicated loans and encourage their widespread adoption. The Private Sector Working Group has developed a set of specimen majority voting provisions for sovereign loan agreements, which allow a qualified majority of lenders to amend payment terms in a sovereign loan agreement. The model clauses would offer other complementary provisions, such as clauses to promote efficient and smooth canvassing and communication of voting preferences.

**"Most favoured creditor" clauses have been proposed by some legal scholars as a tool to help overcome protracted coordination challenges in restructurings.** With creditor coordination in restructurings becoming even more challenging in a more complex debt landscape, there have also been proposals to overcome related impasses in restructuring negotiations through contractual approaches using so-called "most favoured creditor" clauses.<sup>24</sup> Such clauses could in theory be useful to



break the “first mover” prevalent in current sovereign debt restructurings by ensuring comparability of treatment both within and across creditor classes and thus potentially unlock financing necessary to restore debt sustainability. However, they may also present issues, including with respect to enforceability and monitorability.

### 6.3 Domestic debt restructurings

**Rising debt vulnerabilities and the growing share of domestic debt may lead to more domestic debt restructurings.** With a high number of countries at risk of debt distress, domestic restructurings may be needed more frequently to restore sustainability. While they avoid some of the costs of external debt restructuring and can be easier to execute, they also pose unique challenges.<sup>25</sup> Sovereigns have considerable flexibility in restructuring domestic debt, including through changes in domestic laws. At the same time, domestic debt is disproportionately held by domestic banks and pension funds—sovereign stress can thus easily spread to other parts of the economy, with potentially serious adverse effects on the economy.

**Sound design can help to achieve the required debt reduction while minimizing risks to the domestic financial system and broader economy.** Financial stability considerations play an important role in a domestic restructuring—stress tests prior to a restructuring can provide critical information to inform the design of, and need for, policy support. Depending on the severity of spillovers to the financial system, the policy response may need to include liquidity support, regulatory measures, recapitalization and the establishment of a financial sector stability fund. In 2021, the IMF introduced a policy toolkit for analysing and restructuring domestic debt, including a comprehensive dataset of domestic debt restructuring events. It includes a decision framework that allows authorities to adopt a “net benefits” approach to domestic debt restructuring—whereby the benefits of a reduced sovereign debt burden are weighed against the future fiscal and broader economic costs.<sup>26</sup>

### 6.4 The global architecture

**There is a general recognition among the international community that the Common Framework should be more quickly and efficiently implemented.**<sup>27</sup> The Common Framework marks a step forward in the global architecture for sovereign debt restructuring, bringing together the key official bilateral creditors, including those that are not members of the Paris Club. However, limited and slow progress for

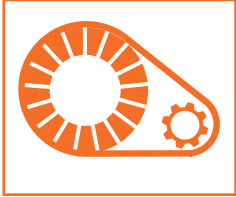
countries that have requested debt treatment have undermined confidence and uptake; in response, several areas for strengthening the Common Framework have been put forward:<sup>28</sup>

- **Greater clarity on the steps and timelines of the process.** Creditors’ committees should ideally be formed within four to eight weeks after the request from the debtor country and provide financing assurances within three months of reaching a staff-level agreement with IMF staff;
- **Debt service suspension for the duration of the negotiation.** Such a standstill would be provided by official creditors, upon request, to countries requesting it once they have reached a staff-level agreement with the IMF. The suspension would be maintained until completion of the debt treatment to alleviate liquidity constraints, avoid the accumulation of arrears and incentivize quicker resolutions;
- **Clarification on how comparability of treatment will be enforced.** Official bilateral creditors should provide more clarity on how comparability of treatment will be determined and enforced, beyond the parameters already included in the Common Framework;
- **Expansion of the coordinated approach.** Expanding the coordinated approach to non-DSSI-eligible countries in need of debt treatment (e.g., Sri Lanka) would facilitate more timely and orderly resolutions of these cases.

**Legislative actions can in some cases be used to complement the contractual approach.** For example, national legislation in key jurisdictions could limit the ability of holdout creditors to recover higher amounts than creditors participating in a Common Framework restructuring or seize assets of a distressed government, akin to similar legislation in the context of the Heavily Indebted Poor Countries initiative. The duty for all creditors to cooperate in a sovereign restructuring in good faith is already embedded in legal frameworks and principles for responsible borrowing and lending. It Some stakeholders have proposed that this be codified in legislation, which would strengthen the ability of judges to curb opportunistic behaviour and reduce incentives for holdouts accordingly.<sup>29</sup> Broader, albeit targeted, domestic or international law options could be necessary to incentivize private sector restructurings (e.g., limits on creditors’ asset recovery), but these would be expected to be used only as a last resort and on a time-bound basis to address a systemic crisis.<sup>30</sup> Depending on their design, legislative solutions can raise important legal and policy issues that need to be carefully tailored to accomplish their objectives.

## Endnotes

- 1 On country classifications: This chapter uses UN country classifications for “developing countries”, “least developed countries (LDCs)” and “small island developing States (SIDS)”; the term “LDCs and other LICs” denotes the 73 DSSI eligible countries plus Eritrea, Sudan and Zimbabwe; to make use of relevant analysis from Task Force members, in some cases the chapter also uses the categorization of “advanced economies” and “emerging markets” – for a list of countries see for example IMF, World Economic Outlook, October 2022, statistical appendix.
- 2 IMF World Economic Outlook database, October 2022.
- 3 International Monetary Fund, “Macroeconomic Developments and Prospects in Low-Income Countries – 2022.”
- 4 ND GAIN index, Notre Dame University. The top 50 most climate vulnerable countries are ranked between 132 and 182 on the ND GAIN list: <https://gain.nd.edu/our-work/country-index/rankings/>
- 5 This exercise is distinct from the debt sustainability assessment for market access countries (SRDSF/MAC DSA) and the IMF-World Bank debt sustainability framework for lower income countries (LIC DSF). For more on the machine learning methodology please see “How to Assess Country Risk: The Vulnerability Exercise Approach Using Machine Learning” IMF (2021)
- 6 As January 10, 2023. For more details see Jensen (2022).
- 7 Wu and Xia, “Measuring the Macroeconomic Impact of Monetary Policy at the Zero Lower Bound.”
- 8 International Monetary Fund, “World Economic Outlook, October 2022.”
- 9 International Monetary Fund, “Macroeconomic Developments and Prospects in Low-Income Countries – 2022.”
- 10 LICs received SDR 14.7 billion, out of SDR 456.5 billion, in the August 2021 new general allocation of Special Drawing Rights (SDR). The impact of the SDR allocations on debt sustainability will depend on how the SDRs are used and the effects on the member’s macroeconomic framework.
- 11 Source: Bond Radar and Dealogic.
- 12 Source: IMF WEO October 2022 database, IMF staff estimates.
- 13 See World Bank, Debt Transparency: Debt Reporting Heat Map, available from: Debt Transparency: Debt Reporting Heat Map ([worldbank.org](http://worldbank.org))
- 14 International Monetary Fund and World Bank Group, “Public Sector Debt Definitions and Reporting in Low-Income Developing Countries.”
- 15 Ando et al., “Sovereign Climate Debt Instruments: An Overview of the Green and Catastrophe Bond Markets.”
- 16 OECD, “Green, Social, Sustainability and Sustainability-Linked Bonds in Developing Countries: How Can Donors Support Public Sector Issuances?”
- 17 International Monetary Fund, “Macroeconomic Developments and Prospects in Low-Income Countries – 2022.”
- 18 Reinhart and Rogoff, “Recovery from Financial Crises: Evidence from 100 Episodes.”
- 19 International Monetary Fund, “Making Debt Work For Development and Macroeconomic Stability.”
- 20 International Monetary Fund, “Staff Guidance Note on the Sovereign Risk and Debt Sustainability Framework for Market Access Countries.”
- 21 International Monetary Fund, “Review of Debt Sustainability Framework For Market Access Countries.”
- 22 The data also suggests that pari passu clauses are generally incorporated as a package with the enhanced CACs.
- 23 International Monetary Fund, “The International Architecture for Resolving Sovereign Debt Involving Private-Sector Creditors – Recent Developments, Challenges, and Reform Options.”
- 24 Gulati and Buchheit, “Enforcing Comparable Treatment in Sovereign Debt Workouts.”
- 25 International Monetary Fund, “Issues in Restructuring of Sovereign Domestic Debt.”
- 26 International Monetary Fund.
- 27 Seventy-three countries are eligible for the G20 Common Framework, for which an IMF-support program is a precondition. Three countries have requested participation so far (Chad, Ethiopia and Zambia).
- 28 International Monetary Fund, “Making Debt Work For Development and Macroeconomic Stability.”
- 29 Buchheit and Gulati, “The Duty of Creditors to Cooperate in Sovereign Debt Workouts.”
- 30 Talero, “Potential Statutory Options to Encourage Private Sector Creditor Participation in the Common Framework.”



Addressing systemic issues



## Chapter III.F



# Addressing systemic issues

## 1. Key messages and recommendations

**The global financial and monetary systems are not designed to deliver the financing or stability needed to achieve the Sustainable Development Goals (SDGs).** The current global systems evolved piecemeal from a now-outdated architecture created at the end of World War II. The volatility of financial markets and capital flows complicates macroeconomic management and undermines the stability of currencies and exchange rates. While these global systems have adapted over time to try to address some of the worst symptoms of instability and volatility, they remain not well suited to deliver for all countries and have not kept pace with the changing economic and social environments. The existing rules and governance arrangements for financial institutions and markets have not fully incorporated sustainable development in its three dimensions—economic, social and environmental. The cross-border nature of today’s challenges means that countries must work together to address these systemic issues, with the current set of crises (see chapter I) increasing the urgency of doing so. In recognition of this, the United Nations Secretary-General has called for an SDG Stimulus to provide immediate investment, but in doing so strengthen the global financial architecture. Political leadership will be needed to see through the scale of reforms that meet the ambitions of the SDGs. Global governance systems should be more representative of the current economic realities and guide the design and actions of the international financial system to finance the SDGs and climate action.

**The global financial safety net urgently needs to be further strengthened and made fit for purpose.** The safety net will require a larger total resource envelope to ensure effective insurance coverage for all countries and regions.

- Governments should continue to explore ways to effectively utilize special drawing rights (SDRs), such as encouraging unused SDRs to be more quickly rechannelled, including through multilateral development banks (MDBs), and

discussing how to ensure timely countercyclical issuance of SDRs when there is a long-term global need to supplement existing reserve assets;

- Regional arrangements could be made larger and give access to more countries with fewer preconditions;
- The international community could also explore how to build on the success of bilateral swap arrangements.

**The global community could work to smooth the transition away from a single national currency as the anchor of the global reserve system.** Active discussions might need to advance while digitalization and geoeconomic fragmentation evolve.

- A larger role for the SDR in buffering external adjustment or providing a flexible source of finance to bolster IMF lending capacity would require revisions to the IMF Articles of Agreement.

**To address risks from non-bank financial intermediaries (NBFIs), policymakers should ensure a coherent regulatory umbrella according to the principle of “same activity, same risk, same rules”.**

- This includes using this principle for regulatory frameworks for digital assets;
- The principle implies monitoring leverage, liquidity and capital buffers in NBFIs;
- Comprehensive, coordinated and consistent global standards are important to manage risks to users, markets and financial stability, and should be applied to financial technologies as they are applied to traditional financial intermediaries.

**Addressing risks will help to curtail capital flow volatility, which can be further reduced through cross-border coordination on macroprudential and capital flow management policies.**

- Governments should use the full policy toolbox—including monetary, exchange rate, macroprudential, capital flow management and other policies—to address the impacts of volatility;
- Source countries of capital flows should coordinate with destination countries to help reduce volatility.

**Regulators and central banks should continue to incorporate climate change and other environmental factors coherently into their financial regulations and operations.** Given that climate change and biodiversity loss create financial risks and that the financial sector can exacerbate or help to mitigate climate and other environmental risks, it is essential to ensure coherent policy responses.

- Regulators should systematically incorporate climate and environmental risks into overall macroprudential financial stability frameworks and into macroprudential frameworks that promote the safety and soundness of individual financial institutions; international standards can be developed to support these efforts;
- Greening regulation, supervision and central bank operations requires robust, comparable data, which can be accomplished by mandatory reporting against an agreed international reporting standard;
- Where needed to enable monetary and financial policies conducive to climate action, countries could consider providing the mandates for central banks and regulators to align their regulations and operations with the SDGs without prejudice to their price and financial stability mandates.

**Central banks should also use the principle of “same activity, same risk, same rules” for addressing digital assets, while exploring the use of central bank digital currencies (CBDCs) to address long-standing inefficiencies and oligopolies in payments.**

- Private providers of digital assets and digital asset services should be licensed, registered, regulated and supervised based on the risks they pose regardless of what they call their asset or service; this might entail prudential requirements, transparent reporting and consumer protection rules;
- Central banks should make CBDC design decisions that promote financial inclusion, increase payments competition and promote efficiency, while managing risks, including to other jurisdictions;
- CBDC design should also early on address interoperability in order to facilitate low-cost cross-border payments while preventing illicit financial flows.

**Member States should use the United Nation’s inclusive forums to enhance the coherence of global economic governance.**

- As governments prepare for the Summit of the Future in 2024 and a possible fourth international conference on Financing for Development in 2025, they can use the ECOSOC Forum on Financing for Development and the General Assembly High Level Dialogue on Financing for Development as decision points to take action.

## 2. International financial architecture

**The international financial system (which includes both private and public institutions) should facilitate the allocation of**

**resources for investment in sustainable development as well as countercyclical access to financing in times of crisis.** Such actions need to be coherent with other relevant parts of the international architecture, including international tax norms and the global trading system, to best contribute to sustainable development. Yet the current international financial architecture—the governance arrangements for both safeguarding the functioning of the global monetary and financial systems and ensuring that the system is aligned with sustainable development—has not kept pace with the changing global landscape. Some have used the term “non-system”<sup>1</sup> to describe the existing set of international financial frameworks and rules, institutions and markets that have evolved with different phases of economic globalization, often in *ad hoc* fashion and in response to economic and financial shocks. Even in a narrow economic context, capital is not allocated to its most productive uses and the architecture fails to avert boom-and-bust cycles.

### 2.1 Strengthening the global financial safety net

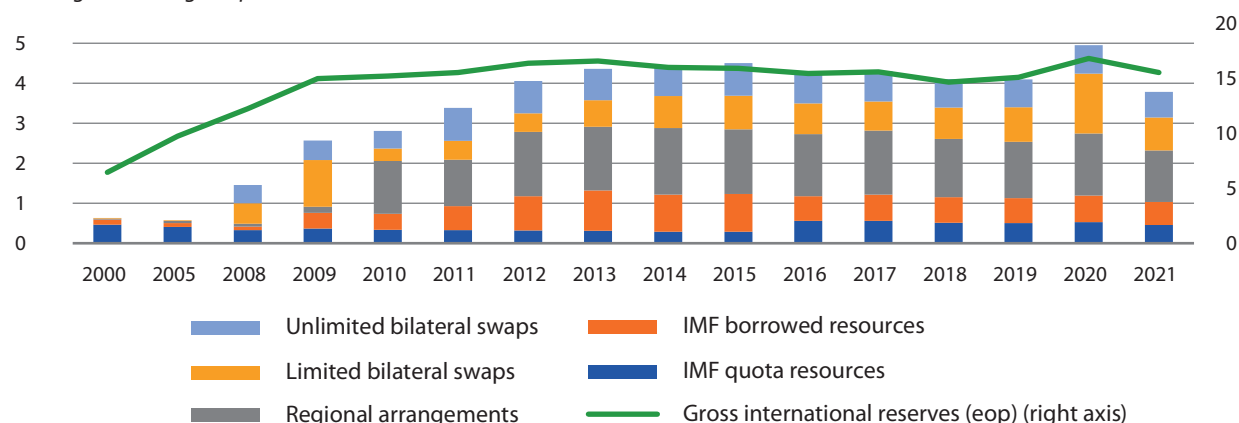
**The global financial safety net is meant to support short-term liquidity needs for countries in balance of payments crises, which may be triggered or exacerbated by capital flow volatility.** With the IMF at its centre, the global financial safety net also includes regional financing arrangements, bilateral swap arrangements and countries’ own foreign exchange reserves. The safety net has grown in volume since the 2008 world financial and economic crisis (see figure III.F.1) but has remained relatively steady since 2012. Foreign exchange reserves have fluctuated at around 15 per cent of world gross product, while institutional mechanisms for liquidity provision have remained in the range of 4–5 per cent of world gross product. While countries have accessed all four layers of the global financial safety net, the recent crises have exposed gaps and revealed uneven access.

**The COVID-19 pandemic offered the first test of the expanded global financial safety net, which provided emergency support to countries suffering from its impacts.** The historic \$650 billion allocation of IMF SDRs in August 2021 increased countries’ reserves, enabling some to draw down reserves for emergency finance. Countries also accessed IMF lending and, to a much lesser extent, regional financial arrangements. The World Bank mounted a large countercyclical lending response (see chapter III.C). Central banks instituted or expanded many bilateral swap lines in 2020, accounting for the lion’s share in the increase of the overall safety net seen in that year. Each layer of the safety net performed differently in the COVID-19 era, and lessons can be learned to strengthen the permanent international financial safety net as committed in the Addis Ababa Action Agenda. Amid tightening global financial conditions, burgeoning debt levels and a deteriorating economic outlook for some countries (see chapters I and III.E), more countries are expected to require support from the safety net going forward. The safety net was subsequently called upon to assist countries to address the food, fuel and finance crises sparked by the war in Ukraine.

#### 2.1.1 Special drawing rights

**SDR allocations were helpful to developing countries during 2021 and 2022, with active use of their holdings despite their small share of the allocation.** The new allocation of SDRs in August 2021 helped to bridge some of the gaps in the global financial safety net.

Figure III.F.1  
**Size of global financial safety net, 2000–2021**  
 (Percentage of world gross product)



Source: IMF.

**Note:** Two-way arrangements are counted only once. Unlimited bilateral swap lines are among major developed country central banks and valued based on estimates of known past usage, following the methodology in Denbee et al. (2016, Bank of England Financial Stability Paper). Limited bilateral swaps include all arrangements with an explicit amount limit. Regional arrangements are based on explicit lending capacity/limit where available, committed resources, or estimated lending capacity based on country access limits and paid-in capital. IMF borrowed resources excludes prudential balances. IMF quota includes countries in the Financial Transaction Plan (FTP) after deducting prudential balance.

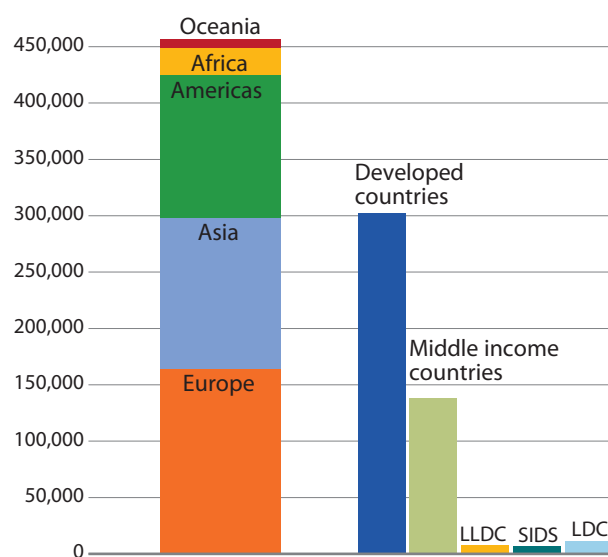
It provided member countries with unconditional liquidity, allowing them to boost their international reserves. The mechanism for allocating SDRs in proportion to countries' quota shares at the IMF meant that developing countries received only about one third of the 2021 allocation (see figure III.F.2). The proportion going to countries most in need was even smaller. Countries actively made use of the new allocations through 2022. Figure III.F.3 shows aggregate SDR holdings by country groups as a percentage of the total SDR allocation to that group at different points in time since the August 2021 allocation. Anything below 100 per cent indicates that SDR holdings were exchanged for other currencies, with countries in the least developed country (LDC) and landlocked developing country (LLDC) groups being the heaviest users of their SDRs.

**Exchanging SDRs for other currencies carries a cost for any country, and that cost has been rising along with tightening global liquidity.** While the exchange of SDRs for other currencies is not considered debt creating, countries are liable to pay (or entitled to receive) interest on the difference between their SDR holdings and their SDR allocations. This charge is based on the SDR interest rate which is a weighted average of the interest rates on the financial instruments of each component currency in the SDR basket. In 2021, the SDR interest rate was very low, but it moved from less than 0.1 per cent at the start of 2022 to almost 3 per cent at the end of that year. This resulted in significant increases in the charges applied to countries that exchanged their SDRs for hard currencies (see figure III.F.4).

**While both the G7 and G20 have called for a voluntary channelling of \$100 billion of unused SDRs, actual rechannelling has happened at a much slower pace.** As of November 2022, the G20 reported pledges of a total of \$81.6 billion,<sup>2</sup> with rechannelling a fraction of that number. Rechannelling decisions must be made independently in each country subject to their own regulatory, policy and institutional arrangements. Rechannelled SDRs are primarily being used to finance the

IMF Poverty Reduction and Growth Trust (PRGT), which provides subsidy resources for loans to low-income and other vulnerable countries on concessional terms, and the IMF's new Resilience and Sustainability Trust (RST) (see below). By early November 2022, five countries had committed 8.6 billion SDRs to the RST under loan agreements, with countries transferring over 1.8 billion SDRs into the RST.<sup>3</sup>

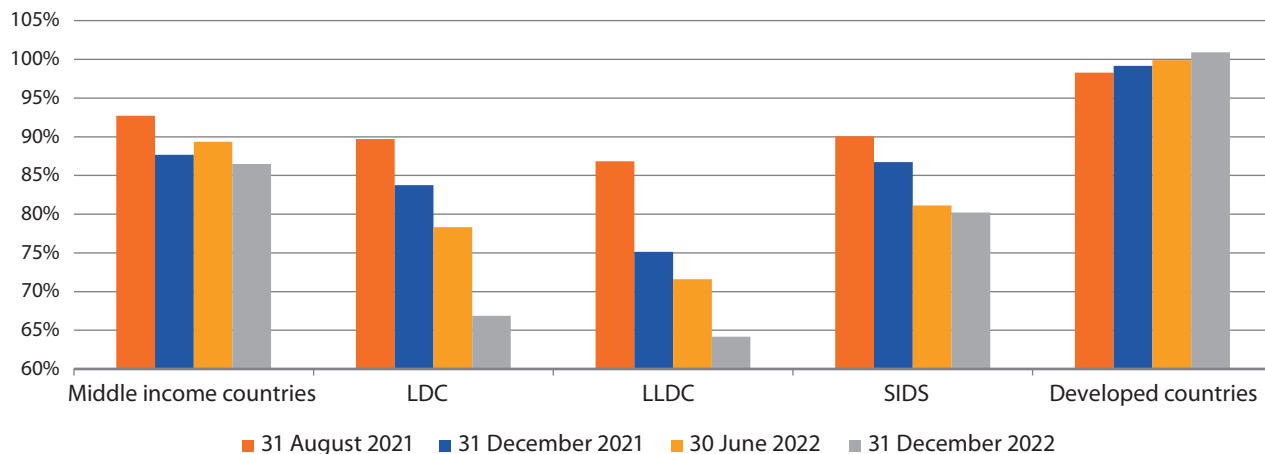
Figure III.F.2  
**Size of SDR allocation, by region and country group, 2021**  
 (Millions of SDRs)



Source: UN/DESA calculations based on IMF data.

**Note:** M49 geographic regions, country groupings landlocked developing countries (LLDC), small island developing States (SIDS), least developed countries (LDC).

Figure III.F.3  
**Holdings of SDRs as a percentage of total SDR allocation, 2021–2022**  
 (Percentage)



**Source:** UN/DESA calculations based on IMF data.  
**Note:** Aggregate spot holdings at the end of the day indicated.

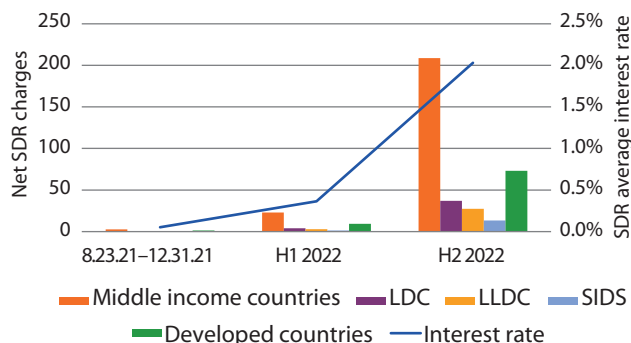
**Less progress has been made on rechanneling SDRs through multilateral and regional development banks.** Member States have acknowledged that another option is to channel SDRs through multilateral and regional development banks. Only IMF members and certain other designated institutions may hold SDRs, including four regional central banks, three intergovernmental monetary institutions and 13 development banks, five of which were recently authorized.<sup>4</sup> The African Development Bank (AfDB) has advanced the furthest, presenting to the IMF board a mechanism that allows countries to provide their SDRs as hybrid capital, which the bank would leverage to provide long-term financing.<sup>5</sup> The AfDB’s liquidity backstop, modelled on the PRGT/RST, seeks to maintain the reserve asset characteristics of SDRs by allowing lenders to redeem their loan in case of balance of payments issues.

**Proposals on a greater role for SDRs in addressing systemic risks could be analysed and discussed further.** Currently, the IMF Managing Director, with the agreement of the Executive Board, can recommend new allocations of SDRs, which must be approved by the IMF Board of Governors, made up of finance ministers and central bank heads from IMF members. SDR allocations can be made if there is a long-term global need to supplement existing reserve assets. For SDRs to contribute more broadly to the smooth functioning and stability of the international monetary system would require revisions to the IMF Articles of Agreement.<sup>6</sup>

2.1.2 IMF financing mechanisms

**At the centre of the global financial safety net, the IMF increased emergency lending in 2021 and 2022.** The IMF agreed to 20 arrangements with countries in 2021 worth 47.5 billion SDRs (\$63.7 billion), and 21 arrangements in 2022 worth 66.3 billion SDRs (\$88.8 billion). IMF lending disbursements in 2021 totalled 9.2 billion SDRs (\$12.4 billion), while in 2022 they rose to 27.3 billion SDRs (\$36.6 billion). Of that total, concessional lending disbursements were \$4.0 billion in 2021 and \$2.7 billion in 2022. Disbursements are lower than commitments because lending arrangements can last several years, some countries do not draw down the fully agreed amount, and some arrangements are precautionary. The IMF has a number of lending facilities and in the previous two years most non-concessional disbursements have been under the Extended Fund Facility and concessional disbursements under the Extended Credit Facility—a pair of facilities that are designed for lending over the medium term of three to four years. The IMF implemented several short-term measures, including to increase access limits and temporarily streamline approval processes. From January 2022, cumulative access limits were reduced to their pre-pandemic levels for most facilities.<sup>7</sup> The IMF reported a forward commitment capacity of 156 billion SDRs (\$207.7 billion) at the end of 2022, as well as having the ability to borrow more than \$500 billion from its members through unactivated borrowing arrangements.<sup>8</sup>

Figure III.F.4  
**Net SDR charges, by country groups, and average SDR interest rate, 2021–2022**  
 (Millions of SDRs, percentage)



**Source:** UN/DESA calculations based on IMF data.

**The IMF has created three new financing facilities over the last several years to help with short-term liquidity, food crisis support and resilience.** In April 2020, the IMF established a new short-term liquidity line (SLL) for countries with very strong policies and fundamentals—the first addition to the IMF financing toolkit in almost 10 years. Its unique design means that the IMF proactively offers an arrangement to countries under the SLL, rather than countries having to request it. The first offer of this instrument, in May 2022, was accepted by a large middle-income country for a three-month period. A spike in food prices has also prompted changes. Research has shown that 50 countries are facing food insecurity and terms of trade shocks, with the costs of addressing the impacts estimated at \$5 billion to \$10 billion.<sup>9</sup> In September 2022, the IMF Executive Board approved a new, time-bound, 12-month Food Shock Window under its rapid financing instruments.<sup>10</sup> The Food Shock Window provides resources for one year to member countries that have urgent balance of payments needs and meet a set of qualification criteria related to the global food shock as well as the standard qualification criteria under the rapid financing instruments. Four countries, including one major food exporter and three African countries, have already accessed emergency financing under the window, with other requests being considered.

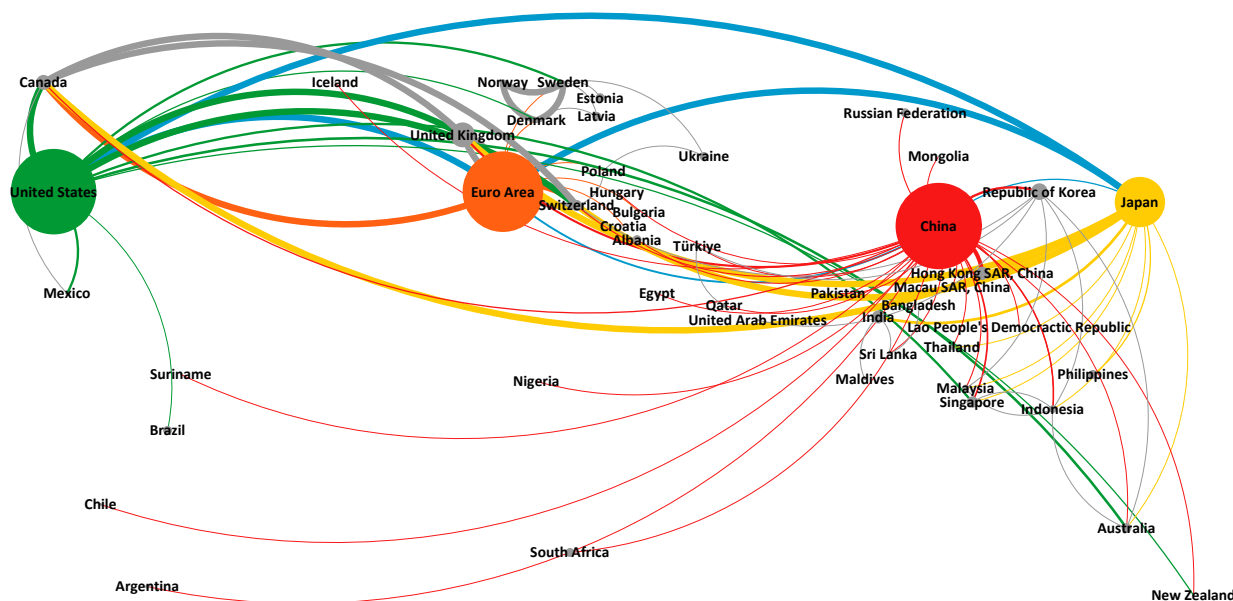
**The IMF Resilience and Sustainability Trust (RST) represents a new direction for the IMF as it provides longer-term lending than other IMF programmes.** The RST and its associated facility aims to help low-income and vulnerable middle-income countries build resilience to external shocks and ensure sustainable growth, contributing to their long-term balance of payments stability. About three quarters of the IMF’s country membership are eligible for the RST, including all the SIDS. The RST provides longer-term, affordable financing to support policy reforms that

reduce macroeconomic risks arising from longer-term structural challenges, including climate change and pandemic preparedness. It also increases policy space and financial buffers to mitigate prospective balance of payments risks. Arrangements have a 20-year maturity and a 10.5-year grace period during which no principal is repaid. The RST was operationalized in October 2022; by the end of 2022 it had received pledges to contribute resources of 29 billion SDRs (US\$37 billion) from 13 countries. There are 143 RST-eligible countries, and four programmes under the resilience and sustainability facility have already been agreed with a total amount of 1.9 billion SDRs (\$2.6 billion). To access RST funding, countries need to have a concurrent IMF-supported programme under another facility. The IMF staff coordinate with the World Bank, World Health Organization, regional MDBs and other relevant agencies to provide relevant subject matter expertise.

### 2.1.3 Bilateral swap arrangements

**Bilateral swap lines may have been effective at dampening the volatility of capital flows but they are not widely available to developing countries.** The global network of swap lines—voluntary currency exchange arrangements between countries’ central banks—has expanded dramatically since the 2008 world financial and economic crisis, when swap lines were opened amongst six developed country central banks (see figure III.F.1). Today there are over 90 swap lines in existence (see figure III.F.5), with both permanent ones and temporary ones opened during the COVID-19 pandemic.<sup>11</sup> Typically, swap lines are unconditional in nature, though most of them are limited in volume. There may be multiple motivations for signing swap lines, which could include reducing balance of payments pressures, alleviating pressure on exchange rates, or facilitating international trade. Available evidence indicates that

Figure III.F.5  
**Bilateral swap line networks, 2022**  
*(Scaled by volume)*



**Source:** UN/DESA based on IMF and the GFSN Tracker.  
**Note:** Color coded as – US: green, China: red, euro area: orange, Japan: yellow. Swap lines between these countries are blue. All other countries are gray. The size of each bubble represents the total amount of swap lines in U.S. dollar terms. Line thickness is scaled by the volume of bilateral swap line, unlimited bilateral swap lines are set at maximum thickness.



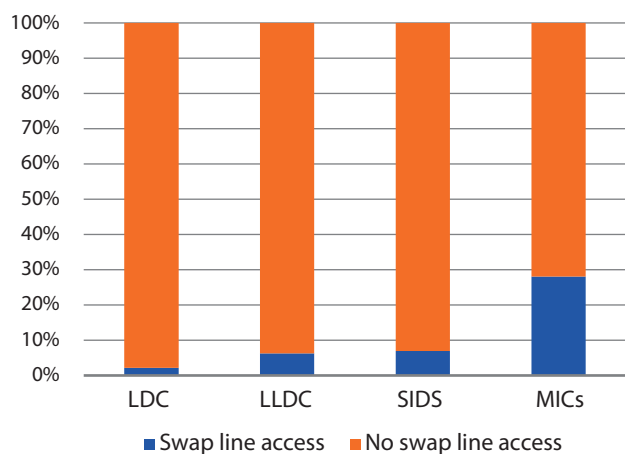
the existence of a swap line had no effect on interest rates or credit risk estimates before the pandemic but it seems to have helped countries to contain increases to sovereign borrowing risk premia after the onset of the pandemic.<sup>12</sup> Swap lines tend to be made available from major central banks to partners that have large financial or trade linkages,<sup>13</sup> which leaves many developing countries, particularly the poorest, out of the global network of swap arrangements (see figure III.F.6).

### 2.1.4 Regional financing arrangements

**Regional financing arrangements can play an important role in strengthening the global financial safety net but were relatively unused during the COVID-19 pandemic.** Developing countries have access to six regional financing arrangements with a combined lending power of \$1 trillion.<sup>14</sup> Between February 2020 and February 2023, regional arrangements disbursed \$9.9 billion to member countries, partly in combination with IMF programmes. More than one third of this was provided to a single country in Europe. This amount is small compared to bilateral currency swaps between central banks, which stand at more than \$1.5 trillion, and the IMF lending described above (see figure III.F.7). Some of the larger arrangements, notably the Chiang Mai Initiative Multilateralization (CMIM) and the Contingent Reserve Arrangement (CRA) of the New Development Bank, were not used at all. The relatively low mobilization from RFAs was consistent across both poorer and more developed countries.<sup>15</sup> Nonetheless, the quick disbursement of RFA loans provided fast and flexible relief for those countries that accessed them.

**Regional financing arrangements could be adjusted to provide more resources on better terms with more predictability.** Compared to bilateral swap arrangements, regional facilities are predictable and not decided based on historical, political, financial or trade linkages. Regional arrangements also give voice and representation to their member countries, most of which are not included in other multilateral forums such as the G20. During the pandemic, the most-used regional arrangements were those which did not require an IMF programme to be in place to

Figure III.F.6  
**Access to bilateral swap lines, by country groups, 2021**  
(Percentage of countries)



Source: UN/DESA calculations based on Perks et al 2021; central bank websites; and IMF staff estimates.

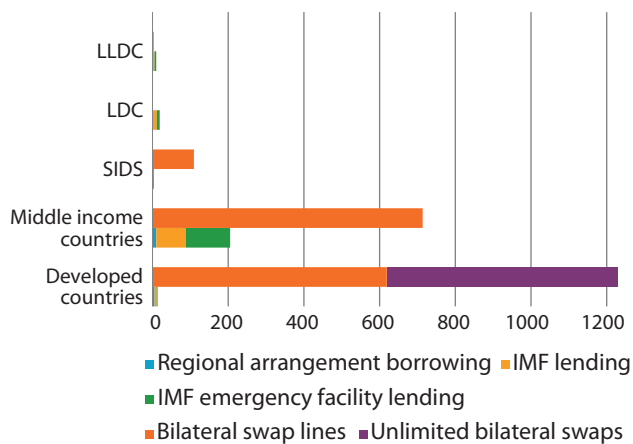
access funds.<sup>16</sup> Cooperation between regional financing arrangements and the IMF is essential to coordinate across layers of the safety net; formal linkages could be revised to give more autonomy to regional arrangement decisions. An expansion of their member base could help regional arrangements to further strengthen their role. For instance, the Latin American Reserve Fund (FLAR) recently introduced the new member category “associated central banks”, under which the Central Bank of Chile joined in February 2022.

### 2.2 Role of global reserve currencies

**Use of a national currency as the global reserve creates asymmetries during times of shock.** Global monetary policy conditions, including shocks, are transmitted from reserve issuing countries to the rest of the world—through interest rates, capital flows and asset prices—with the potential to create challenges to economic and financial stability.<sup>17</sup> Monetary policy spillovers affect developing countries regardless of exchange rate regime (see box III.F.1) and in times of crisis there is a flight to safety among international investors, who rush to hold reserve-issuing country assets.

**The United States dollar remains the pre-eminent global reserve currency and has the central role in the financial system as the currency vehicle for most international financial transactions.** The dollar has retained an over 80 per cent share of over-the-counter foreign exchange transactions since 1998, when the data survey of such transactions began (see figure III.F.8). For exchange traded derivatives, it has an almost 99 per cent share.<sup>18</sup> While the share of the dollar in official foreign exchange reserves has declined from its peak in 2001, it remains at about 60 per cent of the known allocations (see figure III.F.9).

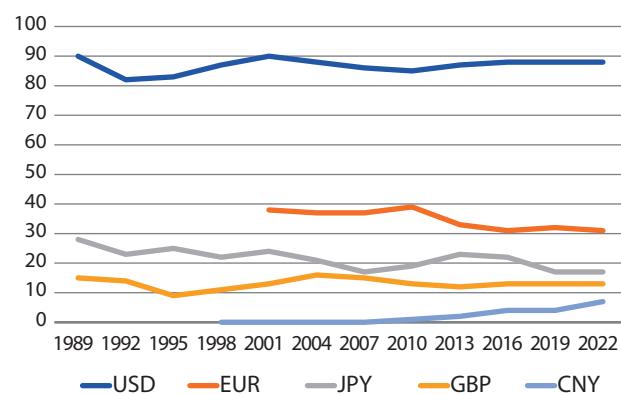
Figure III.F.7  
**Use of the global financial safety net, 2020–2022**  
(Billions of United States dollars)



Source: GFSN Tracker; IMF.

**Note:** Bilateral swap lines are listed according to their limit rather than actual usage, and are not directly comparable to IMF and regional arrangement lending. Bilateral swaps between two developing economies and swaps between two developed countries are counted for both countries. Bilateral swaps between developing and developed countries are counted once on the side of the developing country. Swaps of other developing countries with China are also only counted once. Unlimited bilateral swaps are valued based on estimates of known past usage, as described in the note to figure 1.

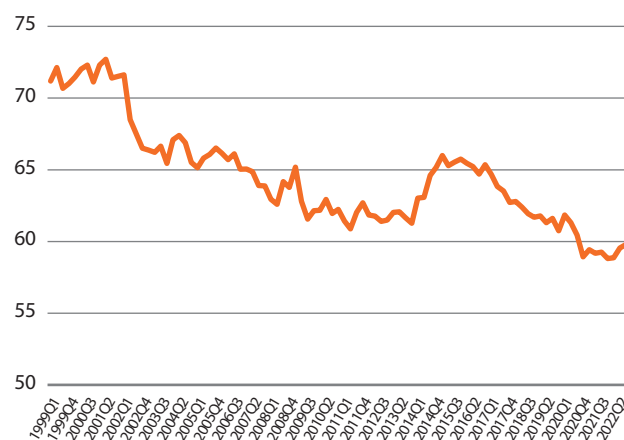
Figure III.F.8  
**Turnover of over-the-counter foreign exchange instruments, by currency, 1989–2022**  
 (Percentage)



Source: BIS.

**The dollar is likely to retain its role as the major vehicle currency for the immediate future because of the depth and liquidity of US dollar markets.** The world's capital markets are deep and highly integrated and cross-currency capital movements combine huge scale with high mobility. United States dollar-denominated securities markets are the deepest and most liquid, which allows any financial market actor to store large amounts of funds at lower risk than in other currencies. Central banks that want to minimize the impact of cross-currency capital movements on their domestic currencies, keep in reserve financial securities that: (i) have a large and safe value storage capacity, (ii) are available in abundance, and thus (iii) are highly liquid. No other financial securities and no other financial instruments, including crypto and digital currencies, can match United States Treasuries in these criteria.<sup>19</sup>

Figure III.F.9  
**Share of United States dollars in official reserves, 1999–2022**  
 (Percentage)



Source: IMF.

### The need to hold reserves creates costs for developing countries.

Developing countries have built up international reserves as a form of self-insurance against capital flows and exchange rate volatility, reducing the risk of balance of payments crises. However, these benefits are weighed against the costs, as foreign currency reserve accumulation has an opportunity cost of foregone domestic investment, when reserves could have been invested into productive capacity and infrastructure at much higher financial returns and with greater positive social and environmental impacts. Additionally, when countries accumulate reserves, they often do so by selling local currency to buy foreign securities, thus increasing the domestic money supply. To mitigate the inflationary impact of this, central banks might “sterilize” the foreign exchange accumulation by buying back the currency, pushing up domestic interest rates. Making the global financial safety net more reliable can provide benefits by reducing the desire to hold foreign exchange reserves. Regional monetary cooperation could be designed to refinance and promote intraregional trade and develop intraregional value chains, particularly with local currency invoicing arrangements and regional payments systems. These systems could be created or enhanced through the strengthened monetary cooperation that is burgeoning as a result of experimentation with CBDCs and their potential interchange (see section 5).

## 2.3 Managing capital flow volatility

### Private capital markets promulgate volatile international capital flows which complicate macroeconomic management.

Theoretically, resources should flow to countries and sectors where capital is scarce and returns, adjusted for risk, are high, thus providing the resources necessary for development. However, capital has not always flowed to areas where returns are greatest for a host of reasons, including skewed incentives, short-termism and risk-aversion. Volatile boom-bust patterns of capital flows have led to instability in the real economy and made macroeconomic policy management more challenging.<sup>20</sup> As discussed in chapter I, the past year has seen periods of strong capital inflows and outflows from developing countries. Capital flows, especially portfolio investment in debt and equity markets, also trigger exchange rate movements as investors repatriate funds, or redeploy them to other markets. The increased volume of gross capital flows is reflected in the increasing share of developing country currencies in all currency transactions (see figure III.F.10). Downside risks to portfolio flows remain elevated compared to historical norms amid persistent dollar strength, market volatility and heightened uncertainty about the economic and political outlook.<sup>21</sup>

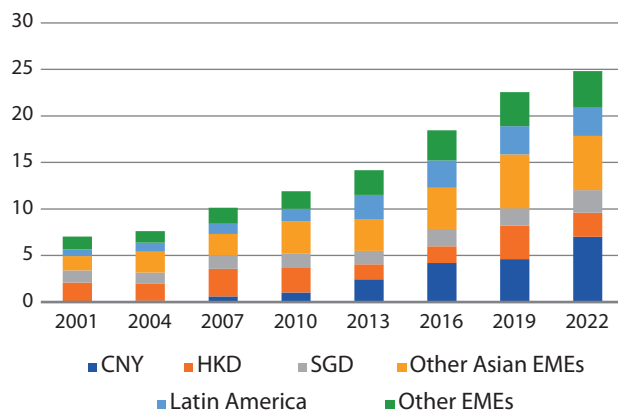
**A suite of policy tools can be used to address volatility by both source and destination countries.** At the start of the COVID-19 crisis, more countries than in the past were able to deploy countercyclical monetary policies, including interest rate cuts and, in some cases, quantitative easing, foreign exchange interventions, easing of macroprudential regulations, and capital flow management measures.<sup>22</sup> Countries should be able to draw on the full range of tools—monetary and fiscal policies, exchange rate policies, including foreign exchange intervention, macroprudential measures, capital flow management measures and others—at their disposal to mitigate the impacts of volatile international capital flows. The IMF institutional view (see below) holds that capital flow management measures should not substitute for warranted

macroeconomic adjustment and should be phased out once the high level of capital flow volatility (inflow surges or disruptive outflows) has abated. International coordination and transparent forward guidance on monetary policy decisions in source countries for capital flows are important to help reduce negative spillovers. Source countries should also continue efforts to enhance financial stability and incentives for long-term sustainable investment, which could reduce cross-border capital flow volatility. Following integrated policy frameworks, developed by the IMF, can help countries to determine the best policy mix and could be implemented as part of broader integrated national financing frameworks or other national planning systems.

Figure III.F.10

### Share of developing country currencies in global foreign exchange turnover, 2001–2022

(Percentage)



Source: BIS.

Note: CNY = Chinese yuan, HKD = Hong Kong dollar, SGD = Singapore dollar, EME = emerging market economy.

#### Box III.F.1

### Are all emerging markets susceptible to US monetary policy spillovers?

Countries with flexible exchange rate regimes may be better insulated from US monetary policy spillovers as they do not need to maintain a peg against the US dollar and can therefore pursue an independent monetary policy.<sup>a</sup> Countries with fixed exchange rates, on the other hand, need to follow the United States Federal Reserve's decisions almost mechanically to avoid large swings in cross-border capital flows. However, a growing body of research has shown that even a floating exchange rate regime may not afford countries complete monetary sovereignty. This could be because shifts in US monetary policy are the primary drivers of the global financial cycle, which affects monetary conditions in all economies irrespective of their exchange rate regimes. In addition, countries, concerned about the contractionary effects of a currency depreciation following US tightening, may want to raise policy rates to prevent a substantial weakening of their currencies. They can also raise rates to tame inflation, which could be on the rise if there is

**The IMF now recognizes that pre-emptive capital inflow management measures, which are also macroprudential measures, may be appropriate in certain circumstances.** In March 2022, the IMF completed a review of its 2012 institutional view on capital flows. The review recognized the potential role of measures that combine elements of both capital flow management and macroprudential measures for reducing systemic financial risk from currency mismatches, such as limits on or taxation of banks' foreign currency exposures, which limit the build-up of financial vulnerabilities by reducing capital inflows in relevant sectors. As a result, new IMF guidance sees a role for pre-emptive measures to reduce systemic risk not only when capital inflows surge but also at other times.<sup>23</sup> This is in line with Member States' recognition in the Addis Ababa Action Agenda of the potential role of capital flow management.

## 3. Financial market regulation for sustainable development

**Systems for financial regulation have dramatically improved coverage of systemic risks since 2008 but parts of the financial system are not subject to this regulation, and efforts on integrating climate and other environmental risks are only just beginning.**

Implementation of the reforms to banking regulation and supervision agreed by the G20 after the 2008 world financial and economic crisis is nearly complete, with implementation of most of the final reforms to the Basel III capital adequacy standards for regulated banks planned to take effect from January 2023.<sup>24</sup> However, with a worsening climate emergency and biodiversity crisis, public authorities are developing rules for addressing non-financial and non-economic risks such as climate change. In addition, the regulatory systems for non-bank financial intermediaries (NBFIs) leave many systemic risks ineffectively addressed. Policies on both of these agendas may not yet be strong enough to guide the financial system towards desired economic, social and environmental outcomes.

high exchange-rate pass-through to domestic prices, and inflation expectations are not well anchored.<sup>b</sup> Reluctance to allow exchange rates to fluctuate ("fear of floating") on the part of policy authorities may be a useful policy response and can justify policy choices such as foreign exchange rate interventions.<sup>c</sup>

<sup>a</sup> For example, see Obstfeld, Maurice, Jonathan D. Ostry, and Mahvash S. Qureshi, 2019, "A Tie That Binds: Revisiting the Trilemma in Emerging Market Economies," *The Review of Economics and Statistics*, 101(2): 279–293.

<sup>b</sup> For example, on the global financial cycle please see Rey, Hélène, 2015, "Dilemma not Trilemma: The Global Financial Cycle and Monetary Policy Independence", Working Paper 21162, National Bureau of Economic Research. On contractionary devaluations see Auclert, Adrien, Matthew Rognlie, Martin Souchier, and Ludwig Straub, 2021, "Exchange Rates and Monetary Policy with Heterogeneous Agents: Sizing Up the Real Income Channel", Working Paper 28872, National Bureau of Economic Research. On the effect of poorly anchored inflation expectations along with other vulnerabilities (private balance sheets with high currency mismatch) see Ahmed, Shaghil, Ozge Akin, and Albert Queraltó, 2021, "U.S. Monetary Policy Spillovers to Emerging Markets: Both Shocks and Vulnerabilities Matter", International Finance Discussion Paper 1321, Board of Governors of the Federal Reserve System. For more on the link between policy rates in the US and emerging markets see Huertas, Gonzalo, 2022, "Why Follow the Fed? Monetary Policy in Times of US Tightening", forthcoming IMF Working Paper.

<sup>c</sup> Basu et al, 2020, "A Conceptual Model for the Integrated Policy Framework", IMF WP/20/121.

### 3.1 Addressing risks from non-bank financial intermediation

**The recent growth of NBFIs means that financial risks are increasingly being held outside of the banking sector.** NBFIs now hold almost half of global financial assets, up from 42 per cent in 2008 (see figure III.F.11).<sup>25</sup> NBFIs include money market funds, pension funds, hedge funds, mutual funds, insurers and vehicles for securitization, as well as financial technology (fintech) providers that act as financial intermediaries, among others. Many NBFIs such as money market funds are open-ended, allowing investors to withdraw their money with little or no notice, and can therefore be subject to runs. Some NBFIs, such as many hedge funds and structured financial products, make ample use of leverage to increase returns from their trading strategies, while others may have exposure to highly leveraged entities, for example through the leveraged loan market.

**NBFIs can transmit and amplify market shocks, which could precipitate a wider-scale financial crisis.** While NBFIs contribute to a diversified financing landscape, their vulnerabilities can amplify volatility and market stress, particularly through derivatives and leverage. Liquidity mismatches (for example when holdings of illiquid long-term investments are funded with short-term borrowings), currency mismatches and leverage are vulnerabilities associated with NBFIs.<sup>26</sup> In the event of a shock these can lead managers at NBFIs to sell assets to cover redemptions or margin calls.<sup>27</sup> These rapid spikes in demand for liquidity may be difficult for market intermediaries to absorb.<sup>28</sup> The increased importance of NBFIs to the real economy means that the rapid sell-offs, which may involve deleveraging, of these institutions are likely to be transmitted into the real economy, for example through reduced credit availability for non-financial businesses. Investment funds, a type of NBFIs, are the largest holders of cross-border claims, constituting the portfolio capital flows discussed earlier.<sup>29</sup>

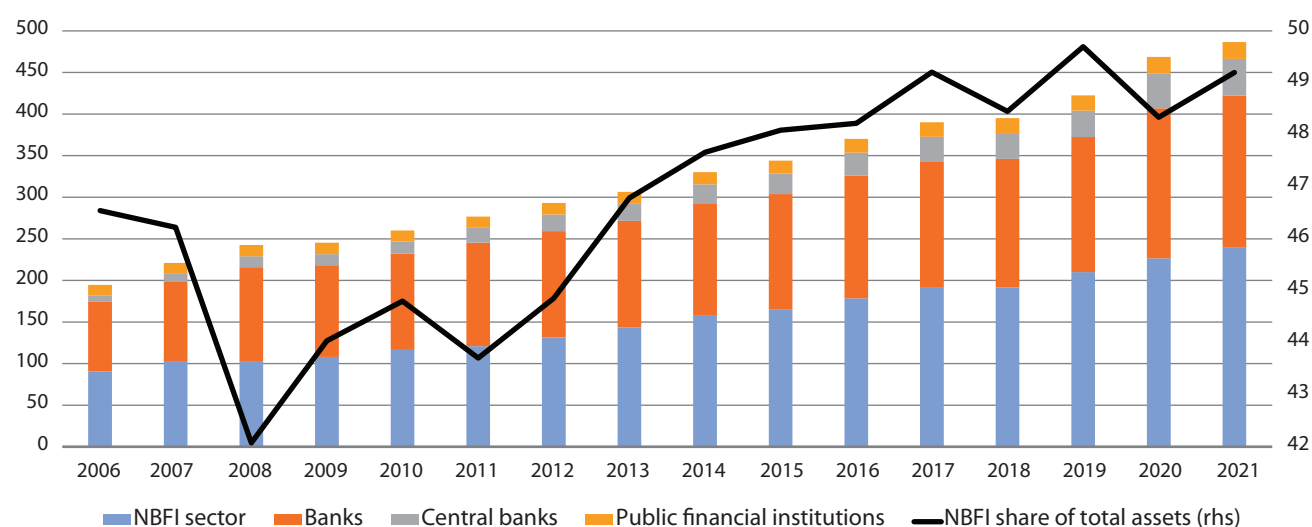
**Existing regulations on NBFIs have traditionally focused mostly on protection for investors rather than systemic risk.** Regulations on some of these entities include market conduct rules to ensure fair treatment for end users and microprudential rules focused on the stability of the entity, while failing to reflect the systemic dimension.<sup>30</sup> Other types of NBFIs lack even microprudential regulation, with rules mainly on market conduct, such as disclosure, fraud prevention and barring market manipulation. This stands in contrast to requirements for systemically important regulated banks, which now include measures to mitigate systemic risks such as capital surcharges and crisis management rules. The governance and internal incentive structures for NBFIs do not cover systemic risks.

**The growth in NBFIs investment flows to developing countries has created additional vulnerabilities, which materialized during the pandemic.** NBFIs played an increasing role in cross-border flows as both public and private entities shifted to tapping capital markets. This includes the growth in investment funds benchmarked to local currency bond indices in developing countries, which have risen fivefold since the mid-2000s to around \$300 billion.<sup>31</sup> Studies focusing on NBFIs' behaviour suggest that they tend to act more procyclically than banks, especially when it comes to cross-border activity.<sup>32</sup> In March 2020 amid a flight to safety at the start of the pandemic, developing country assets experienced large price declines. Sales by foreign investors resulted in large-scale capital outflows in some jurisdictions and contributed to local currency depreciation.<sup>33</sup> Sovereign rating downgrades may have added to the pressures, particularly when countries lost investment grade ratings, forcing sales by pension funds and other managers that are prohibited from holding assets below investment grade. Sovereign downgrades also affected the cost of borrowing for corporations located in those countries due to the sovereign ceiling on ratings.<sup>34</sup> The episode reinforces the need for policymakers in

Figure III.F.11

#### Total global financial assets, 2006–2021

(Trillions of United States dollars, percentage of total assets)



Source: FSB.

Note: Banks includes all deposit-taking corporations. The NBFI sector includes insurance corporations, pension funds, other financial intermediaries (particularly investment funds) and financial auxiliaries. Includes data from 21 jurisdictions plus entire euro area; data for Russia is only available through 2020.

developing countries to use the full policy toolbox to respond to volatile capital flows as appropriate, such as implementing measures to incentivize longer time horizons for investors. Regulators and supervisors overseeing NBFIs in developed countries generally have no mandate to address spillovers to other countries, though policies in source countries that impose appropriate regulation and supervision to address high leverage, or at least smooth deleveraging, could help to constrain volatility (see above).

**Regulatory authorities are working together to change international standards to address the growing risk from the growth in size of NBFIs.** As standards are translated into regulations on NBFIs, they should aim to better align incentives with stability goals. The main focus of the proposals being developed at the Financial Stability Board and the International Organization of Securities Commissions is to reduce excessive spikes in the demand for liquidity by addressing the vulnerabilities that drive those spikes (e.g., by reducing liquidity mismatches or the build-up of leverage) or by mitigating their impact on financial stability (e.g., by ensuring that redeeming investors pay the cost of liquidity and by enhancing the liquidity preparedness of market participants to meet margin calls). Some countries are considering providing access to central bank liquidity for some NBFIs; however, such access should come coupled with the creation of an appropriate regulatory framework for those institutions to manage risks, ensure a level playing field with banks and prevent regulatory arbitrage.

### 3.2 Addressing climate and nature-related risks and greening the financial system

**Climate-related and nature-related risks can impact asset values and financial performance and threaten financial stability, necessitating systemic regulatory and supervisory responses.** Climate change impacts the entire financial system and needs to be addressed with a consistent global approach to assess, manage and mitigate the resulting financial vulnerabilities, which some call “climate-related financial risks”.<sup>35</sup> While individual financial institutions are increasingly recognizing environmental and climate related risks, these are not necessarily being fully incorporated into decision-making and risk management frameworks. Similar to other exogenous shocks, embedding climate-related risks in risk management frameworks is difficult because of the forward-looking nature of shocks, amongst other reasons. A system-wide perspective should be applied to understand: (1) physical risks as well as risks associated with transitioning to a low-carbon economy<sup>36</sup> at the national level, and (2) the transmission and amplification channels for how these risks can spill over across sectors or borders. Most private financial institutions have also not yet incorporated environmental sustainability concerns into their internal governance structures that set incentives for staff. To help guide policymakers, the World Bank has developed a framework that provides a range of practical approaches that authorities can take to promote green finance and manage climate-related and environmental risks (see figure III.F.12).<sup>37</sup> Financial policymakers should have a good understanding of specific local barriers and climate risks related to green finance in order to prioritize and tailor policy actions to local contexts.

**Standard setters for regulated banks are advancing principles for how regulation can address climate risks.** The Basel Committee on Banking Supervision (BCBS) has agreed to 18 high-level principles for how

regulators and supervisors should improve risk management and supervisory practices of climate-related financial risks. The principles, which seek to accommodate banking systems at different levels of size and complexity, span the following topics: 1) corporate governance, 2) internal control frameworks, 3) capital and liquidity adequacy, 4) risk management process, 5) management monitoring and reporting, 6) comprehensive management of credit risk, 7) comprehensive management of market, liquidity, operational and other risks, and 8) scenario analysis. By issuing principles rather than standards, the BCBS is allowing flexibility in how national regulators act on climate-related financial risks.<sup>38</sup>

**Regulators are still considering how to adapt principles on climate risk into regulations for banks’ capital requirements.** The primary role of financial regulators is to ensure safety and soundness in the financial system. To address climate change, most of the focus to date has been on how climate change impacts financial returns (single materiality) and not on how the loan portfolios of banks impact climate change (or double materiality). Three approaches can be used to incorporate environmental issues into the capital requirements of regulated banks: (1) microprudential approaches based on how environmental risks impact a bank’s financial performance; (2) “weak” macroprudential approaches that address systemic risks linked to how specific sectors and geographic areas might impact the banking system more broadly; and (3) “strong” macroprudential approaches that explicitly consider feedback loops and double materiality.<sup>39</sup> In regard to microprudential approaches, regulators are debating whether to apply adjustment factors to capital requirements depending on the “greenness” or “environmental harmfulness” of an asset. While aligning regulatory requirements with underlying risks is critical, methodological challenges and data gaps hamper both the assessment of climate-related risks and the measurement of exposure to these risks in individual institutions. Many regulatory authorities have indicated that better assessments of potential losses for financial firms and the overall financial system are necessary to gauge more precisely the financial stability implications of climate risks and to inform policy decisions.<sup>40</sup> Regulators should build on existing voluntary transition planning by businesses<sup>41</sup> and require financial institutions to develop internal processes to evaluate the impact of climate risks on their solvency and include them in their internal capital adequacy process. A network of central banks and regulators has suggested the development of forward-looking assessments of climate-related and environmental risks based on climate change and policy scenarios.<sup>42</sup> Many central banks and other financial authorities have begun running such scenario analysis exercises.<sup>43</sup> Some national members have experimented in calculating default probabilities of specific sectors based on the scenarios, but no regulators or supervisors have yet changed capital requirements using this approach.<sup>44</sup>


**There is not yet a focus on how to address the impact of financial institutions’ activities on the environment.** Major central banks and supervisors have acknowledged that climate change and biodiversity loss are not only a source of risk for the financial performance of individual financial institutions; they could also have significant macroeconomic implications.<sup>45</sup> Banks, insurers and investors have signed onto voluntary commitments and statements (see chapter III.B), but turning this into action on a scale to address systemic risks will require government policies and regulations. Macroprudential regulation for both banks and NBFIs could help to incentivize the reallocation of finance away from

Figure III.F.12

**Toolkits for policymakers on greening the financial system**

A holistic approach to greening the financial system: toolkits for policymakers

Concrete actions for financial regulators, central banks and government authorities

Strategy	<b>Financial sector strategy</b> Ministries, financial sector authorities	<b>National climate/nature finance strategy</b> Ministries, NDFIs	<b>Institutional strategies</b> CB, financial regulator, supervisor		
Building capacity	<b>National platform</b> Ministries, CB, financial regulator, industry associations	<b>International networks</b> Ministries, CB, financial regulator	<b>FI net-zero transition plans</b> Ministries, financial regulator, industry associations		
Regulation & CB activities	<b>Climate &amp; environmental risk analysis</b> CB, financial regulator	<b>Supervisory tools &amp; actions</b> CB, financial regulator	<b>Supervisory guidance</b> CB, financial regulator		<b>Greening CB activities</b> CB
Transparency	<b>Disclosure and reporting</b> Ministries, CB, financial regulator	<b>Green/sustainable taxonomy</b> Ministries, CB, financial regulator	<b>Data provision</b> Ministries, data providers		
Green(ing) public FIs	<b>Greening NDFIs</b> Ministries, NDBs, other public FIs	<b>National green finance entity</b> Ministries	<b>Greening public guarantee schemes</b> Ministries		
Financial instruments	<b>Corporate labelled bonds</b> Financial regulator, industry associations	<b>Sovereign labelled bonds</b> Ministries	<b>Climate risk resilience products</b> Ministries, NDBs or other public FIs		<b>Green credit</b> Financial supervisor, regulator

**Source:** World Bank. 2021. Toolkits for Policymakers to Green the Financial System.

**Note:** CB = central banks, NDFIs = national development finance institutions; FI = financial institution.

environmentally harmful activities and towards transition finance.<sup>46</sup> Prudential supervisors should operate within their legal mandate, which is usually focused on promoting a safe and sound financial system. Where needed in the longer term to ensure a financial system compatible with the sustainable development agenda, policymakers may wish to consider the need to augment mandates without compromising financial stability.

**Improved corporate sustainability disclosure will be necessary.**

Better data on climate and SDG impacts is needed for financial intermediaries to incorporate these into decision-making, as well as for regulatory and supervisory bodies. Sustainability disclosure is most advanced with respect to climate, with 41 per cent of banks aligned with the voluntary guidelines of the Financial Stability Board's Task Force on Climate-related Financial Disclosures (TCFD), based on an assessment of their 2021 financial statements.<sup>47</sup> However, to report accurately on their underlying portfolios, they would need comparable data from all their borrowers. Several jurisdictions have begun to enforce mandatory climate-related risk disclosures in line with or based on the TCFD recommendations.<sup>48</sup> Some financial institutions, corporates and market service providers have also come together to set up a Task Force on Nature-Related Financial Disclosure, which has issued a nature-related risk management and disclosure beta framework.<sup>49</sup> The International Sustainability Standards Board (ISSB) under the IFRS Foundation is working to create a global baseline reporting standard with the goal of having final standards published by early 2023,<sup>50</sup> though again, these will be focused on the financial materiality of climate risks and not on the impact of the financial system on climate change (see chapter III.B).

**To the extent allowed by their mandates, central banks, regulators and supervisors could support just transitions and include social impacts.** If allowed by their legal frameworks, authorities could go further than microprudential or even macroprudential approaches, to include social considerations. Economic transitions to address climate change will have distributional implications, creating inequalities based on sector or geography. There is a two-way interaction between inequality and economic downturns, which has implications for monetary policies.<sup>51</sup> Furthermore, inequality can impact financial stability, growth and employment.<sup>52</sup> Thus, macroeconomic and financial regulatory policies geared to address climate change and the transition to net-zero may have positive or negative social implications, particularly for workers in polluting industries. Financial authorities, potentially as part of intragovernmental policy coordination, could consider the potential feedback loops between macroprudential policy, climate strategies, economic inequality and financial stability.

**Central banks are also increasingly addressing climate-related risks as part of their mandates on price and financial stability.**

Central banks face the same challenges as the private sector with regard to the lack of comprehensive, accurate and timely data (see chapter III.B). Central banks also vary in whether their mandates require (or even allow) them to incorporate sustainability issues into their activities. While most central bank mandates do not explicitly refer to sustainability, close to half of central banks worldwide have an indirect mandate to support the policy objectives of their respective governments.<sup>53</sup> Given that climate change will have effects on risks in the financial and economic system,

central banks should consider climate-related risks in their risk frameworks. As central banks develop their approach to climate risk assessment and incorporating sustainability into their operations, they should look at options related to credit policies, collateral policies and asset purchases.<sup>54</sup> For example, through their foreign reserve holdings, central banks may be exposed to climate-related physical and transition risks through their portfolios of sovereign and other assets.<sup>55</sup> In addition, many central banks use credit assessments by credit ratings agencies in their operational frameworks (e.g., asset purchase programmes and collateral frameworks) but the agencies vary in how they take on board climate risks in the ratings.<sup>56</sup>

## 4. Digital finance and digital currencies

**Rapid developments in digital financial technology, further accelerated by the pandemic, have transformed financial services.**

While creating new opportunities for efficiency gains and financial inclusion (see chapter III.G), the large-scale adoption of these technologies also creates new risks, including for financial stability and integrity. A new range of digital assets, including cryptoassets and so-called stablecoins, has proved especially volatile. Many central banks are also exploring the development of central bank digital currencies (CBDCs), in part to address these risks by offering a safer alternative.

### 4.1 Digital financial services

**Under a robust regulatory framework, fintech can contribute to financial inclusion and innovation and support efficiency gains, while maintaining financial stability.** Fintech can deliver increased transparency and access to information and enable risks to be more accurately assessed and better priced. Fintech innovations can support improvements in the business models of financial institutions, thereby contributing to the overall efficiency of the financial system and the real economy, for example by reducing remittance costs (see chapter III.G). The benefits of decentralization and diversification espoused by fintech could potentially also help to limit the contagion effects of financial shocks in some circumstances.

**Without strong regulatory frameworks, however, fintech can generate significant risks to financial stability.** In the absence of effective regulation, fintech will generate new risks or amplify existing ones. For example, increased transactional speed might exacerbate contagion and cross-border spillovers. Additionally, new technologies like blockchain can allow entities to set up operations in one jurisdiction and market their services globally, making domestically focused regulation and supervision more challenging. Decentralized Finance (DeFi) goes a step further: participants on a single application are often pseudonymous and could continue to operate without a headquarters. The use by regulated financial institutions of cloud computing provided by large technology firms, which are not regulated, has the potential to create operational risks that need to be well managed (see chapter III.G). The use of complex algorithms can lead to greater homogeneity in risk assessments and credit decisions and rising interconnectedness. Even regulatory responses such as creating new institutional arrangements like sandboxes can create financial stability risks if not designed and implemented correctly. While global standard-setting

bodies take a technology neutral approach to fintech regulation, there are limited standards governing the way certain activities are delivered by fintech. Authorities may need to address those technology-specific risks during the implementation of those global standards.

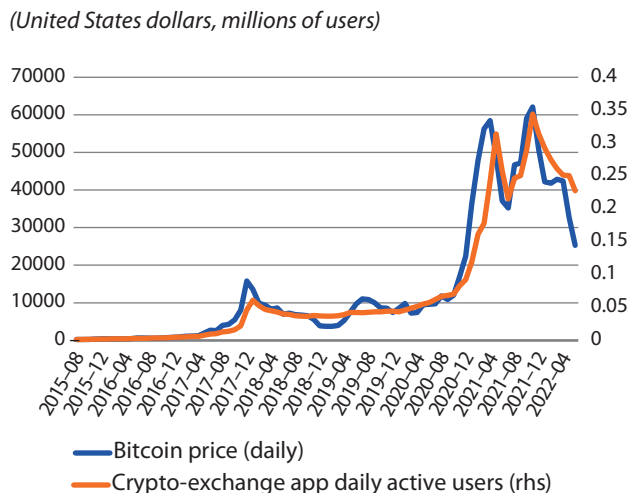
### 4.2 E-money, cryptoassets and stablecoins

**E-money has grown rapidly in many jurisdictions, delivering the benefits of financial inclusion and payments efficiency but also generating new risks.** E-money services have evolved in conjunction with the rapid growth in mobile networks and internet access. There are no tailored international standards for e-money providers, and regulatory practices are evolving on a country-by-country basis, reflecting local needs and constraints. E-money providers are typically required to match one-to-one the aggregate balance of their clients' e-wallets to a pool of liquid funds (generally bank deposits or short-term government debt) of at least equivalent value. Managing risks to financial stability is particularly important where e-money providers are large and provide specialized services for which there are limited alternatives, and where there is a high degree of interconnectedness between e-money providers and banks. Key areas of regulatory focus include taking an entity-based supervisory approach; segregation and safekeeping of funds; capital requirements; and internal controls, including operational resilience.<sup>57</sup>

**Cryptoassets have shown volatile growth and could generate financial stability risks in the future, while not yet showing benefits such as contributions to payments efficiency.** Cryptoassets such as bitcoin are privately issued virtual tokens, many of which are based on decentralized networks using distributed ledger (blockchain) technology. Large swings in valuation render cryptoassets unfit to fulfil the three main functions of currencies, i.e. to serve as a store of value, as a unit of account, and as a medium of exchange.<sup>58</sup> Total cryptoasset market capitalization fell from \$3.1 trillion in November 2021 to under \$1 trillion by early July 2022. While interest in cryptoassets and so-called stablecoins increased during most of 2021, the sharp drop in valuations in May 2022 was accompanied by many high-profile bankruptcies in the sector. Large drops in cryptoasset prices in 2022 coincided with rises in benchmark interest rates in most developed countries as well as reduced daily usage of the major crypto trading apps (see figure III.F.13), an indicator that crypto trading is driven by speculative activity rather than payments.<sup>59</sup> Analysis of blockchains also shows that peer-to-peer and small retail are a tiny percentage of overall transaction volume in all regions of the world.

**Cryptoassets also generate significant risks to market integrity, financial integrity and consumer protection.** The use of leverage, the operational failures of key cryptoasset service providers and a lack of cybersecurity on the part of many service providers has led to significant losses for some users. The largest losses are related to the collapse of cryptoasset exchange FTX in November 2022, with allegations of fraud and mismanagement. The opacity of the market, particularly regarding price formation, has led to market manipulation, including pump-and-dump schemes and rug pulls (when developers abandon projects but keep investors' funds), generating significant risks to market integrity.<sup>60</sup> The pseudo-anonymous nature of cryptoasset transactions also raises concerns with respect to increasing the risk of illicit financial flows (see chapter III.A). The high energy consumption required to process transactions on large blockchain networks such as bitcoin is also a challenge, with a large carbon

Figure III.F.13  
**Bitcoin price and crypto-exchange app daily active users, 2015–2022**  
 (United States dollars, millions of users)



Source: R. Auer et al.

Note: Cross-country monthly average of daily active users, calculated on a sample of more than 200 crypto-exchange apps over 95 countries.

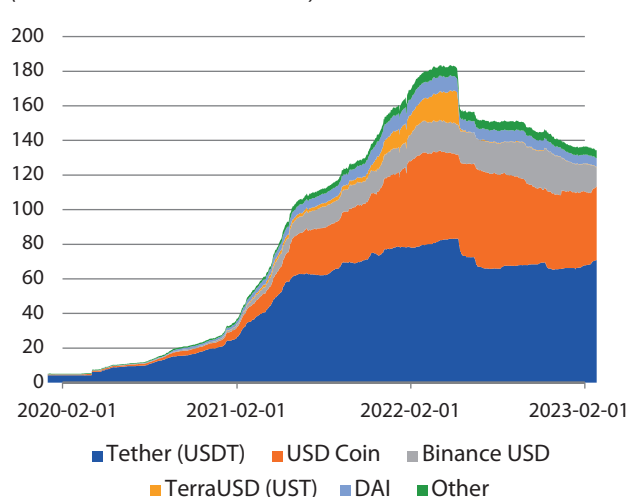
footprint associated with the energy used by the computers involved. The cross-border nature of cryptoassets makes them particularly challenging to regulate. Many cryptoasset service providers operate from one jurisdiction but market their services globally, which creates significant challenges for regulation and supervision.

#### Stablecoins also create financial stability risks, and widespread use may create challenges for macroeconomic management.

Stablecoins share many of the characteristics of cryptoassets, including their pseudo-anonymous nature. However, most existing stablecoin issuers promise (implicitly or explicitly) to maintain a stable value, typically relative to a single currency such as the US dollar. However, many of the existing stablecoins are issued by unregistered and unlicensed entities and do not have credible mechanisms to support their promise of price stability.<sup>61</sup> When stablecoin reserve compositions are complex, less liquid or opaque, there are heightened risks to consumers and markets and a greater possibility of risks to financial stability.<sup>62</sup> Most stablecoins are currently used for trading between cryptoassets and for conversion between cryptoassets and currencies. Despite their name, stablecoins can be vulnerable to runs when users lose trust and rush to redeem their holdings, generating bank run-like dynamics. This occurred in May 2022, when a loss of trust led to the collapse of the algorithmic stablecoin TerraUSD, previously one of the top five stablecoins by market capitalization (see figure III.F.14).<sup>63</sup> Dollar-denominated stablecoins are growing in popularity in developing countries as a potential store of value and hedge against inflation and exchange rate volatility, raising the same macroeconomic risks of dollarization.<sup>64</sup> Alongside fiscal risks (see chapter III.A), widespread adoption of cryptoassets could undermine the effectiveness of monetary policy and allow the circumvention of capital flow management measures.<sup>65</sup>

**Cryptoassets, stablecoins, exchanges and related providers should be subject to regulatory standards proportionate to their economic function and risks, rather than their legal form.**

Figure III.F.14  
**Stablecoin market capitalization, 2020–2022**  
 (Billions of United States dollars)



Source: FSB, based on CoinGecko, CryptoCompare, Tether.

In October 2022, the Financial Stability Board issued a consultative document<sup>66</sup> that proposed a set of high-level recommendations for the regulation, supervision and oversight of cryptoasset activities and markets<sup>67</sup> and revised high-level recommendations for global stablecoins.<sup>68</sup> One of the key proposals is that authorities should apply effective regulation, supervision and oversight to cryptoasset activities and markets in line with the principle of “same activity, same risk, same regulation”, as this Task Force has called for in previous *Financing for Sustainable Development Reports*. This principle is already embedded in the July 2022 guidance issued jointly by the Committee on Payment and Market Infrastructures and IOSCO for how stablecoins should be able to access the payments system. It calls for stablecoin arrangements that have become systemically important and those that are intended to be used like money to meet the same principles as other payment infrastructures, in particular that final settlement should be provided on an intraday or real-time basis and that the issuer should have clear and direct lines of responsibility and accountability to real people for the operations.<sup>69</sup> The same principle underlies IMF guidance, which identifies nine elements for effective policies for cryptoassets, that when adopted would help policymakers to better mitigate the risks posed by cryptoassets while also harnessing the potential benefits of innovation. The elements are aligned with the Financial Stability Board standards but add additional guidance, including to safeguard monetary sovereignty and stability by not granting cryptoassets official currency or legal tender status.<sup>70</sup>

### 4.3 Central bank digital currencies

**Central banks worldwide are exploring digital currencies, which can be an alternative, safer way to address some of the issues highlighted by the interest in cryptoassets.** CBDCs could be designed to address financial inclusion concerns and the inefficiency of some payments systems, while eliminating the speculative investment element that dominates cryptoasset use. A retail CBDC is intended for use by the general



public; a wholesale CBDC is used for transactions between financial institutions. A recent survey found that 90 per cent of central banks were engaged in CBDC-related work, with 68 per cent considering it likely or possible that they would issue a retail CBDC within the next six years (see box III.F.2 for discussion on CBDCs in Asia and the Pacific).<sup>71</sup> Retail CBDCs have already been launched in several developing countries, with others in the pilot stage. Some of these operate like publicly issued e-money, with agents operating gateways and onboarding customers. To date, take-up has been lower than expected in some markets, with usage below 1 per cent in one case due to lack of awareness, limited additional benefits for use and limited acceptance by merchants.<sup>72</sup> This parallels the experience of private sector payment innovations. For example, despite large marketing budgets and eight years of promotion, ApplePay is still only actively used by a very small share of consumers even though the majority of Apple phone owners have set up the service.<sup>73</sup>

**CBDCs are an opportunity to improve financial inclusion and address oligopolies in payment systems.** According to the BIS survey for developing countries, the main motivating factor for exploring retail CBDCs is improving financial inclusion. While CBDCs do not directly address some of the structural barriers to financial inclusion, they can provide open infrastructure, promote financial sector competition and build trust in the system.<sup>74</sup> For developed countries the main drivers for CBDC work are domestic payments efficiency, payments safety, monetary sovereignty and financial stability. Payment service markets are often marked by oligopoly due to network effects, resulting in rent-seeking and high service costs.<sup>75</sup> Emerging research shows that existing payment providers, dominated by the credit card industry, may exacerbate inequality.<sup>76</sup> Introducing a retail CBDC provides a competitive alternative that can reduce rents, improve competition and reduce costs.<sup>77</sup>

**While CBDCs can offer various benefits, there are also associated risks for national financial systems.** From a policy perspective, interest-bearing CBDCs may prompt many people to switch their savings from bank deposits to a CBDC, which could lead to financial instability if such financial disintermediation is sizeable. CBDCs could also exaggerate systemic bank runs because a digital flight to safety could occur at a significant scale and speed. From an operational perspective, examples of

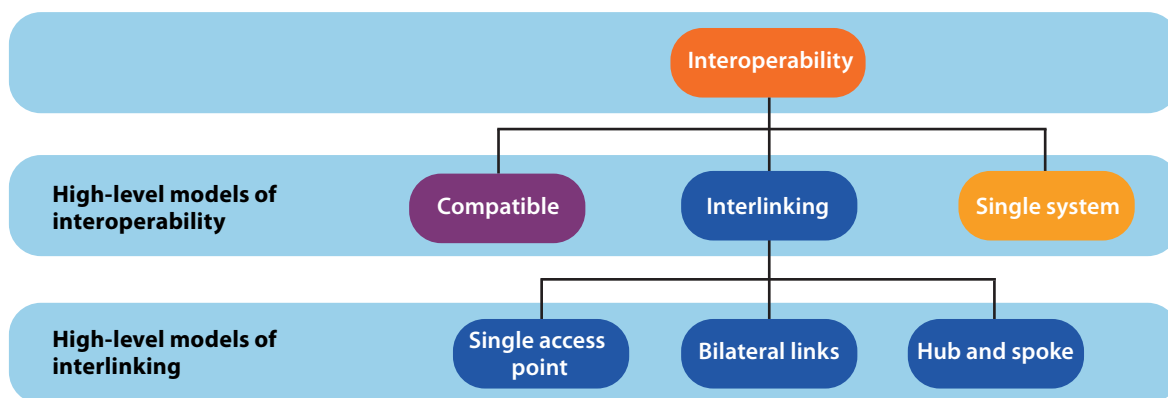
risks are fraud, cyberattacks and reputational and financial damage caused by outsourced firms.

**CBDCs can improve cross-border payment efficiency.** Interoperability between CBDCs in different jurisdictions could help to enhance cross-border payments. Currently, most cross-border payments use correspondent banking networks, which are slow, costly, untransparent and are experiencing declining linkages, potentially leaving some countries underserved and raising the cost of remittances (see chapter III.B).<sup>78</sup> Resolving the frictions requires legal, regulatory and technical changes which are difficult to graft onto existing payment systems. CBDCs provide a “clean slate” onto which design choices can ensure that CBDCs have efficient cross-border interoperability and cheaper means of implementing anti-money laundering controls. For CBDCs to enhance cross-border payments, jurisdictions working on a CBDC must take the cross-border functionality into account at an early stage to avoid unintended barriers later.<sup>79</sup> There are three high-level arrangements for interoperability: compatibility, interlinking, and single system, and three options for different types of interlinking (see figures III.F.15 and III.F.16). Compatible standards would be the easiest and least costly to implement, while interlinking and single systems would be more efficient but have higher costs and greater governance challenges.

**Cross-border access to CBDCs could also create new risks involving possible currency substitution and capital flow volatility.** If residents of one country were to adopt and use CBDCs from another country, this could create significant macroeconomic challenges similar to the impacts of dollarization. For this reason, most central banks are focusing CBDC interoperability on the wholesale segment. Regulatory guardrails might be needed even for wholesale CBDCs to prevent financial institutions from using CBDC interoperability to build up excessive foreign exchange positions. Design choices for retail CBDCs could help to mitigate some risks. For example, many retail CBDC prototypes are considering limits on aggregate balances and transaction size limits. Central banks should consider how to manage the potential trade-offs between efficiency gains for users and the systemic risks. This consideration should include the potential negative spillovers on other jurisdictions, which indicates the need for careful multilateral coordination before CBDC issuance in countries that issue reserve

Figure III.F.15

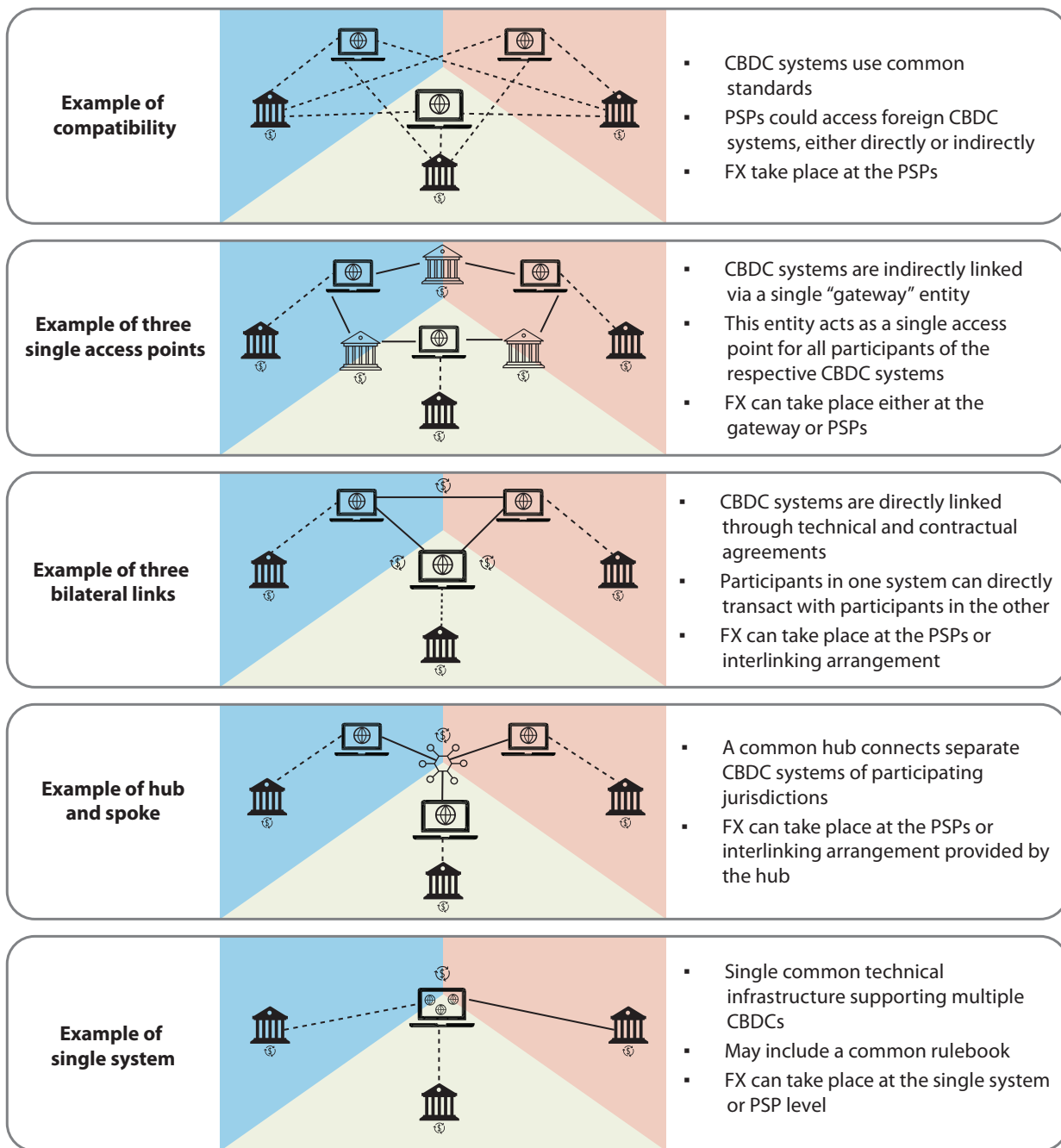
**High-level models of interoperability and interlinking of CBDC systems**



Source: BIS et al. 2022.

Figure III.F.16

Key features of interoperability and interlinking of CBDC systems



Jurisdiction A    Jurisdiction B    Jurisdiction C

Source: BIS et al. 2022.

**Box III.F.2**  
**Central bank digital currencies in Asia and the Pacific**

An increasing number of central banks in Asia and the Pacific are exploring the issuance of CBDCs. Currently, at least 30 central banks in the region are either in the research, proof of concept or pilot stage.<sup>b</sup> Central banks in countries such as Australia, China, India, Japan, Malaysia and Thailand are exploring more than one CBDC. In China, the central bank began pilot testing for the digital yuan in late 2019. As of end-August 2022, the digital yuan trial had reached almost \$14 billion in transaction value through 360 million transactions.<sup>c</sup>

Several Asia-Pacific central banks have established dedicated CBDC units.<sup>d</sup> The Bank of Korea has set up a new unit to work on CBDC research and technology as well as a task force to review the impacts of CBDC issuance on its mandates. Bank Indonesia has also formed a group to study CBDC technology. Meanwhile, CBDC work at the Monetary Authority of Singapore is supported by working groups comprising staff and representatives from the financial industry and blockchain ecosystem. The Fintech Facilitation Office within the Hong

Kong Monetary Authority coordinates a joint CBDC project with the Bank of Thailand.

Central banks in Asia and the Pacific need to be clear about their own objective(s) for issuing CBDCs and consider whether non-CBDC options could better meet those objectives. There are also considerations on operational issues, such as legal and governance frameworks and availability of relevant market infrastructure. In many Asia-Pacific economies, central bank laws still do not allow the issuance of currency in a digital format or individuals to open deposit accounts with the central bank. Central banks in less developed or smaller economies in Asia and the Pacific might benefit from multilateral cooperation in areas such as regional payment and settlement systems.

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- d See Bangko Sentral ng Pilipinas (BSP). 2021. *Central Bank Digital Currency for the BSP: Fundamentals and Strategies*. Manila.

currencies. In principle, technological tools make it possible to embed some capital flow management measures into the design of CBDCs, though this has not yet been tested in practice. This may allow central banks to strike a better balance between efficiency gains and risk reduction.<sup>80</sup>

## 5. Global governance and policy coherence

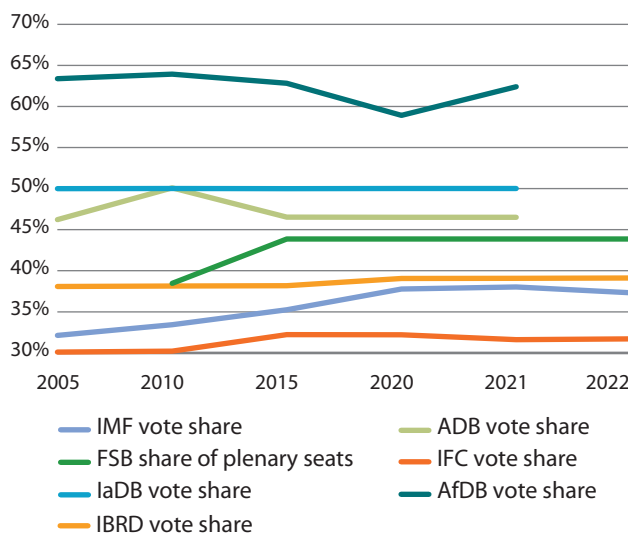
### 5.1 Governance at international institutions and standard-setting bodies

**The representation of developing countries in international financial institutions, regional development banks and standard-setting bodies has remained largely unchanged in recent years.** The Addis Ababa Action Agenda includes commitments to governance reforms in international bodies and to the open, transparent, gender-balanced and merit-based selection of the heads of international financial institutions. These commitments have since been frequently reiterated. Some improvements to voting rights can be seen between 2005 and 2015, especially at the IMF (see figure III.F.17). However, major developed countries continue to hold de facto veto powers in the decision-making bodies of these institutions. Several standard-setting bodies have seen declining representation of developing countries in their highest decision-making bodies (see figure III.F.18). Developed countries remain predominant, as most of these bodies were set up by the national regulatory and supervisory authorities in developed countries. The World Bank will choose a new president in the first half of 2023.

**An IMF quota review to be completed in 2023 provides an opportunity to meet the commitments in the Addis Agenda for greater representation of developing countries.** The ongoing IMF Sixteenth General Review of Quotas should be concluded no later than 15 December 2023. In 2019, when it was clear that the fifteenth general review would be

concluded with no agreement on changed quotas, the International Monetary and Financial Committee stated: “Any adjustment in quota shares would be expected to result in an increase in the quota shares of dynamic economies in line with their relative positions in the world economy and

Figure III.F.17  
**Representation of developing countries in international institutions, 2005–2022**  
(Percentage of voting rights or members)

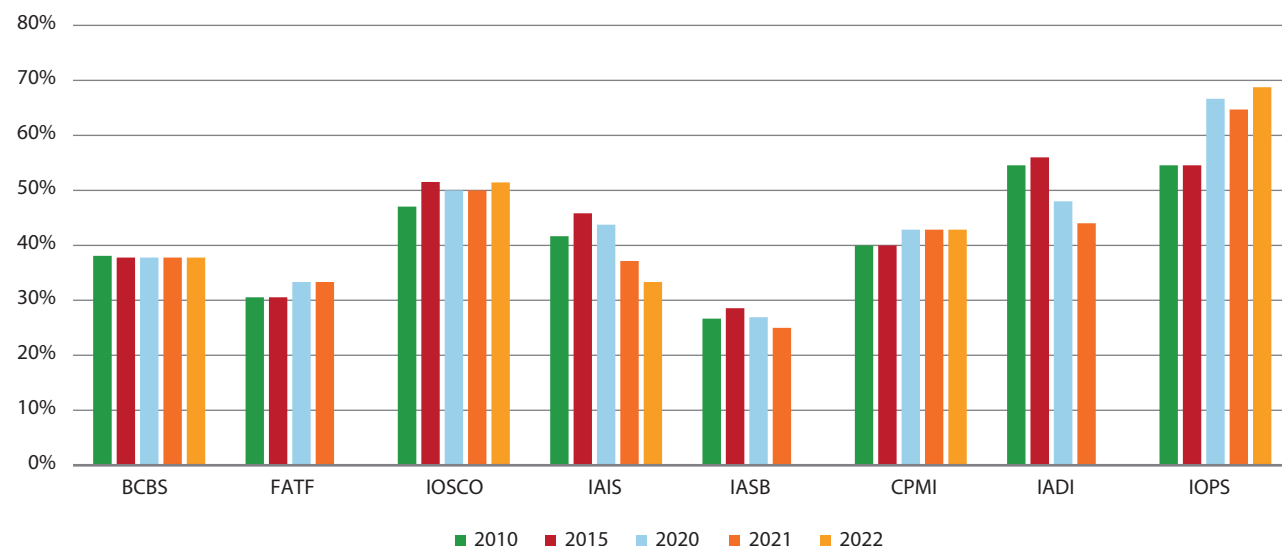


**Source:** UN/DESA.  
**Note:** The International Monetary Fund (IMF), International Bank for Reconstruction and Development (IBRD), International Finance Corporation (IFC), Asian Development Bank (ADB), African Development Bank (AfDB), Inter-American Development Bank (IADB) show the percentage of voting rights. The Financial Stability Board (FSB) does not have voting rights, and thus data shows the number of seats at the plenary. All data is categorized according to the historical M49 classification of developed and developing regions.

Figure III.F.18

**Representation of developing countries in standard-setting bodies, 2010–2022**

(Percentage of voting rights or members)

**Source:** UN/DESA.

**Note:** The main international SSBs include the Basel Committee on Banking Supervision (BCBS) for standards on banking regulation; the Financial Action Task Force (FATF) for standards on combating money laundering, terrorist financing and other related threats to the integrity of the international financial system; the International Organization of Securities Commissions (IOSCO) for standards on securities regulation; the International Association of Insurance Supervisors (IAIS) for standards on insurance industry regulation and supervision; the International Accounting Standards Board (IASB) for accounting standards; the Basel Committee on Payments and Market Infrastructures (CPMI) for standards on payment, clearing, settlement systems and related arrangements; the International Association for Deposit Insurers (IADI) for deposit insurance standards; and the International Organisation of Pensions Supervisors (IOPS) for pension regulation. Basel Committee on Banking Supervision (BCBS) had no developing country members in 2005; and IOSCO and IOPS do not have data before 2010.

hence likely in the share of emerging market and developing countries as a whole, while protecting the voice and representation of the poorest members.”<sup>81</sup> Following the major revision of voting rights in the International Development Association in 2021, the World Bank is now considering an evolution roadmap to adjust its mission and operational and financial model (see chapter III.C). Any agreed increases to the World Bank’s capital structure, such as called for under the United Nations Secretary-General’s proposed SDG Stimulus, also present an opportunity to adjust the governance of the institution to increase the voice of developing countries. A World Bank shareholding review was previously set to take place in 2025.

## 5.2 Improving coordination and policy coherence

**Institutional coordination has improved since 2015 but there are risks of global geoeconomic fragmentation.** The Addis Ababa Action Agenda broadened long-standing calls for increased coherence of the international financial, monetary and trading systems to cover a wider range of policy areas across all three dimensions of sustainable development. It also called on development finance institutions to align their business practices with the 2030 Agenda for Sustainable Development and the SDGs.

Enhancing coherence will require strengthened multilateralism and new forms of global cooperation which bring together different policy communities and give voice to the most vulnerable. This Task Force has already advanced institutional cooperation among international organizations. However, conflict and geopolitical rivalries are threatening the effectiveness of multilateralism.<sup>82</sup>

**The United Nations continues to provide a fully inclusive and legitimate forum for addressing global challenges.** It constitutes a body of governments that convenes with relevant stakeholders across multiple domains and is uniquely placed to move forward coherent reforms to the international architecture that enhance coordination and alignment with the SDGs. The United Nations Secretary-General has already published some proposals for systemic reforms to address a wide set of global challenges and is preparing a more comprehensive proposal for financial architecture reform. As the half-way point towards the 2030 Agenda, 2023 will be a critical year with the United Nations set to host the High-Level Dialogue on Financing for Development, a Climate Ambition Summit and an SDG Summit in September. These discussions will be opportunities to deliver on the ambitious structural reform agendas set out in this report.

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Science, technology, innovation  
and capacity building



## Chapter III.G



# Science, technology, innovation and capacity building

## 1. Key messages and recommendations

**Science, technology and innovation (STI) solutions have great potential to support progress on the Sustainable Development Goals (SDGs), including through promoting sustainable industrial transformation.** Sustainable industrial policies can be a useful strategic approach to building technological capabilities and directed structural change. To progress on these fronts, governments need to create an enabling domestic environment for firms to enhance absorptive capacities, including providing the necessary infrastructure and fostering an enabling policy environment. Economic incentives and support for firms are also crucial, including measures to support firms' access to finance as well as targeted incentives for specific technologies. The international environment, including intellectual property protection, also greatly influences a country's ability to build technological capabilities.

**While the adoption of new and emerging technologies can promote sustainable development, it has also given rise to new risks and policy challenges.** Governments need to be cognizant of recent technological trends and understand the different impacts these technologies can have on various segments of society. Increased digitalization has promoted greater efficiency gains, but it has also been associated with the broader trends of rising inequality and job polarization. While financial technology (fintech) has fostered financial inclusion, some innovations are generating risks to financial stability. In this context, institutions, policy and regulatory frameworks must keep pace with the rapidly evolving technological landscape.

**The energy crisis presents an opportunity to accelerate the sustainable energy transition.** In 2022, global spending on the energy transition rose to a new record, driven by the energy crisis and targeted policy support measures in a few large economies. Yet, current investments in sustainable energy sources remain insufficient to meet international climate goals. Most developing countries still face large shortfalls

in sustainable energy investments despite recent innovations in energy technologies and systems that are making it increasingly feasible to decouple economic progress from greenhouse gas emissions. There is a strong case for government policies to support the development and adoption of low-carbon and environmentally friendly technologies to catalyse the energy transformation. Stronger support from the international community and private sector are also needed to mobilize sufficient financial resources towards climate investments.

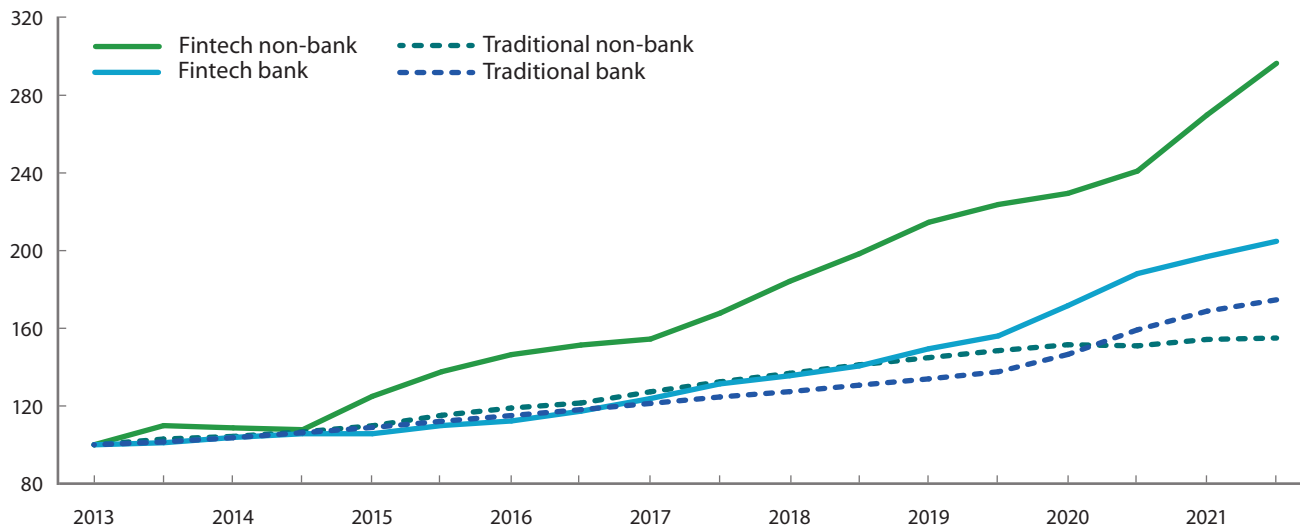
**The United Nations system has adopted multiple actions to boost the STI capacities of countries.** These actions include technical and financial support, knowledge and information-sharing, help with policy design, and norm and standard setting. The continued collaborative efforts of Member States, supported by the United Nations system, are needed not only to facilitate developing countries' adaptation of new technologies for sustainable development but also to align finance, investment and technology to enable countries to recover better from recent and ongoing crises.

## 2. Digital finance and financial inclusion

### *Trends in financial technology*

**Fintech has continued to evolve and diversify, creating new opportunities and policy challenges.** Fintech is increasingly disrupting the core financial services traditionally provided by banks and has gained stronger momentum following the COVID-19 pandemic.<sup>1</sup> In 2021, lending by non-bank fintech companies increased by 23 per cent, significantly outpacing lending by traditional banks and traditional non-banks, which grew by 10 per cent and 3 per cent, respectively (figure III.G.1). Fintech innovations are happening most rapidly

Figure III.G.1  
**Asset growth of fintech and traditional lenders**  
 (1H 2013=100)



Source: IMF Global Financial Stability Report April 2022.

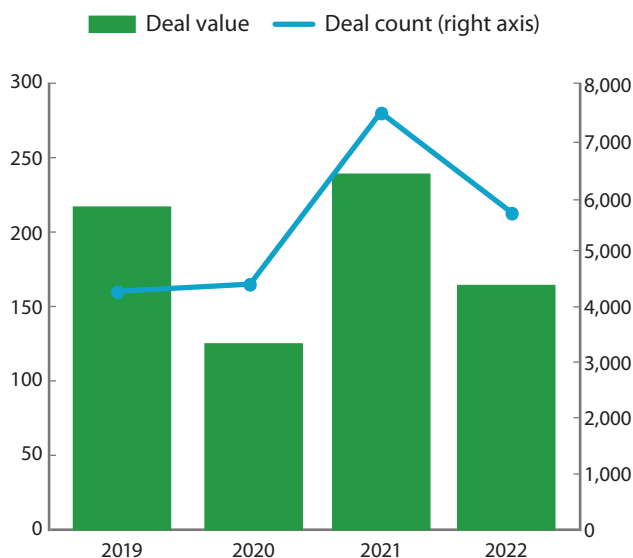
in the payments sector, enabled by policies such as open banking in developed countries. In developing countries, the expansion of large technology conglomerates (BigTech) into financial services has been more rapid and broad-based than in developed economies.

**Global fintech investment declined in 2022, but investors remained optimistic in several subsectors and regions.** Investment in fintech fell to \$164.1 billion in 2022, after reaching a record high of \$238.9 billion in 2021 (figure III.G.2). While the weak economic outlook and high uncertainty dampened investor sentiment, global fintech investment in 2022 was still the third highest in value and the second highest in deal volumes. Fintech investments declined in the Americas and in Europe, but rose further in the Asia-Pacific region, slightly surpassing its 2021 peak. Investments in the cryptoassets and blockchain space declined, amid sharp volatility in the crypto market and growing regulatory scrutiny in this area. In contrast, investment in regulatory technology (RegTech) grew by over 50 per cent, reaching a new high of \$18.6 billion in 2022. The rapid growth in RegTech reflects strong demand for technologies to manage ongoing regulatory changes, including in digital payments, crypto markets and environmental, social and governance (ESG) standards.

**Fast-growing fintech firms have the potential to further broaden access to financial services but are creating challenges for regulators.** The shift towards fintech lending has been accompanied by rapid growth in new, innovative financial services, including those that circumvent the financial intermediation chain such as peer-to-peer lending and decentralized finance. While these financial innovations can potentially help to increase the efficiency, inclusivity and affordability of financial services, they have also given rise to systemic risks with implications on financial stability (see chapter III.F). For example, decentralized finance—a crypto-based financial network that is often highly leveraged—is susceptible to market, liquidity and cyber risks.<sup>2</sup> Furthermore,

the linkages between fintech companies and traditional banks also pose challenges in the form of regulatory arbitrage and contagion. Growth in digital financial services has exacerbated risks from cyber incidents, data protection and privacy breaches, digital fraud and new forms of financial exclusion. Many jurisdictions still lack regulations on such risks carried by new technologies.<sup>3</sup> In some developing countries, mobile money platforms have become systemically important, with great divergence in regulatory protection between jurisdictions.<sup>4</sup>

Figure III.G.2  
**Global fintech investment**  
 (Billions of United States dollars) (Number of deals)



Source: KPMG. 2023. Pulse of Fintech H2'22.

**The growing presence of BigTech in financial services has the potential to further deepen financial inclusion but could generate financial stability risks.** BigTech platforms have a unique business model that is often based on the exploitation of network externalities, leveraging the extensive use of customers' data across business lines. This can lead to benefits in the provision of financial services, including the potential to offer greater and more tailored products at lower prices. BigTech platforms have the potential to promote financial inclusion through combining financial services with their traditional business models such as social media and e-commerce platforms that are often ubiquitous. However, BigTech can generate financial stability risks, including through operational interconnectedness (for example, through cloud service providers) and financial interconnectedness (where BigTech firms provide the front-end of financial services such as credit, while banks provide the funding and take on the majority of credit risk on their balance sheets). The cross-border and cross-sectoral nature of BigTech firms also makes them particularly challenging to regulate. These developments highlight the importance of updating regulatory frameworks, including consumer protection laws, to ensure that risks associated with new fintech services are well contained.

### *Digital payments*

**Digital payments have continued to expand strongly in tandem with rapid growth in new forms of payments, such as e-money and mobile wallets.** In developing economies, the share of adults making or receiving digital payments has grown rapidly in recent years, rising from 44 per cent in 2017 to 57 per cent of all adults in 2021.<sup>5</sup> This trend has also been seen in low-income countries, where the share rose from 22 per cent of adults in 2017 to 35 per cent in 2021. In low-income countries, digital financial services are driven by mobile money transactions, which grew from about 40 per cent of gross domestic product (GDP) in 2019 to 70 per cent of GDP in 2021.<sup>6</sup> While overall transactions growth is projected to moderate amid a weakening global economic outlook, the shift towards digital payments is likely to continue. Traditional payment methods (cards, credit transfer, direct debits) still constitute over 80 per cent of all non-cash transactions, but the usage of new payment instruments (instant payments, e-money, mobile wallets and QR codes) is fast gaining traction.

**The rapid adoption of mobile payments during the pandemic is reflected in the strong expansion in mobile money accounts worldwide.** In 2021, the number of mobile money accounts worldwide increased by 18 per cent to 1.35 billion accounts, with a 31 per cent increase in the value of transactions to \$1 trillion.<sup>7</sup> This trend contributed to the overall growth in the banked population, especially in economies where financial access via commercial banks is diminishing. Indicators of SDG target 8.10 reflect a declining number of commercial bank branches or ATMs per 100,000 adults in recent years, in part due to cost-cutting efforts by banks.<sup>8</sup> Underserved regions—especially in Africa and Asia—were predominantly reached by innovative financial intermediation measures, including mobile money agents, whose number per 100,000 adults almost doubled globally (from around 450 to 880) between 2019 and 2021.<sup>9</sup> Of note, 26 per cent of adults in sub-Saharan Africa used mobile money as a way to save in 2021, rising from 15 per cent in 2017.

**The growing use of digital payments is paving the way for a wider adoption of financial services.** The strong expansion of digital

payments is serving as a catalyst for the use of other financial services. Almost two thirds of digital payment recipients also used their account to store money for cash management; 40 per cent used their account for savings; and 40 per cent to formally borrow money.<sup>10</sup>

**Policy support helped to facilitate the adoption of digital financial technologies during the COVID-19 crisis.** Across developed and developing countries, governments introduced new policies and regulatory measures which helped to promote the more widespread usage of digital technologies, including digital financial services. Governments are also promoting electronic payment for duties, taxes, fees and charges collected by customs as part of a broader effort to facilitate trade and increase customs revenues.<sup>11</sup> In efforts to encourage the use of mobile money, many countries temporarily lowered or waived transaction fees and increased limits on digital transactions. Some governments also launched regulatory sandboxes to test innovative digital financial services and postponed the planned imposition of stricter regulations on fintech companies.<sup>12</sup>

### *Financial inclusion*

**Fintech is playing a key role in bolstering financial inclusion.** By easing market frictions and reducing the costs of financial services, digital financial innovations have broadened access to finance for previously excluded or underserved populations. The COVID-19 pandemic underscored the important role that digital infrastructure can play in rapidly delivering financial services and social assistance to people. Amid strict lockdowns and mobility restrictions, the pandemic accelerated the global shift towards the use of digital financial services, particularly mobile money. Fintech is creating new opportunities to drive financial inclusion by increasing account ownership among the unbanked and expanding the use of financial services among those who already have accounts (see chapter III.B). For example, in developing economies, 39 per cent of adults opened their first account at a financial institution specifically to receive a wage payment or receive money from the government.<sup>13</sup> Nonetheless, 85 million unbanked adults still receive government payments such as wages and government transfers in the form of cash. Digitalizing some of these payments will help to spur an increase in account ownership. Many segments of society still lack access to the Internet and digital devices (see box III.G.1), preventing them from fully reaping the gains of the growth in fintech.

**Digital technologies are reshaping the global remittances landscape.** Fintech innovations have been instrumental in reducing the cost of cross-border payments, notably in the case of remittances. The pandemic fueled the adoption of digital remittances, as lockdowns prevented migrants from accessing traditional remittance methods such as over-the-counter cash remittances and informal networks. In 2021, the number of international remittances via mobile money grew by 48 per cent to \$16 billion.<sup>14</sup> However, digital channels still account for less than 1 per cent of total transaction volume,<sup>15</sup> illustrating the immense potential for the further digitalization of remittances. This could help to improve the affordability of remittance services, while the increase in access and usage between transaction accounts could foster greater financial inclusion. Of note, over 40 per cent of mobile money providers still do not offer any international remittance services to their customers due, in part, to strict or opaque licensing requirements in some countries.<sup>16</sup> In this context, the easing of regulatory barriers could help innovative remittance services to flourish.

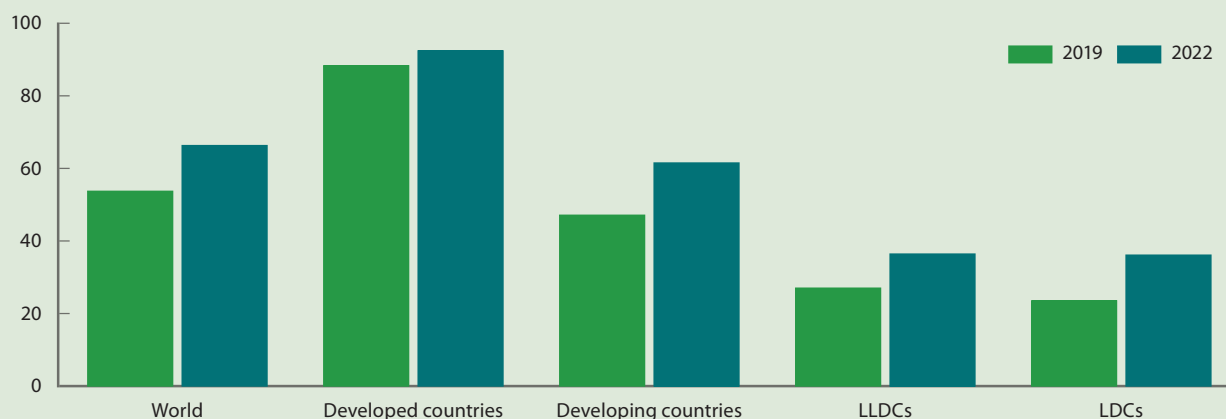
## Box III.G.1

## Recent digital trends

**The acceleration in digital trends presents both immense opportunities and challenges for sustainable development.** The COVID-19 pandemic has sped up the pace of digital transformation and the adoption of digital technologies. Many of these technologies have the potential to boost efficiency and strengthen resilience while supporting a sustainable energy transition. At the same time, the growing digitalization of economies is bringing about new risks and challenges. The pandemic has made digital connectivity a growing necessity, benefiting those with already strong technology capacities and leaving others further behind. This has exacerbated existing digital divides, contributing to deeper inequities between and within countries.

**Internet usage has continued to expand worldwide but progress is highly uneven across regions.** According to the latest data from the International Telecommunication Union (ITU), 5.3 billion people, or 66 per cent of the global population, were using the Internet in 2022, an increase of 6.8 per cent compared to 2021 and 27 per cent higher than in 2019. The aggregate figure, however, masks stark disparities across regions and countries, with a global total of 2.7 billion people still offline and not using the Internet regularly. In least developed countries (LDCs) and landlocked developing countries (LLDCs), on average, only 36 per cent of the population uses the Internet, compared to 92 per cent in developed countries (figure III.G.3).

Figure III.G.3  
Individuals using the Internet, by country groups  
(Percentage)



Source: ITU World Telecommunication/ICT Indicators database.

**Internet access and digital devices remain unaffordable for many vulnerable groups in developing countries, exacerbating the cost of digital exclusion.** Amid a sharp drop in incomes due to the pandemic, the affordability of broadband services worsened for all income groups in 2021, with the exception of high-income economies. For LDCs, the median monthly price of the cheapest broadband subscription with at least 5 GB of data is 20 per cent of gross national income (GNI) per capita, which is in sharp contrast with Europe where the same bundle costs only 1.3 per cent of GNI per capita.<sup>a</sup> In addition, digital devices still remain unaffordable for many segments of the population, particularly in low- and middle-income countries. In 2022, the average cost of a smartphone was a mere 2 per cent of monthly income in North America, but this figure stood at 53 per cent in South Asia and 39 per cent in sub-Saharan Africa, meaning that a smartphone represents a major purchasing decision for many people in these regions.<sup>b</sup>

**The digital gender divide remains wide in many developing countries.** In 2022, 69 per cent of all men were using the Internet compared to 63 per cent of women, representing a small reduction in the ratio compared to 2019. However, when measured by the absolute difference between the number of men and women online, the gender gap has increased by 20 million.<sup>c</sup> While the developed countries and small island developing States (SIDS) have achieved gender parity in Internet usage, many low- and lower-middle-income countries still face persistent large gaps of over 10 percentage points, which are wider today compared to pre-pandemic levels. Recent data has also showed a slight widening in the gender gap for smartphone ownership, with women 18 times less likely than men to own a smartphone in 2021, compared to 15 times in 2020.<sup>d</sup>

<sup>a</sup> ITU. "The Affordability of ICT Services 2021". Policy brief.

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<sup>c</sup> ITU and UNESCO. 2022. *The State of Broadband 2022: Accelerating Broadband for New Realities*.

<sup>d</sup> GSMA. "The Mobile Gender Gap Report 2022".

**Targeted policy initiatives are needed to strengthen digital financial inclusion, including improving women's access to digital technologies.** In contrast to the gender gap in overall Internet access, the gender gap in account ownership shrank for the first time in 2021, narrowing from 9 to 6 percentage points in developing economies.<sup>17</sup> However, there remains a considerable gender gap in the use of accounts for digital payments, with 52 per cent of all women using digital payments in 2021 compared to 61 per cent of men, reflecting a gap of 9 percentage points. In addition, the gender gap in access to financial services remains significant, particularly in many low- and middle-income countries. There are signs that mobile money accounts may be helping to close the gender gap. However, women are still 7 per cent less likely than men to own a mobile phone, a key prerequisite for mobile money use.<sup>18</sup> A recent study found that while an increase in the use of fintech is associated with a narrowing of both the class and rural divides, it has no impact on the gender divide, implying that fintech development alone is insufficient to close the gender gap in access to financial services.<sup>19</sup> Importantly, fintech needs to be complemented by targeted policy strategies, including those aimed at improving women's access to the Internet as well as their financial literacy and digital skills.

**While digital financial services have enabled a wider reach to vulnerable populations, they have also created new risks to consumers, including digital fraud.** The introduction of digital payments to low-income adults has been accompanied by risks, such as fraud and phishing scams, over-indebtedness in digital credit, and incomplete or incorrect information with regard to fees and costs of financial products. In this context, there is a need to strengthen customer protection and redress mechanisms. Authorities should also enhance the digital and financial education of vulnerable and underserved groups, including the poor, women, rural dwellers and micro-, small- and medium-sized enterprises (SMEs), enabling them to reap the benefits of account ownership and to better detect and avoid digital fraud.

### 3. Science, technology and innovation and sustainable industrial transformation

**Technological change and innovation are major sources of growth and sustainable industrial transformation.** Industrial transformation depends on firms progressively acquiring and mastering technological capabilities. Amid a lack of dynamism, many firms in developing countries are still far from the technology frontier and thus unable to close productivity gaps and create decent jobs.<sup>20</sup> The broader digital divide identified in box III.G.1 is mirrored, and even exacerbated, in stark technology divides across firms. Closing these gaps is key to achieving sustainable industrial transformations.

**Efforts to close the technology divide among firms are taking place amid several global trends that have increased the policy focus on production technologies.** First, the rise of advanced digital production technologies—sometimes referred to as “Industry 4.0”—is raising the bar for firms to become competitive or join global production networks, calling into question traditional industrial development

pathways around exports in low-tech and low-wage sectors. The pandemic has further increased pressures for greater automation and flexibility in production processes. Second, the urgency to combat climate change has led to accelerated efforts to develop and massively speed up the deployment of low-carbon and clean technologies. These broad trends are shaping the global technology landscape and informing countries' efforts to create preconditions and provide support to firms for the upgrading of their technological capabilities.

#### 3.1 Global trends

##### i) *Advanced digital production technologies—towards “Industry 4.0”*

**Advanced digital production technologies are reshaping production processes.** Advanced digital technologies, such as artificial intelligence (AI), big data analytics, cloud computing, the Internet of Things (IoT), advanced robotics and other digital technologies, are being increasingly applied in various combinations in manufacturing and industry. Together, these technologies, which some are calling Industry 4.0 or the Fourth Industrial Revolution, allow for increased automation and the growing use of “smart” or intelligent manufacturing production systems. Most of them focus on automation, but an increasing number are also supported by AI that can support firms to make better-informed decisions.

**Industry 4.0 technologies consist of hardware and software and are typically connected through networks and connectivity.** Hardware components include modern industrial robots (robots that operate separately from workers in the execution of tasks), cobots (robots that cooperate with workers), intelligent automated systems and three-dimensional printers. Software components include information and communications technologies (ICT) such as enterprise systems, computer-aided manufacturing and design, and data analytics that leverage AI and big data. Digital networks, such as IoT, which connects machines with sensors, can collect, transmit and act on real-time data.

**The adoption of digital technologies in manufacturing can lead to both productivity and efficiency gains.** Such technologies enable more agile production, increased flexibility and more data-driven decision-making, offering the potential to increase input efficiency and boost productivity. For example, smart production can boost productivity by reducing downtime and maintenance costs, while the incorporation of real-time data capabilities can improve operations and lead to cost savings for manufacturers. Firm-level surveys in Ghana, Thailand and Viet Nam show that firms using advanced digital production technologies display higher productivity regardless of industry and firm size.<sup>21</sup> This corroborates findings at the aggregate level, where countries that actively engage with these technologies tend to exhibit much faster growth in manufacturing value added compared to those that are lagging behind.<sup>22</sup>

**Yet, advanced digital production technologies remain extremely concentrated across countries, firms and sectors.** While some emerging economies are entering into the race, large parts of the world remain marginalized from the productive dynamics of the new digital era. Moreover, even within economies actively engaging with new technologies, the share of firms using them remains very limited. This finding is consistent with the experience of previous technological revolutions, which divided the world into leading and following economies, depending

on countries’ involvement in creating and using emerging technologies. Based on patent and trade data on four core digital production technologies—industrial robots, CAD-CAM, additive manufacturing and machine learning—four broad categories of economies emerge:

- **Frontrunners:** This group includes the top 10 economies in terms of innovation and use. They account for 91 per cent of all global patent applications and almost 70 per cent of exports of all capital goods associated with those technologies, and include China, Germany, Japan, the United States and several others;
- **Followers:** A second group of 40 economies is actively engaging with new technologies but to a much lower extent than frontrunners. They include countries active in the production and export of digital production technologies—including advanced emerging economies such as Brazil and India—and those specialized in its use (mainly importers), composed largely of emerging economies such as Mexico, Thailand and Turkey;
- **Latecomers:** Included here are 29 economies with low patent or trade activity involving Advanced Digital Production Technologies (ADP). While they have marginally engaged with new technologies, it is not clear whether they will succeed in becoming followers;
- **Laggards:** These are economies with no or very low engagement with ADP technologies.<sup>23</sup>

**The frontier technologies readiness index of the United Nations Conference on Trade and Development (UNCTAD) shows that countries differ greatly in their capacity to use, adopt and adapt to new digital technologies.** The latest data shows that while average technology readiness has improved over the past five years, a stark disparity across countries remains, with LDCs least well prepared (table III.G.1). By geographical region, the index shows that the economies best prepared for an equitable deployment of frontier technologies are those in North America, Europe and North-East Asia, while the least prepared countries are located in sub-Saharan Africa.

Country group	2018	2022
<i>World</i>	0.43	0.50
Developed	0.76	0.79
Developing	0.43	0.51
Commodity-dependent	0.25	0.32
LDCs	0.13	0.19
LLDCs	0.22	0.29
SIDS	0.30	0.37

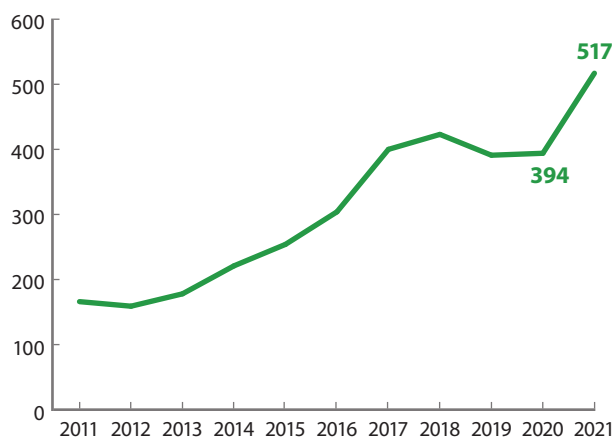
**Source:** UNCTAD Technology and Innovation Report 2023.  
**Note:** The index comprises five building blocks, namely ICT deployment, skills, R&D activity, industry activity, and access to finance. It scores 158 countries on a scale of 0 to 1, where 0 is the least ready and 1 the most.

**Most manufacturing firms in developing countries are far from using advanced production technologies.** Basic digital technologies, such as the Internet and mobile phones are used widely by businesses in developing countries. However, this has not translated into greater use of advanced manufacturing technologies, with many firms yet to acquire and

adopt Industry 3.0 technologies, such as automation and ICT technologies, in the manufacturing process. Large gaps remain in technologies used to perform production tasks (such as tractors for harvesting or electric sewing machines in apparel). According to one survey, 83 per cent of businesses continue to use manual processes and manually operated machines to fabricate their main product (but with important variations across sectors).<sup>24</sup>

**These inequalities are mirrored in robotics—with growth highly concentrated in a few countries and sectors.** Industrial robot installations surged to a record high in 2021, with over half a million new installations worldwide, 31 per cent higher than in 2020 (figure III.G.4). Across regions, the use of robots in the manufacturing industry has accelerated, with average global robot density rising to 141 robots per 10,000 employees—more than double the level in 2015.<sup>25</sup> However, this trend is highly concentrated in a handful of sectors and largely driven by a small number of countries. The highest robot densities can be found in the Germany, Japan, Republic of Korea, Singapore and Sweden. Not far behind are China and the United States, with similar robot densities. Since 2020, the largest number of robots have been installed in the electronics sector, followed by motor vehicles parts suppliers. Notably, most of these new robots have been installed in China, with little activity in most developing countries. In fact, China’s operational stock of industrial robots has grown by 28 per cent per year since 2016, much faster than anywhere else in the world—today it is larger than the combined stock of robots in Europe and the Americas.

Figure III.G.4  
**Annual installation of industrial robots worldwide**  
(Thousand units)



**Source:** International Federation of Robotics.

ii) *Green and low-carbon technologies*

**The green economy is rapidly emerging and has become the fifth largest industrial sector by market value.** The market capitalization of green equities more than doubled from \$3 trillion in 2018 to \$7.2 trillion in 2021 (reaching about 7.1 per cent of global equity markets), which was larger than retail, financial services, or oil & gas, and almost as big as the banking sector. The green economy is diversified, with energy efficiency and e-vehicles and their supply chains growing the fastest, compared to modest growth in renewable energy equipment.<sup>26</sup>

**Green economy actions to limit climate change require deployment of low-carbon technologies everywhere at unprecedented speed and scale.**

Limiting global warming to 1.5 degrees Celsius above pre-industrial temperatures and reducing greenhouse gas emissions to net zero by 2050 requires major transformations worldwide—of economies and societies. Key to achieving this is the development of new low-carbon technologies and innovations, yet to a significant extent the challenge is one of rapid deployment of existing technologies at massive scale: Expanding the use of commercially viable low-carbon technologies in energy, industry, transportation and construction could reduce the global emissions gap by almost two thirds.<sup>27</sup> In addition to scaling up capital expenditure in low-carbon technologies and technology transfer to poorer countries, different approaches in regard to innovation policies are needed to facilitate the development of complementary innovations across various fields, such that cumulative efforts will have a transformative impact.

**Governments have significantly stepped up efforts to accelerate the low-carbon transition.** In a drive to build back better from the COVID-19 pandemic, fiscal stimulus packages have increasingly incorporated green spending, with a focus on sustainable energy. While concentrated in a few countries, the share of green funding in recovery measures greatly increased from 18 per cent in 2020 to 51 per cent in 2021, as new initiatives with longer lead times were incorporated into public budgets.<sup>28</sup> The large-scale financial stimulus packages show the feasibility of closing the remaining gap on the unfulfilled promise of \$100 billion per year in climate finance for developing countries, especially if the political will materializes.

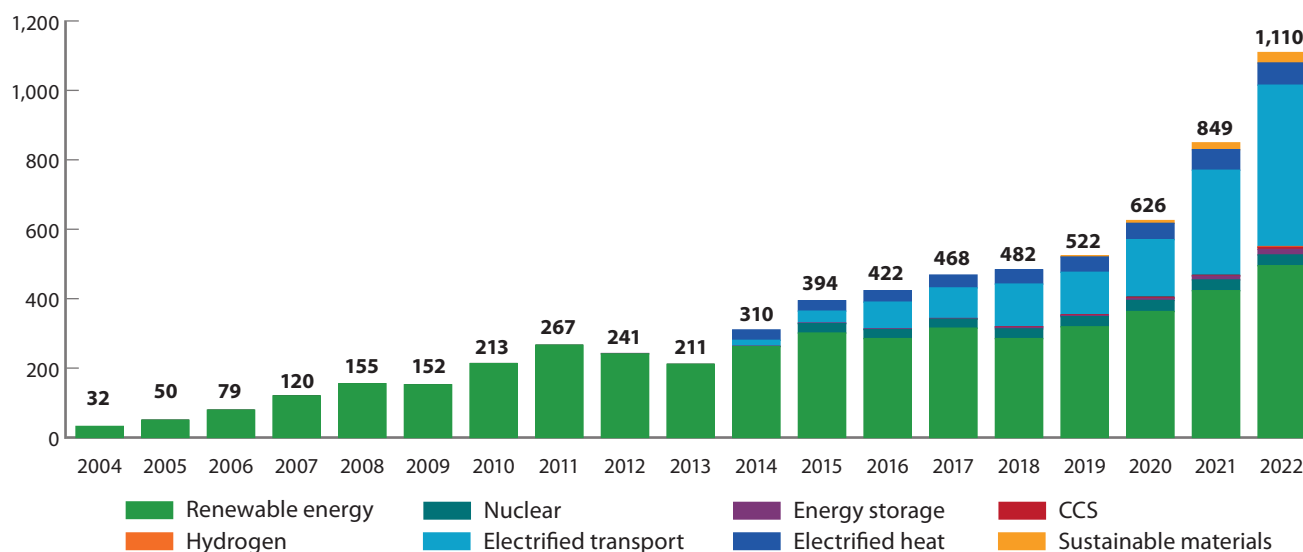
**Global spending on the energy transition rose to a new record in 2022, driven by the global energy crisis, growing policy support and rapid technological advances.** The war in Ukraine drove many countries to ramp up investment in the energy transition in efforts to bolster energy security and reduce their reliance on imported oil and gas.

Investments in global energy transition almost doubled from 2020 to 2022. In 2022 alone, they rose by 31 per cent to a record high of \$1.11 trillion, buoyed by record investments across all sectors with the exception of nuclear. The renewable energy sector remained the largest, with about \$495 billion in new capital spending. More than 60 per cent of renewable investments were in solar photovoltaic (PV) energy. Investments in electrified transport, i.e., electric vehicles, batteries, charging stations and related technologies, grew at an incredible 54 per cent in 2022. Investments in hydrogen production and carbon capture and storage technologies remain comparatively low, but grew rapidly, effectively tripling and doubling in that year, respectively (figure III.G.5).<sup>29</sup>

**In 2022, energy transition investments slightly surpassed fossil fuel system investments for the first time.** New policies in several key markets have helped to drive the surge in clean energy investments over the past few years. The sharp increase in global fossil fuel prices relative to the cost of clean energy, including the installation of renewables such as solar and wind, has also contributed to the increased cost competitiveness of clean energy. The International Energy Agency (IEA) estimates that clean energy investments could be on track to exceed \$2 trillion by 2030, 50 per cent higher than current levels.<sup>30</sup> The IEA also revised upwards its projections of global renewable capacity by almost 30 per cent. Renewables are now set to account for over 90 per cent of global electricity expansion over the next five years, overtaking coal to become the largest source of global electricity by early 2025.<sup>31</sup>

**The recent rise in clean energy investments has been catalysed by targeted policy strategies to support the energy transition.** Many of the recent policy measures were announced as part of pandemic recovery fiscal packages or in response to the global energy crisis. Between April 2020 and October 2022, governments worldwide rolled out \$1.215 trillion in support measures for clean energy investments, with about 95 per

Figure III.G.5  
**Global energy transition investments**  
(Billions of United States dollars)



Source: BloombergNEF.

Note: Start-years differ by sector but all sectors are present from 2019 onwards.



cent of this amount announced by developed economies.<sup>32</sup> In the United States, the Inflation Reduction Act alone allocates \$370 billion towards facilitating the energy transition, while the European Union's REPowerEU Plan earmarks additional investments of €210 billion, which includes spending for renewables and clean hydrogen infrastructure. The rapid roll-out of clean energy in China, notably renewables and electric vehicles, has been supported by a range of incentives and regulatory policies guided by official targets. Clean energy spending has also been incorporated in the national budgets of France, Germany, Japan, the Republic of Korea and the United Kingdom, among others.<sup>33</sup>

**Developing countries, excluding China, still face large shortfalls in sustainable energy investments.** The recent strong growth in clean energy investments has been concentrated in the developed countries and China. In 2022, China alone accounted for almost half of global investment in the energy transition, with the bulk of it in the renewable energy (solar and wind power) and electric vehicle sectors. In many developing countries, annual capital expenditure on clean energy has remained stagnant at 2015 levels,<sup>34</sup> in part reflecting the challenges that these countries face in mobilizing finance for capital-intensive, low-carbon energy projects. Amid the tightening of global financial conditions, rising public debt and narrowing fiscal space will exacerbate these financing challenges, given that public sources of finance are dominant in energy investments in developing countries. Financing for energy transitions in developing countries, excluding China, needs to quadruple by 2030 to above \$1 trillion, and an estimated 70 per cent of this capital needs to be privately financed.<sup>35</sup>

**Recent innovations in energy technologies and systems offer opportunities to accelerate the energy transition.** These include technological developments in various areas, including electrified transport, solar PVs, clean hydrogen, smart grids and digital consumer technologies.

### *Electrified transport*

**Trends in the electric vehicles sector have implications for future power generation capacity needs.** The electric vehicles market has continued to expand rapidly, with the sale of electric vehicles amounting to over 10 per cent of global automotive sales for the first time in 2022.<sup>36</sup> The recent rapid growth in electric vehicles has been supported by substantial public spending, including tax credits and consumer subsidies in large countries such as China, Germany and the United States. The further electrification of road transport would require a significant expansion of existing power generation capacities as well as an increased availability of public charging infrastructure. Moreover, the growing prevalence of larger electric vehicle models such as sports utility vehicles is expected to increase demand for larger batteries as well as the raw materials needed to produce them. In 2021, about half of the electric vehicle models available in the United States and Europe were sports utility vehicles.<sup>37</sup>

### *Solar PV cells*

**A third generation of solar PV cells is emerging.** While current solar PV technology has the highest power density among all modern renewables, a third generation of solar PV cells has the potential to enable higher power conversion efficiency with lower manufacturing complexity and costs.<sup>38</sup> While their power densities would still be 10 to 100 times less than fossil fuels, they represent a feasible option at global scale, with

multiple environmental advantages beyond greenhouse gas emissions. Further research and knowledge exchange could facilitate a larger-scale deployment of this emerging technology in developing countries. In addition, despite rising materials and equipment costs, production costs of conventional solar PV have continued to fall. The cost reduction for solar PV has been much faster than for any other modern renewables. Between 2010 and 2021, the global weighted average levelized cost of electricity of newly commissioned utility-scale solar PV projects declined by 88 per cent.<sup>39</sup>

### *Hydrogen*

**Green hydrogen is attracting interest as a new source of energy, with around 45 countries devising or having already published green hydrogen strategies.**<sup>40</sup> Hydrogen has power densities that are six times higher than those of even the best lithium-ion batteries, which makes it a better option for long-range transport and heavier vehicles.<sup>41</sup> Following the adoption of the ambitious European Green Deal, many European countries are pursuing more rapid development and deployment of hydrogen technologies.<sup>42</sup> The industrial sector is among the most difficult to decarbonize, but green hydrogen can offer a solution. Renewable hydrogen production is rapidly expanding for refining, steel, ammonia and chemicals production, mostly combined with on-site electrolysers to avoid the need for hydrogen storage and transport.

### *Smart grids*

**Smart grid technologies can facilitate the integration of renewables into the global energy system.** Given the inherent variability of many renewable energy sources, power grids need to be modernized to incorporate renewable energy into the electric distribution and transmission system. Smart grids can accentuate the viability of renewable energies, enhance the efficiency of electricity distribution and improve the reliability of energy systems. To do this, smart grids rely on the collection of data, leveraging IoT and the use of advanced sensors to monitor and control systems. Amid the growing use of electric vehicles, smart power grids can also match and integrate intermittent sources of electricity such as solar and wind power with transport systems. In developed economies, investment in electricity grids has continued to expand strongly to support the electrification of buildings, industry and transport as well as to accommodate variable renewables on the power system.<sup>43</sup> Despite rapid growth in energy demand, however, many developing countries are lagging in their progress towards updating their electricity grids for a green energy transition.

### *Digital consumer technologies*

**The wider adoption of consumer technologies can significantly lower primary energy demand.** A range of disruptive digital consumer-facing innovations in buildings, mobility, food and energy distribution and use are readily available for local adaptation and deployment across the world. In some instances, digitally enabled home energy systems have led to energy savings of 91 per cent, though in some outliers they have instead led to increased energy usage.<sup>44</sup> Consumer innovations that change how energy is supplied to, generated or managed by households can also help to reduce greenhouse gas emissions. Digitalization and smart grids make it possible for consumers who generate renewable energy to also be sellers to the grid ("prosumers").

## 3.2 Opportunities and challenges for developing countries

The impressively rapid increase in investments and deployment of new technologies represents opportunities but also major challenges for developing countries.

### *Development pathways and job creation*

**Advanced digital production technologies could “raise the bar” for firms in developing countries and render obsolete traditional development pathways.** Historically, manufacturing served as an escalator of progress because it allowed firms in developing countries to import and combine advanced technology embodied in capital goods with low-skilled labour and export to world markets (see chapter II). The spread of advanced digital production technologies is putting that model at risk and is raising the bar for firms and for countries to join global production networks. At present, robot intensity remains very low in the sectors that have typically served as entry points for developing countries, such as textiles, apparel and footwear (see above). But there are deep concerns that robotization and the adoption of emerging technologies could have large adverse effects on industrial employment, particularly in developing countries.<sup>45</sup> Studies on robotization show a high risk of losses in routine and manual jobs, which make up a large share of manufacturing jobs in developing countries. Many heavily traded manufacturing sectors are increasingly automated, including electronics, computers, machinery and equipment. The bar for entry and for retaining competitiveness will be rising more generally: as more tasks can be automated, labour will account for a smaller share of production costs; demands on the quality of infrastructure, logistics and connectivity, as well as educational and skills requirements, will rise.<sup>46</sup>

**The overall impacts of trends in automation, robotization and frontier technologies remain uncertain.** While many studies have predicted that frontier technologies will destroy jobs and cause major disruptions to labour markets, the evidence is still inconclusive. Thus far, the deployment of new digital technologies has not led to a rise in overall unemployment. While robots and machines are increasingly able to perform more complex tasks, thus making it easier to displace workers, advancements in technology can also spur the creation of new industries and occupations, thus generating new employment opportunities. The use of AI and robotics can also complement the jobs of skilled workers and increase relative demand for labour in non-routine tasks, such as those that require creativity, problem-solving and entrepreneurship.

**At the same time, the expansion of low-carbon technologies holds the promise of sizeable job opportunities for developing countries.** Over the past decade, global employment in the renewable energy sector has grown at an average rate of over 6 per cent annually, reaching 12.7 million people in 2021.<sup>47</sup> The solar PV industry has been the fastest-growing sector, employing 4.3 million people, or more than a third of the global workforce in renewable energy. This is followed by the bioenergy, hydropower and wind energy industries. China accounts for 42 per cent of the world’s renewable energy jobs, with another 20 per cent in the rest of Asia. This reflects the region’s strength in installation markets and equipment manufacturing. Given the growing potential of the renewable energy sector to create more jobs, countries need to ensure that appropriate policies are put in place to ensure the quality of these jobs and decent livelihoods for workers.

### *Inequalities*

**Advanced digital production technologies have contributed to broader trends of rising inequality and job polarization linked to digitalization.** In developed countries, there is evidence that the adoption of digital technologies has contributed to greater wage inequality.<sup>48</sup> As routine and manual jobs, often in manufacturing and industry, disappear, those affected are forced to accept lower-skilled and lower-paying jobs, such as in services industries. In addition, digitalization more broadly is disproportionately benefiting firms that are already more productive, increasing their lead and competitiveness over other firms. Across Organisation for Economic Co-operation and Development (OECD) economies, increased inequality in firm productivity and profitability is mirrored by increased inequality in labour incomes.<sup>49</sup> Job markets are increasingly polarized, with a declining employment share of middle-skilled jobs and a rising share of higher-skilled jobs.<sup>50</sup> A study analysing robot adoption within industries found that increased use of robots reduced the employment share of low-skilled workers.<sup>51</sup>

**The rapid growth of frontier technologies also risks widening income gaps between and within countries.** Countries with a large share of high-skilled employment and technology-intensive manufacturing stand to reap the highest productivity gains from frontier technologies, leaving others behind.<sup>52</sup> This poses a grave challenge for many developing countries, particularly low-income countries, as well as population groups and regions where technology adoption rates remain low. The AI revolution can also widen income gaps between and within countries by shifting investment to places where automation is already established.<sup>53</sup> Moreover, given the uneven gender balance in occupations, men and women will also be affected differently, which may exacerbate existing gender inequalities in employment. In the agriculture sector, while emerging digital technologies hold great potential to transform agrifood systems, they also entail significant challenges (see box III.G.2).

### *Sustainability gains*

**Frontier technologies can generate productivity, energy efficiency and sustainability gains.** Smart manufacturing processes can drive more sustainable production and reduce the environmental impact of industrialization. New technologies such as IoT and 3D printing can improve resource planning in order to reduce wastage, thus contributing to greater cost efficiency and sustainability. The adoption of smart manufacturing systems can also lead to greener global value chains. For instance, the use of IoT-enabled sensor technologies across supply chains enables firms to monitor, analyse and manage carbon emissions, while reducing energy consumption. This results in operational improvements and cost savings for manufacturers. In a case study of a multinational company, the use of Industry 4.0 technologies reduced power consumption in one plant by around 40 per cent, saving over \$200,000 a year in energy costs.<sup>54</sup> A study of over 400 firms in China and Pakistan showed that the integration of blockchain technology helped to improve firms’ circular economy practices, which in turn improved their environmental performance.<sup>55</sup>

**The growing use of digital devices and services could also cause net increases in energy use, if not carefully managed.** While digital technologies can enhance resource and energy efficiency, the growing digitalization of economies will increase the need for power. Digital

currencies could increase energy demand strongly in coming years, given the energy intensity of some types of distributed ledger technologies that underpin digital assets. In addition, it is estimated that power demand from data centres could grow from around 1 per cent of total power consumption to between 2 and 6 per cent by 2030.<sup>56</sup>

### Box III.G.2

#### Digital technologies and agrifood systems

Although the agriculture sector still has the lowest levels of digital technology adoption compared to other economic sectors, emerging digital technologies offer great potential to transform agrifood systems going forward. There are strong expectations that these technologies could contribute to increasing agricultural production and productivity, while helping with climate change adaptation and mitigation. New technologies could also support early warning systems on pests and diseases and increase the efficiency of natural resource usage, improving resilience in farming. In addition, digital technologies can also enable small-scale producers to better integrate into markets and reach consumers through e-commerce, thereby increasing efficiency in the design and delivery of agricultural policies.

The adoption of digital technologies, however, can also entail damaging “disruptions” in agrifood systems. They can deepen the digital divide, intensify vertical consolidation, increase energy costs, enhance data asymmetries and generate e-waste. Exclusion of the most vulnerable remains a critical challenge. Only 24 to 37 per cent of small farms have access to 3G or 4G services, compared to almost 80 per cent of large farms. In Africa, only 27 per cent of women have access to the Internet and only 15 per cent of them can afford to use it. As a result, small-scale rural producers, especially women in low- and middle-income countries, have largely been left on the sidelines. The rapid progression of digital technologies also poses significant challenges for institutions in regard to adaptation, and concerted action is required in order for them to develop and benefit society at large.

**Source:** Adapted from FAO. 2022. *The Future of Food and Agriculture: Drivers and Triggers for Transformation*.

## 3.3 Policy options

**A country’s policy strategies to fully reap the benefits of new and emerging technologies depend on its state of technological development.** The technology ladder illustrates the different stages of technology transfer (figure III.G.6), from the importation of foreign technologies to domestic production through imitation, collaborative innovation with foreign firms or fully indigenous inventions.<sup>57</sup> The appropriate policy strategies that a country needs to develop its domestic capabilities differ based on its position on the ladder. For example, countries reliant on technology imports will benefit from policy measures to promote greater adoption and diffusion of these technologies across economic sectors. Countries at the “imitation” and “collaborative innovation” stages will benefit from policies that facilitate the adaption of these technologies to the local context.

**Efforts to build technological capabilities are best achieved through a strategic approach, including through sustainable industrial policies.** For countries to climb the technology ladder, firms in these countries would need to build increasingly advanced technological capabilities. In this context, the use of sustainable industrial policies can be particularly effective (see chapter II), helping to bring together a range of instruments and interventions that spur the adoption and eventual domestic creation of new technologies.

**The use of sustainable industrial policies is particularly important to promote a directed change in the structure of the domestic economy, such as the adoption of green technologies.** Recent technological advancements and trends are making it increasingly feasible to decouple economic progress from non-renewable resource usage and greenhouse gas emissions.<sup>58</sup> In this context, there is a strong case for government policies to support the development and adoption of low-carbon and environmentally friendly technologies. These policies differ from traditional industrial policies in several ways, notably in their focus on addressing environmental externalities. As greenhouse gas emissions are grossly underpriced, private returns on investments in green technologies lie significantly below social returns. In addition, the development of new green technologies generates positive spillovers that the inventors cannot fully capture in markets.<sup>59</sup> These factors necessitate interventions, including through policies, incentives, regulations and financing instruments, in order to initiate a shift in the behaviour of producers and consumers and steer investment towards green technologies. Such policies should emphasize inclusiveness to ensure that the technological transition does not exclude vulnerable groups, and also consider related issues such as data ownership and protection.

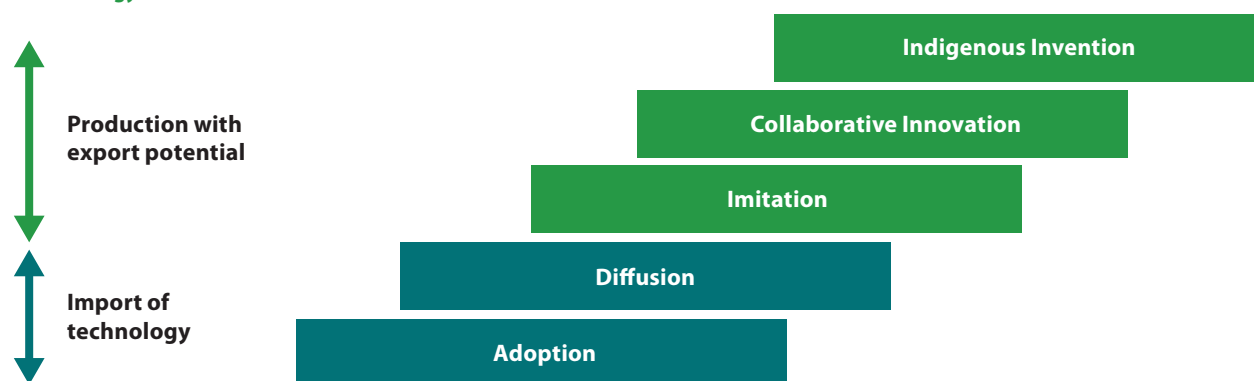
**To close large technological gaps between countries, technology transfer is needed.** Technological learning and innovation depend on the ability of countries to access, adapt and diffuse technological knowledge. There are many channels through which technology transfer occurs, including trade, licensing, foreign direct investment, movement of workers and managers, inter-university technology collaborations, and open sources of knowledge. The effectiveness of these channels in promoting technology transfer is influenced by several factors, namely: i) the overall enabling environment; ii) economic incentives and support for firms; and iii) international factors.

### (i) Enabling environment

**Supporting firms in climbing the “technology ladder” requires an overall enabling environment.** This includes physical infrastructure, such as transport and energy, digital infrastructure, education and skills, and enabling policy and institutional environments.

- *Physical infrastructure:* Infrastructure gaps remain large in many developing countries, including in the area of affordable connectivity, which continues to be a challenge, particularly in LDCs and remote regions. However, such digital infrastructure is one of the basic preconditions for participating in increasingly digitalized production processes and acquiring relevant technological capabilities. Reliable and affordable access to energy is another critical factor;
- *Human capital* is often found in empirical research to be the most binding constraint for adoption of more advanced technologies; investments in education, skills development, health and related areas

Figure III.G.6  
The technology ladder



Source: World Bank Report on Technology Transfer and Innovation for Low-Carbon Development, 2020.

are thus also important. Curricula should be adapted to meet current technology challenges, such as through a focus on digital literacy and basic and more advanced ICT-related skills;

- The broader *policy environment* should be aligned with the objectives of technology adoption and development; in the case of low-carbon technologies, for example, this includes removing carbon subsidies; in an increasingly digitalized economy, data policies become more important to enable domestic actors to unlock the economic opportunities in collecting, sharing and analysing individual data;
- *Competition laws* need to be reinforced, particularly in emerging economies, and adapted to the digital age. Digital markets have created significant challenges for competition policies in recent years, including those related to market structure, the conduct of firms and merger activity. The scalability of digital assets at very low cost has led to highly productive and profitable industry leaders, which in turn has increased market concentration. Given the international nature of many digital firms and the costs of regulatory spillovers, abuses of dominance in digital markets could be more effectively addressed through deeper international cooperation between national competition authorities.<sup>60</sup> The existing framework for combating anti-competitive licensing practices that restrain technology transfer can be deployed more effectively and also serve as a basis for international cooperation;<sup>61</sup>
- *Public investments in R&D* also play an important role in supporting innovation, particularly in countries further up the technology ladder. Building minimum levels of technological and production capabilities typically requires independent R&D efforts as well as access to the global knowledge base. The public research system can contribute to strengthening firms' capabilities to absorb, use and eventually develop digital and other technologies. It can also manage public funded intellectual property to leverage technology diffusion and uptake as well as wider development goal.<sup>62</sup> Governments can also encourage partnerships between existing academic organizations and firms by creating spaces for co-creation and applied research or setting up targeted research institutions that act as incubators for new businesses.

### (ii) *Economic incentives and support for firms*

**The effectiveness of technology transfer depends on the discovery of economically relevant knowledge that can make the transfer commercially viable.** Economic experimentation, internal trials and market tests are needed to identify what can be produced competitively, thus translating technology into innovation. Economic viability is also linked to other required productive capacities such as backward and forward linkages as well as infrastructure and regulations, which may be missing in the economy. In addition, informational and financing problems usually impede technology transfer and innovation. Matching the supply of technology and knowledge with demand is a considerable task for public agencies responsible for development and technology transfers. Once a technology has been identified, financial resources are needed to cover the costs of adjustment and reconfiguration for its new natural, technological and economic environment.

#### **Governments can introduce a range of policy measures directly targeted at building firms' capabilities to adopt new technologies.**

To support their technological upgrading, direct measures are needed to improve the absorptive capacity of firms, particularly SMEs.<sup>63</sup> Measures to help firms access finance for technology upgrading are crucial, given that financing for such projects in developing countries is limited and costly. These measures could include credit guarantees, publicly backed finance programmes and the provision of grants and loans for firms to purchase new technologies and digital solutions. In addition, governments can expand the provision of business advisory services and technology extension services to boost firms' skills and technological know-how. While business advisory firms aim to promote the use of digital technologies by SMEs in management functions, technology extension services offer on-site assistance to SMEs to facilitate the modernization of production. At the same time, the establishment of technology centres can spur the development or adoption of more sophisticated technologies.

#### **Governments can also introduce targeted incentives or provide dedicated funding for specific technologies and outcomes.**

Many countries have rolled out initiatives (such as tax rebates or grant funding) to support the development of specific digital technologies. Governments can also steer research and innovation efforts towards augmenting

workers’ skills and capabilities rather than to labour-saving technologies that replace workers and contribute to wage polarization.

**Market competition is an important driver of technological adoption.** The World Bank’s Firm-level Adoption of Technology survey revealed that more than 40 per cent of firms highlighted competition as the main motivation for upgrading their technologies.<sup>64</sup> Competition from firms in other countries has been shown to incentivize the adoption of new technologies. A study of 12 European countries showed that increased import competition from China drove significant innovation and technological upgrading in firms in these countries.<sup>65</sup> Nevertheless, growing digitalization is reshaping competition dynamics across firms and countries, with markets characterized by strong network effects, substantial economies of scale, disruptive innovations and reliance on large volumes of data. There is a growing need to review existing competition policies given the increasingly complex environment.

*(iii) The international dimension—international agreements and institutional environments*

**How the intellectual property (IP) system most effectively and equitably promotes sustainable development depends on the extent to which it is tailored to a country’s stage of development and technological capabilities.** IP transactions—notably licenses and transfers of patents and know-how—are an important conduit for technology transfer, and IP rights (IPRs) are generally recognized as investments under international agreements. As legal instruments, IPRs are used to structure partnerships, transactions and production chains, thereby enabling the sharing and dissemination of knowledge and technology. However, domestic governance of the IP system and the exercise of IPRs must be tailored to the context in which they apply, including a country’s production structure, its scientific and technological infrastructure, the availability of risk capital, and market size. In broad terms, high-tech IPRs inevitably play a more significant role in economies with a higher level of industrial development and technological innovative capacity (table III.G.2). More inclusive concepts of sustainable innovation and a more even distribution of innovative capacity have recently led to both greater recognition of traditional knowledge systems and the search for more nuanced and better-tailored application of the general principles of IP protection. For instance, a balanced and effective patent system should provide adequate scope for appropriation of due returns for investment in true innovation, while facilitating technology diffusion and ensuring a strong public domain. How this balance is achieved in practice will depend on the economic and technological circumstances—and development priorities—of individual countries, although South-South cooperation may inform the search for such a balance.

**Table III.G.2**  
**Industrialization stages and intellectual property rights**

<b>Initiation stage</b>	Little or no impact of IP on local innovation. IP may affect access to goods.
<b>Internalization stage</b>	Little impact of IP on local innovation. IP may reduce technological diffusion and affect access to goods.
<b>Generation stage</b>	IP may help to consolidate local innovation strategies. Problems of access remain for part of the population.

Source: Adapted from Correa (2015).<sup>66</sup>

**Stronger IPRs can raise the cost of innovation by raising the price of technological inputs.** Economies that innovate at the internalization stage (mostly developing countries) or at the stage of initiation (mostly LDCs) may need to ensure that there are sufficient exceptions and limitations—as well as remedies—for anti-competitive licensing and other burdensome constraints on technology diffusion, so that the investment in licensing fees or royalties for technology diffusion are highly productive and beneficial. The World Trade Organization (WTO) TRIPS Agreement recognized the need for maximum flexibility for LDCs in the domestic implementation of laws and regulations in order to enable them to create a sound and viable technological base, and LDCs have no substantive obligations for IP protection until 2033 at the earliest. Developing countries have the scope to deal with resource constraints by applying the TRIPS principle that enforcement of IPRs need not be prioritized over law enforcement generally and running IP offices on a cost-recovery basis, as many developed countries do already.

**Policymakers should recognize the complementarities between IPRs, market liberalization and deregulation, technology development policies and competition regimes.** The impact of IPRs on technology transfer is highly dependent on country-specific structural conditions such as technological capabilities and institutional quality. Innovation policies in developing economies should allow as much margin as possible to acquire foreign technologies and facilitate the sharing of knowledge vital to sustainable industrialization. For example, the United Nations Economic Commission for Europe (UNECE) Team of Specialists for Innovation and Competitiveness Policies addresses issues related to the creation of a supportive environment for innovation-based development and knowledge-based competitiveness in UNECE Member States. Governments must be aware that adapting their innovation and IP policies to achieve optimal flexibility might be limited by the TRIPS Agreement and, in some cases, by the even higher standards established by free trade agreements. The design of IPR legislation should, however, make full use of the flexibilities left to allow reverse engineering and technological diffusions.

## 4. Development cooperation and United Nations actions on science, technology and innovation

The Addis Ababa Action Agenda led to the creation of two mechanisms in 2015/2016 to harness STI for the achievement of the SDGs: **The United Nations Technology Facilitation Mechanism (TFM) and the United Nations Technology Bank for Least Developed Countries (Technology Bank)**. The launch of these mechanisms encouraged additional work by United Nations entities on STI. A small selection of these recent activities is featured in this section.

**The TFM has brought the United Nations closer to the pulse of scientific and technological progress through a one-UN and multi-stakeholder model that addresses the concerns of all countries.** The TFM is where the many activities of the United Nations system and stakeholders come together and forge partnerships. Most importantly, the TFM has become an important entry point not only for organized science and engineering communities but also for individuals. It

“facilitates” collaboration and partnerships—for sharing information, experiences, good practices and policy advice among relevant stakeholders. This includes Member States, civil society, the private sector, scientific and technological communities, United Nations entities, and others. It also supports technology transfer through knowledge-sharing, capacity-building and the matching of technology providers with users.

**Participation in the TFM has increased.** As of February 2023, the Inter-agency Task Team on Science, Technology, and Innovation for the SDGs (IATT) brings together more than 100 experts from 48 United Nations entities who work together in 10 dedicated work streams. These range from a pilot programme and partnership on national STI4SDG roadmaps, to policy analysis and research work on emerging science and tech futures as well as awareness-raising on gender in STI. The IATT also mobilizes science-policy briefs and perspectives from experts, enabling them to propose issues to be put on the United Nations agenda. The Secretary-General’s 10-Member-Group of High-level Representatives of Civil Society, Private Sector and Scientific Community to support the TFM has not only mobilized the engagement of many experts but has emerged as a hub for science and technology advice in the United Nations system. The Multi-Stakeholder Forum on Science, Technology and Innovation for the SDGs brings together governments with thousands of science and technology stakeholders every year. Many of them are new to the United Nations. They range from young, engaged scientists to start-up entrepreneurs and world-renowned experts. Finally, the TFM online platform “2030 Connect” provides one-stop-shop access to technology and knowledge databases of an increasing number of United Nations and other international organizations.

**The TFM and its STI Forum have facilitated discussions on sensitive political issues and opened new avenues for all Member States, including those that may feel they are being left behind in the latest scientific-technological revolution.** The TFM and STI Forum are among the most prominent and inclusive United Nations entry points for engagement by scientists, engineers and tech entrepreneurs. One key insight from past STI Forum discussions has been that new technologies—biotech, AI and nanotech—are vital for all kinds of SDG breakthroughs. They progress at accelerated, exponential rates—so rapid that it remains unclear whether traditional institutions and regulators are able to cope. The STI Forum is a United Nations space enabling discussion of these issues.

**The Technology Bank is mandated to strengthen the STI capacity of LDCs.** The Technology Bank continues to work towards promoting and facilitating the identification, utilization, access to and transfer of appropriate technologies to LDCs. In 2022, the Technology Bank completed six technology needs assessments—in Bangladesh, Benin, Djibouti, Kiribati, Mozambique and Sierra Leone—while implementing other programmes.

**The Global Environment Facility has played a vital role in providing developing countries with financial support to address climate change.** Since its inception in 1991, the Global Environment Facility has allocated more than \$22 billion in grants and blended finance and mobilized \$120 billion in co-financing for more than 5,000 projects in 170 countries, supplemented by 27,000 community-led initiatives through its Small Grants Programme.

**The Climate Technology Centre and Network promotes the accelerated transfer of environmentally sound technologies for low-carbon and climate resilient development.** In 2010, the

Technology Mechanism of the United Nations Framework Convention on Climate Change was established to support the development and transfer of climate-compatible technologies to developing countries. The Climate Technology Centre and Network, its implementation arm, provides technical assistance with the help of a global network of climate technology experts that design and implement solutions tailored to local needs. This includes: (1) technical assessments, including on technology needs, barriers and efficiency; (2) technical support for planning documents such as policies, strategies, roadmaps and action plans, regulations and legal measures; (3) training; (4) tools and methodologies; and (5) implementation plans. Technical assistance is provided free of charge to developing countries (with a value of up to \$250,000) for a broad range of climate adaptation and mitigation technologies. Assistance can be provided for all stages of the technology cycle.

**International cooperation helps to raise awareness in developing countries through sharing lessons learned and best practices, while drawing attention to new and emerging technologies.** The Commission on Science and Technology for Development brings together Member States in information-sharing and intergovernmental discussions on issues related to the adoption of frontier technologies for sustainable development. In recent years, the Commission has assessed the impact of various STI trends, including renewable energy, Industry 4.0, space technologies and blockchain technologies. At the same time, the World Summit on the Information Society Forum facilitates the sharing of information and knowledge about the social, economic, cultural and environmental impacts of ICT. The Forum is witnessing an increased number of sessions for sharing national strategies, policies and initiatives on clean technologies, environment-related policies and strategies, and the role of ICT in advancing competitiveness and increasing productivity.

**The United Nations system undertakes a range of programmes for building the capabilities of countries to develop and deploy technologies for more sustainable production and consumption.** For example, the International Trade Centre’s Netherlands Trust Fund V Programme has delivered a Greening ICT training to 80 technology start-ups and IT companies in Africa, encompassing the areas of energy efficiency, electronic waste management, and ICT sustainability standards. ITU has supported efforts towards achieving a circular economy for electronics, including through expertise on e-waste data, national e-waste policies and regulation (including in Botswana, the Dominican Republic and Namibia). The United Nations Environment Programme has implemented capacity-building programmes on green technology through the Climate and Clean Air Coalition. The United Nations Industrial Development Organization has rolled out the “SWITCH to circular economy value chains” project, which aims to support enterprises in adopting circular economy practices. The United Nations Economic and Social Commission for Western Asia has supported implementation of national consultation sessions on resilience and sustainability of the agriculture sector in the Arab region. The UNECE Team of Specialists on ESG Traceability of Sustainable Value Chains in the Circular Economy is developing holistic approaches for fostering ESG improvements throughout global supply chains. UNECE has also launched Circular STEP—a platform for policy dialogue on the circular economy.<sup>67</sup> The International Atomic Energy Agency (IAEA) has assisted countries in using nuclear technologies for development, including in the agrifood systems and energy sectors (box III.G.3).

**Box III.G.3****The potential contributions of nuclear technologies to sustainable development**

Nuclear science, technology and innovation can contribute to addressing climate change and identifying solutions in multiple interrelated sectors such as energy, food and agriculture, water, industry, human health, ecosystems and the environment. The IAEA supports countries in building capacities to apply nuclear technologies and techniques in several areas, including agrifood systems and energy.

*Agrifood systems:* Nuclear techniques such as mutation breeding are used to develop improved drought- and heat-tolerant crop varieties as well as enhance existing genetic resistance in crops towards insect pests and diseases. Nuclear techniques are also used to strengthen post-harvest food safety and trade, reduce food waste and monitor residues and contaminants in food.

Nuclear technologies also contribute to the development of climate-smart agricultural practices. These technologies are used to monitor agrochemical inputs to improve food safety, and to support the

development of innovative land and water management, with improved soil and nutrient management practices and efficiency of water usage.

*Energy for Net-Zero:* Nuclear power can contribute to decarbonizing not only the power sector but also other sectors, including the building, industry and transport sectors, through applications such as district heating, desalination, industry process heat and hydrogen production. With its dispatchability, flexibility and ability to provide grid services, including stability, nuclear power can allow high penetration of renewables in net zero transitions.

The IAEA assists countries that opt for nuclear energy to meet their climate objectives through support for countries' efforts in building new nuclear power plants, extending the operational lifetimes of existing ones and through capacity-building in energy planning. In the Atoms4NetZero initiative, the IAEA will work in partnership with Member States to model and measure the contribution of nuclear power to their net zero energy transitions and assess the potential of nuclear to be used beyond the grid—for example, to produce hydrogen or for desalination.

**Source:** IAEA.

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# Data, monitoring and follow-up



## Chapter IV



# Data, monitoring and follow-up

## 1. Key messages and recommendations

**Since the adoption of Agenda 2030, the need for data and statistics has intensified, with the rapid spread of digital technologies bringing great opportunities as well as challenges.** Big data and other innovations can help to strengthen official statistics for the implementation and monitoring of the Sustainable Development Goals (SDGs). However, they come with risks in the absence of internationally accepted standards for data use, regarding, for example, licensing, privacy and security. The evolving data ecosystem around new technologies, data sources and actors is also challenging the traditional role of official statistical systems and can be difficult to integrate. The extensive experience of national statistical offices in working with data should be leveraged to ensure efficient use of data for public good and to maximize the value of data assets in the ecosystem.

**Significant changes in the financing for development landscape have spurred demand for data and statistics yet funding remains inadequate.** The pace of progress on data frameworks, measurements and collection and, critically, on financing for data and statistics, has not kept pace with demand. With seven years to the deadline for achieving the SDGs, significant SDG data gaps persist. Funding for statistical systems and data ecosystems has also remained flat since 2015 and has fallen since the COVID-19 pandemic. Official development assistance (ODA) for data and statistics was 0.3 per cent in 2020, a fraction of actual needs. Efforts are, however, under way to mobilize finance for data and statistics. The United Nations system has proposed a way forward to consider measures beyond gross domestic product (GDP), towards mainstreaming indicators on well-being, inequality and multidimensional vulnerability.

### Urgent action is needed by all stakeholders:

- *The international community should scale up funding for data and statistics.*

- *Countries should prioritize resources towards the development of their national statistical and data systems, including establishing data stewards.*
- *Stakeholders should work together to close the SDG data gaps and develop metrics beyond GDP.*

## 2. Data frameworks, measurements and collection

### 2.1 Global indicator framework for the SDGs

**The global indicator framework for the SDGs continues to be strengthened.** As of 2 November 2022, the global SDG indicator database includes data for 219 of the 231 unique indicators and more than 2.3 million data records (figure IV.1). This improvement has been underpinned by the efforts of Member States and custodian agencies. Most indicators without any data have projected dates or have plans for updates in place. Improving the indicator framework and closing the remaining data gaps will be a focus of the statistical community and the next comprehensive review of the global indicator framework for the SDGs in 2025, for which the Inter-agency Expert Group on SDG Indicators has already started preparations.

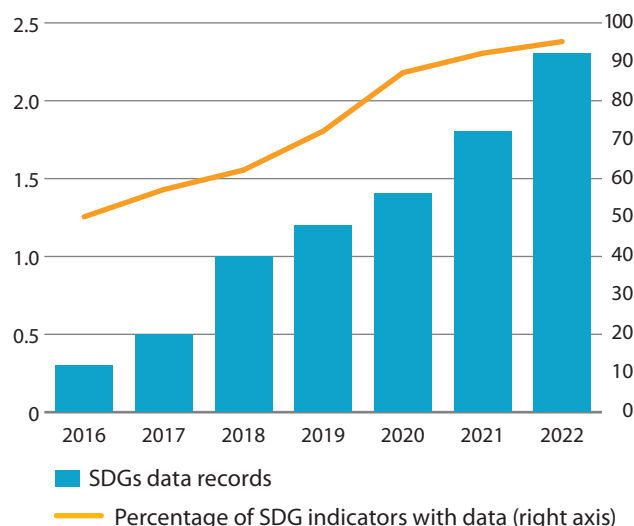
**Despite progress on SDG reporting, significant data gaps persist.** Incomplete geographic coverage, outdated data and lack of disaggregation by vulnerable population groups hinder the monitoring of progress on the SDGs<sup>1</sup> For eight of the 17 SDGs, fewer than half of the 193 countries or areas have globally comparable data (figure IV.2). SDG 3 on health and SDG 7 on energy have the highest data availability, with more than 80 per cent of countries providing at least one datapoint since 2015. In contrast, only about 20 per cent of countries have reported data for SDG 13 on climate action. Out of 32 SDG indicators

requiring disaggregation by sex, only 21 have the latest disaggregated data available in more than 80 per cent of countries providing at least one data point since 2015. For eight indicators, sex-disaggregated data is not available at all. For indicators requiring disaggregation by disability status, reporting is sparser, with only two out of 10 SDG indicators reported.<sup>2</sup> A critical source of disaggregated data for monitoring the SDGs is population data, which is collected through censuses conducted every 10 years. Many countries were in the middle of the 2020 round of census activities when COVID-19 disrupted collection. Out of 49 United Nations Population Fund (UNFPA) programme countries scheduled to conduct census enumeration in 2020, only 13 countries managed to complete the census, and many postponed it to 2021 and 2022. In 2021, only 12 programme countries completed the census enumeration, while 26 out of an expected 48 programme countries completed the census enumeration in 2022. Delays, interruptions and reallocation of funds to other activities may further compromise the quality or result of census projects.

**Work is advancing on the new SDG indicator 17.3.1 on “additional financial resources mobilized for developing countries from multiple sources”.** The indicator is part of SDG target 17.3, which aims to “mobilize additional financial resources for developing countries from multiple sources” and is underpinned by an agreed conceptual framework on South-South cooperation (see chapter III.C). The Organisation for Economic Co-operation and Development (OECD) and the United Nations Conference on Trade and Development (UNCTAD) are the co-custodians of the new indicator and work is under way on the first global reporting of the indicator. Capacity-building activities are also planned. The co-custodians aim to coordinate validated data collection from countries to ensure harmonization and avoid duplication. Reporting of the indicator

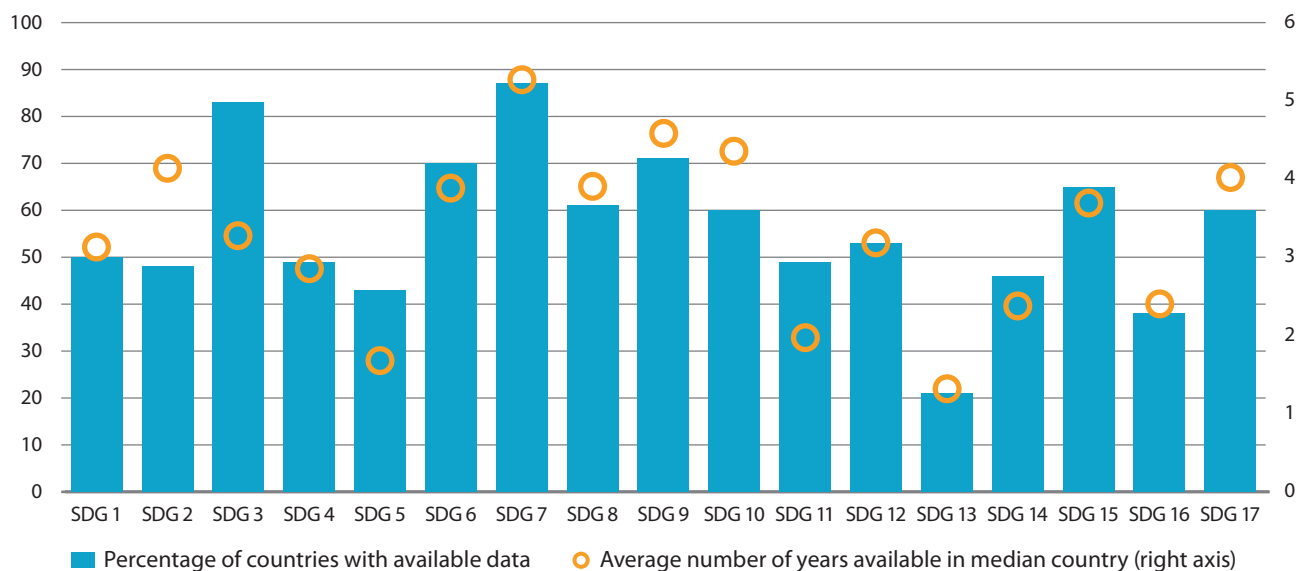
began in 2022 from existing sources, such as the OECD Total Official Support for Sustainable Development (see chapter III.C) database and the UNCTAD Foreign Direct Investment database. Data on South-South cooperation will be added gradually.<sup>3</sup>

Figure IV.1  
**Number of SDG data records and proportion of SDG indicators with data available, 2016–2022**  
*(Millions)*



Source: UNSD Global SDG Indicators Data Platform.

Figure IV.2  
**SDG coverage of country-level data and the average number of years available as of February 2023**  
*(Percentage of countries with available data; average number of years available)*



Source: UNSD Global SDG Indicators Data Platform.

Note: Percentage of countries with available data is the weighted average across indicators. Average number of years available is the weighted average of the median country by indicator.

## 2.2 Gender statistics

**Prevailing data gaps hinder progress monitoring on SDG 5 to achieve gender equality.** While all 18 indicators of SDG 5 on gender equality can be measured,<sup>4</sup> only 47 per cent of data required to track progress on SDG 5 is currently available.<sup>5</sup> As a result, a global-level assessment is only available for 13 out of 18 SDG 5 indicators. Only three indicators have sufficient data for measuring the pace of progress at the global level. There are also large gender data gaps in other areas,<sup>6</sup> including property rights, women entrepreneurship, recognizing and valuing unpaid care, women in decision-making, conflict and crime, technology, climate and environment, as well as water and energy. UN Women estimates that it will take about 22 years to make all gender-specific SDG data available.<sup>7</sup> A range of agencies have undertaken efforts to make available gender statistics accessible through various data portals (box IV.1).

**Gender mainstreaming encourages gender-disaggregated data collection, which can support gender-inclusive policies.** As gender-disaggregated data is not collected systematically in all areas of statistics, having a gender perspective across all areas can improve the systematic collection of sex-disaggregated data and statistics. The United Nations Statistical Commission has emphasized the need for national statistical offices to commit to mainstreaming a gender perspective into its work at all levels and stages.<sup>8</sup> As part of these efforts, the Inter-Agency and Expert Group on Gender Statistics has established a new Advisory Group on Mainstreaming a Gender Perspective to develop concrete proposals on gender mainstreaming.<sup>9</sup> This will build on related work in the Statistical Conference of the Americas. Support is also ongoing for gender mainstreaming work at the country level.

**Sufficient funding for gender data and statistics is required to fill the gaps, enabling evidence-based policymaking.** Funding for both overall national statistics and gender statistics has been stagnant since 2015, with only 13 per cent of countries worldwide dedicating a portion of their budget to gender statistics.<sup>10</sup> In 2020, funding for gender data decreased by 55 per cent over the average level of 2017-2019 (figure IV.3),

corresponding to nearly three times the drop in funding for overall data and statistics.<sup>11</sup> Two thirds of all funding for gender data depends on only five donors,<sup>12</sup> leaving funding for gender statistics unsustainable and unstable without diversification of the donor landscape.

### Box IV.1

#### Data portals for gender statistics

There are several data portals that help to disseminate available gender statistics:

- The **World Bank Gender Data Portal**<sup>a</sup> provides open access to over 900 indicators compiled from officially recognized international sources, including demography, education, health, economic activities, assets, leadership and gender-based violence.
- The **United Nations Statistics Division Gender Data Hub**<sup>b</sup> features the minimum set of gender indicators agreed by the United Nations Statistical Commission as a guide for national production and international compilation of gender statistics.
- The **UN Women Data Hub**<sup>c</sup> features the latest data on 52 gender-specific SDG indicators and the latest analytical resources.
- The **United Nations Population Fund Population Data Portal (PDP)**<sup>d</sup> contains 13 thematic interactive dashboards, including one on intimate partner violence.

Source: UN/DESA.

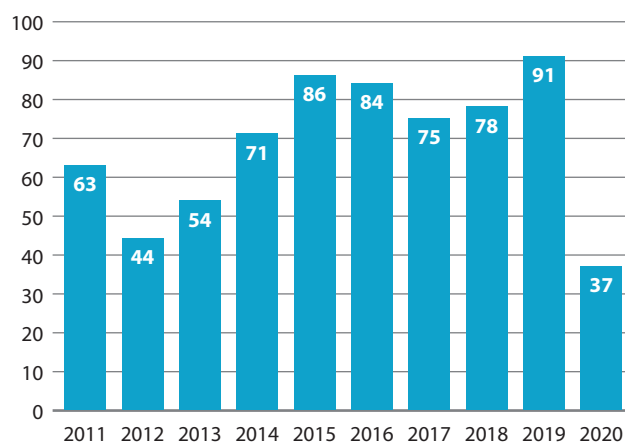
<sup>a</sup> <https://genderdata.worldbank.org/>. See also specific data on women, business and the law (<https://wbl.worldbank.org/en/wbl>), and on the living standards measurement study – plus (<https://www.worldbank.org/en/programs/lsm/plus/initiatives/lsm-plus>).

<sup>b</sup> <https://gender-data-hub-2-undesa.hub.arcgis.com>.

<sup>c</sup> <https://data.unwomen.org/>.

<sup>d</sup> <https://pdp.unfpa.org>.

Figure IV.3  
**Funding for gender data and statistics**  
(Millions of United States dollars)



Source: PARIS21. 2022. "Partner Report on Support to Statistics 2022".

## 2.3 Monitoring the economic and financial sector

### Following the success of the Group of Twenty (G20) Data Gaps Initiative, efforts towards a new international cooperation initiative continue.

The aim of the G20 Data Gaps Initiative was to address data gaps in the financial sector that were exposed by the 2008 world financial and economic crisis. Significant progress was achieved during phases 1 (2009-2015) and 2 (2015-2021) to improve data coverage, timeliness and periodicity. Data gaps have been closed in many areas, including on financial soundness indicators, global systemically important financial institutions, non-bank financial intermediation, derivatives data and securities statistics. This has contributed to better and more detailed assessments of macroprudential and financial stability risks. Advancements under the Data Gaps Initiative have also helped with COVID-19 pandemic responses. In November 2022, the Financial Stability Board Secretariat, the International Monetary Fund (IMF) and the Inter-Agency Group on Economic and Financial Statistics, in consultation with participating economies, announced a high-level work plan for a new Data Gaps Initiative. It includes 14 recommendations designed to address priority policy needs for: (i) climate change; (ii) distribution of household income and wealth; (iii) financial technology (fintech) and financial inclusion; and (iv) access

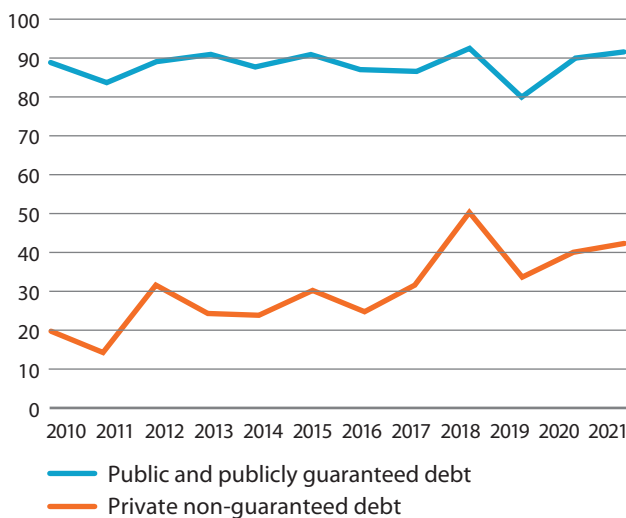
to private sources of data and administrative data, and data-sharing to improve the timeliness and granularity of official statistics.<sup>13</sup> The plan will be submitted to G20 finance ministers and central bank governors later in 2023, with its recommendations expected to be implemented within five years after the launch.<sup>14</sup>

**The number of countries reporting to the World Bank Debt Reporting System (DRS) has increased.** The DRS is the main source of the World Bank’s external debt data statistics database. The past decade has seen a marked improvement in the coverage, completeness and accuracy of DRS reporting. Reporting on private, non-guaranteed debt is also rising (figure IV.4), as countries’ debt portfolios have evolved. These improvements have been spurred by concerted efforts to strengthen and enhance countries’ debt recording and reporting to better understand rising debt vulnerabilities (see chapter III.E). It also reflects implementation of reforms to strengthen debt management capacity.<sup>15</sup> In contrast, there are significant data gaps on borrowing by state-owned enterprises (SOEs), particularly SOE borrowing without a government guarantee. This is usually due to discrepancies between the country’s definition of public debt and DRS reporting standards, the absence of systems to collect data at the national level, and the limited authority of the national debt office.<sup>16</sup>

Figure IV.4

**Countries that report public and publicly guaranteed and private, non-guaranteed year-end transaction data to the DRS, 2010–2021**

(Percentage)



**Source:** World Bank. 2022. *International Debt Report 2022 – Updated International Debt Statistics*.

**Note:** The dip in 2019 reflects the reporting challenges faced by countries during the COVID-19 pandemic lockdowns. The list of reporting countries is based on year-end 2021 data.

**Although data availability on the contribution of the private sector to achieving the SDGs has increased, the quality and comparability of data needs to improve.** The 2030 Agenda highlights the role of enterprise reporting as a primary source of information on the

contribution of the private sector to the achievement of the SDGs. SDG target 12.6 encourages companies to adopt sustainable practices and to integrate sustainability information into their reporting cycle. In 2021, more than 90 per cent of the S&P 500 companies published a sustainability report, up from only 20 per cent a decade ago.<sup>17</sup> However, the quality of data and information provided through sustainability reports needs to be improved, and chapter III.B presents concrete actions and recommendations for governments to address this issue.

**To measure the private sector’s contribution to sustainability, corporate sustainability disclosures should be linked to the SDGs.**

Four out of five companies assessed in a recent study noted commitments to the SDGs, yet fewer than half set measurable targets related to these Goals.<sup>18</sup> Another study found that only 0.2 per cent of companies were strongly aligned with the SDGs.<sup>19</sup> The Global Investor for Sustainable Development Alliance works towards the global convergence of corporate sustainability-related disclosures based on a common reporting baseline.<sup>20</sup>

**For sustainability-related information from the private sector to be useful, data also needs to be comparable across reporting entities over time.**

Efforts are under way to strengthen comparability of private sector data on sustainability measures. For example, the World Benchmarking Alliance is developing a series of freely accessible benchmarks assessing 2,000 of the world’s most influential companies, ranking and measuring them on their contributions to the SDGs.

## 2.4 Measures of sustainable development beyond GDP

**The United Nations system proposes a way forward to consider measures beyond GDP.**

GDP is a long-standing measure of economic prosperity, with GDP per capita often used to broadly measure average living standards or economic well-being in different countries. However, there is increasing concern over the limitations and inadequacy of GDP, particularly as it does not encompass dimensions of well-being, distribution, economic sustainability (such as increasing indebtedness) and environmental sustainability. In his 2021 report, *Our Common Agenda*, the United Nations Secretary-General called for new measures to complement GDP.<sup>21</sup> In response, the United Nations system, through the High-level Committee on Programmes (HLCP) Core Group on Beyond GDP, has proposed a framework for beyond GDP metrics as well as a political and technical process to move it forward (box IV.2). The HLCP recognizes that broad Member State agreement is needed to move the beyond GDP agenda, highlighting the 2024 Summit of the Future as an opportunity to launch a high-level political process, spearheaded by the United Nations Secretary-General, to discuss the rationale and outline a process to go beyond GDP, including the setting of concrete goals and targets.<sup>22</sup>

**Work advances on the development of a Multidimensional Vulnerability Index (MVI).**

In February 2022, a High-Level Panel was appointed to develop an MVI. In its interim report, the Panel proposed a framework for the development of an MVI (figure IV.5), comprising two components: structural vulnerability, “the risk of a country’s sustainable development being hindered by recurrent adverse exogenous shocks and stressors,” and structural resilience, “the capacity of a country to dampen the impact of and quickly recover from shocks and to adapt flexibly in response to stressors”.<sup>23</sup> Associated responses to reduce a country’s structural

vulnerabilities and improve its structural resilience over time would depend on the source of the vulnerability to be addressed i.e., economic, social or environmental. The Panel also proposed the inclusion of national vulnerability-resilience profiles, which will represent the operational part of the MVI framework. Data availability is key to the design of the MVI, and

the selection of indicators will depend on the quality of available data and the relevance of the indicator. To ensure universality, the MVI will include all developing countries. The Panel’s final report will outline the selected indicators, their rationale and methodology for weighting and aggregation.<sup>24</sup>

**Box IV.2**  
**United Nations system proposals for moving the beyond GDP agenda**

**Foundational dimensions of a framework for beyond GDP**

The framework consists of three outcome elements and three process elements. The three outcomes are derived from the dimensions identified in the Brundtland Report that was prepared for discussion by the United Nations General Assembly in 1987 and later informed the Rio+20 Conference and the 2030 Agenda. The framework defines sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their needs”. The report also considers that sustainable development is essentially about distributional justice. The framework, thus, proposes three outcome elements:

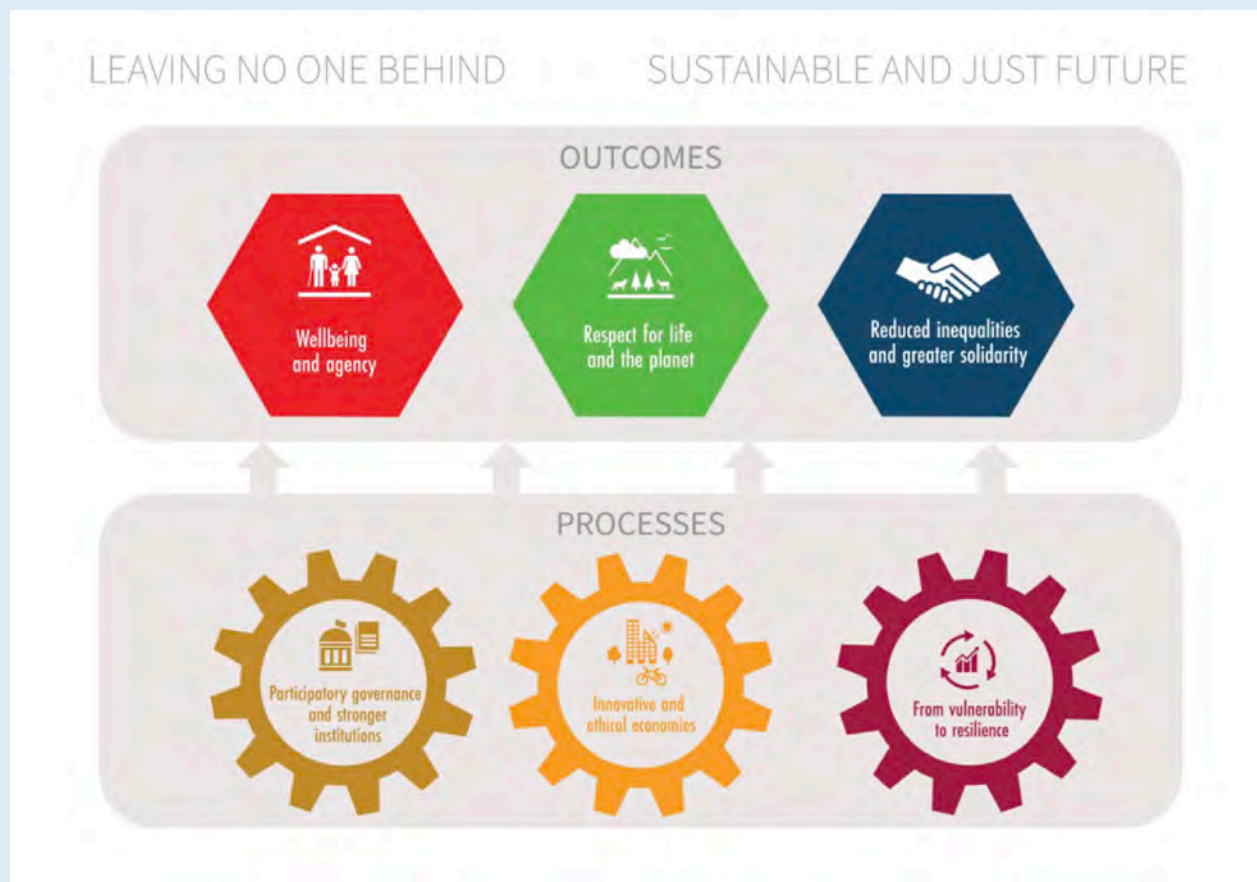
- (i) “Well-being and agency” to focus on well-being now;
- (ii) “Respect for life and the planet” to ensure possibilities for life and well-being in the future; and

- (iii) “Reduced inequalities and greater solidarity” towards a more equal distribution of well-being.

Measures or indicators for each dimension may include flows as well as stocks and, potentially, composite indicators. While flow measures focus more on current changes, e.g., well-being now, stock measures are particularly important for assessing sustainability, i.e., possibilities for future well-being, and metrics on inequalities require detailed information that enable analysis of distributions.

The **three process elements** reflect the 2030 Agenda and the *Our Common Agenda* report with a particular focus on factors that enable sustained progress towards the three outcomes:

- (i) “From vulnerability to resilience” focuses on human interaction with the natural and built environment to strengthen preparedness and ensure the conditions for well-being given multiple risks;
- (ii) “Participatory governance and stronger institutions” steer societies towards the outcomes ensuring equal and safe societal conditions empowering everyone to contribute; and



(iii) “Innovative and ethical economies” serve people and societies by fostering innovation to find solutions to their challenges with responsible and ethical actions that expand the capacity to coordinate and deliver positive outcomes.

**Proposal for a high-level political process to move beyond GDP**

1. **Informal consultations, 2022-2023:** Discuss the rationale for progress beyond GDP, identify opportunities and challenges in progress towards better well-being, sustainability for future generations and inclusiveness, i.e., well-being for all.
2. **Consideration and preparation before and at the Summit of the Future in 2024:** Discuss how to move beyond GDP, placing true value on the environment and focusing on human progress and well-being to achieve the 2030 Agenda. Aim at a high ambition for the outcomes of the Summit of the Future, build rapport.
3. **Commit, at the Summit of the Future in 2024:** Make firm commitments to change the policy paradigm to ensure progress towards the vision for well-being for everyone and everywhere (equality), now and later (sustainability).
4. **Set targets, follow-up to the Summit of the Future in 2024:** Set a common vision and concrete goals for a future policy framework to move beyond GDP.
5. **Empower, 2024-2025:** Engage national, regional and international

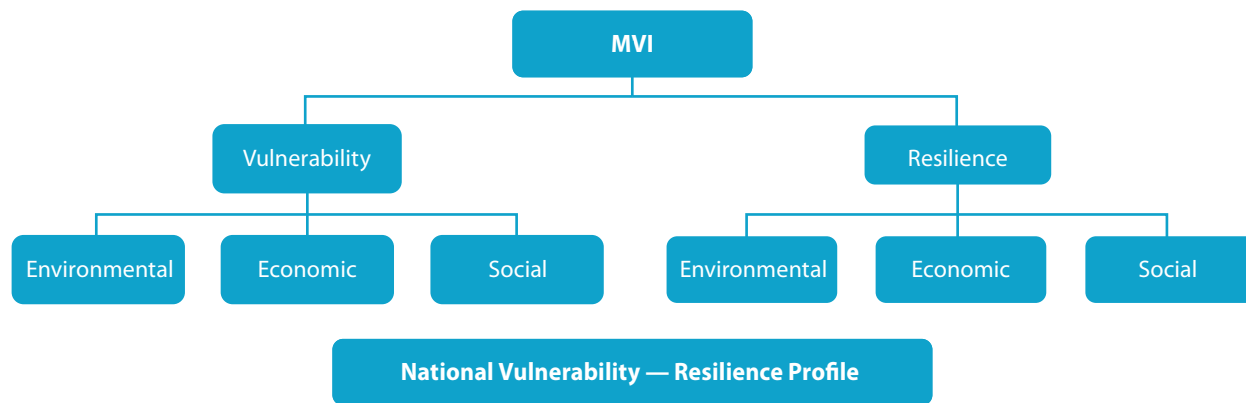
authorities and stakeholders to advance the agenda within their current and new mandates.

6. **Lead and steer, annual recap from 2025 onwards:** Monitor progress with metrics of beyond GDP, engage, influence and ensure corrective or enforcing action to achieve the common vision for the future of people and the planet.
7. **Reprioritize, every three to five years:** Ensure a continuous discussion of priorities, adjust goals and targets of the beyond GDP framework and take corrective action.

*The technical reforms needed to move forward* include: (i) an ambitious System of National Accounts update and extension; (ii) development of new methods and metrics in line with the proposed framework and its six themes and reflecting the outcomes of the Summit of the Future; (iii) a review of the uses of GDP and beyond GDP metrics within the multi-lateral system; and (iv) a United Nations data agenda for beyond GDP that steps up statistical capacity development to enable country-owned reporting of progress beyond GDP. In parallel, the United Nations could launch a global challenge to contribute to the development of new metrics to complement GDP, aiming to create global excitement and engagement in contributing to beyond GDP through a participatory process.

**Source:** High-Level Committee on Programmes (HLCP) Core Group on Beyond GDP. “Valuing What Counts – United Nations System-Wide Contribution on Progress Beyond Gross Domestic Product (GDP)”. United Nations System Chief Executive Board for Coordination, 17 August 2022.

Figure IV.5  
**The Multidimensional Vulnerability Index framework**



**Source:** High Level Panel on the Development of a Multidimensional Vulnerability Index. *Interim Report*. United Nations, August 2022.

**2.5 Sustainable industrialization statistics**

**Increased availability of industrial statistics can better inform sustainable industrial policy.** Industrial statistics provide information on productivity, industrial performance and the degree of an economy’s industrialization (see box IV.3).<sup>25</sup> Many governments are constrained by the lack of basic data when formulating national industrial policies. Lack of industry data for financial decision-making can also increase perceived

risks and hinder private sector investments in developing countries. The data needed for industrial statistics is typically collected through economic censuses and industry surveys. A proper sampling plan and an adequate survey period can ensure good representation of and disaggregation by geographical areas, industries and their activities.<sup>26</sup> Amending enterprise size thresholds can also capture small-scale industrial enterprises that play an important role in many developing countries in their path towards sustainable industrialization. However, censuses and surveys are done

periodically and can be time-consuming. Exploring alternative data sources, including administrative sources and big data, can help to fill in data gaps.<sup>27</sup>

### Box IV.3

#### Overview of industrial statistics

Industrial statistics refer to data on a broad group of productive activities comprising mining, manufacturing, electricity, gas, water supply and other utility industries.<sup>a</sup> An industry is defined as a category of economic activity catalogued in the International Standard Industrial Classification of All Economic Activities, which is the international reference classification of productive activities.<sup>b</sup> The International Recommendations for Industrial Statistics 2008 provides a comprehensive methodological framework for the collection and reporting of industrial statistics in all countries, irrespective of the level of development of their statistical systems.

The Index of Industrial Production has historically been one of the most frequently used indicators.<sup>c</sup> The Index, reflecting temporal changes in the value-added for individual industries, has a strong relationship with the performance of an economy as a whole and provides the information needed for industrial policy formulation.<sup>d</sup> The International Recommendations for the Index of Industrial Production 2010 outlines the methodological standards for the compilation of index numbers of industrial production.<sup>e</sup>

Global responsibility for the annual collection of general industrial statistics lies with the United Nations Industrial Development Organization (UNIDO), which is also the custodian agency for six industry-related indicators under SDG 9 on “industry, innovation and infrastructure”. The UNIDO online data portal contains industrial statistics for more than 110 countries.<sup>f</sup>

Source: UN/DESA.

<sup>a</sup> United Nations Statistics Division. 2010. “International Recommendations for the Index of Industrial Production 2010”.

<sup>b</sup> United Nations Statistics Division. 2008. “International Recommendations for Industrial Statistics 2008”.

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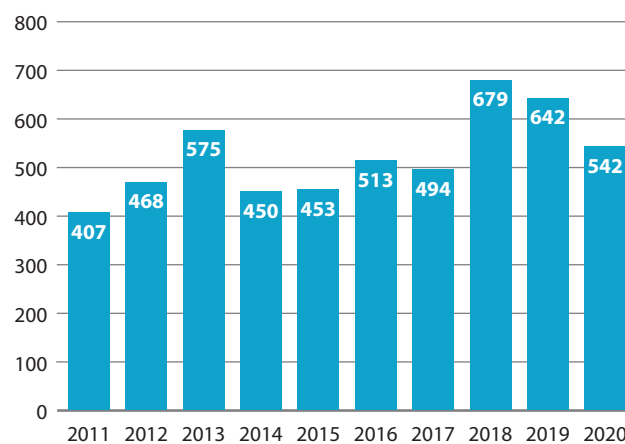
<sup>f</sup> <https://stat.unido.org/>.

## 3. Financing for data and statistics

**Funding for data and statistics needs urgent attention.** Global data ecosystems need an estimated \$5.6 billion per year to achieve the goals of the 2017 Cape Town Global Action Plan for Sustainable Development Data.<sup>28</sup> An analysis showed that for every \$1 invested, data has delivered an average economic return of \$32, demonstrating the potential of data and statistics.<sup>29</sup> Yet, existing domestic funding currently meets less than 40 per cent of the needs of developing economies.<sup>30</sup> Only half of countries fully fund their national statistical plans, while only five donors provide around two-thirds of funding.<sup>31</sup> In 2020, funding for data and statistics

fell by nearly 16 per cent to \$542 million, a record decline since 2015 (figure IV.6),<sup>32</sup> and accounting for only 0.3 per cent of total ODA. The pandemic partly accounts for the decrease, but the drop also reflects the challenge in mainstreaming data activities, the limited pool of donors and the low strategic priority accorded to data and statistics that has persisted for decades.<sup>33</sup> Even prior to the pandemic, funding for data and statistics was only half of the amount needed to produce sufficient data for SDG reporting.<sup>34</sup> The pandemic has also increased data demand, with the latest United Nations-World Bank survey on the impact of COVID-19 on national statistical offices indicating that in two thirds of low- and lower-middle-income countries, statistical agencies lack sufficient resources to meet the demands for data created by the pandemic.<sup>35</sup>

Figure IV.6  
**Funding for data and statistics**  
(Millions of United States dollars)



Source: PARIS21. 2022. “Partner Report on Support to Statistics 2022”.

**Efforts are under way to strengthen coordination and mobilize finance for data and statistics.** In 2022, the World Bank and the United Nations launched a “Data With Purpose” campaign to scale up donor and partner coordination and funding to support national data and statistics priorities (box IV.4). The campaign aims to jointly mobilize at least \$500 million through the Global Data Facility (GDF) and Complex Risk Analytics Fund (CRAF’d) to meet country demand.<sup>36</sup> The GDF, part of a new, innovative financing architecture, is working to coordinate broad donor support to address the data priorities of low- and middle-income countries, including: modernizing data and statistical systems; strengthening human capital for data production, analytics, use and dissemination; and supporting and expanding institutional and policy arrangements for data and statistics to support economic, social and sustainable development. It is complemented by the Bern Network Clearing House for Development Data, a multi-stakeholder initiative designed to help increase transparency and the efficiency of international financial support for data activities. Launched by the United Nations in 2021, CRAF’d is a multilateral financing instrument to support a strong data ecosystem and expand shared capabilities to better anticipate, prevent and respond to complex risks in conflict- and crisis-affected settings. Guided by its Statistical Performance Indicator profiles,<sup>37</sup> the World Bank is scaling up concessional lending to



low- and middle-income countries to help close core data gaps, including in household surveys, enterprise surveys, agricultural data, price data and administrative data. World Bank lending operations for data and statistics in the pipeline for 2023 so far include commitments of \$1.1 billion for International Development Association countries and \$0.2 billion for International Bank for Reconstruction and Development countries.

#### Box IV.4

##### “Data with Purpose” campaign

The “Data with Purpose” campaign calls on all stakeholders to revitalize support for data and statistics, including supporting integrated data ecosystems: (i) **bilateral and philanthropic donors** to allocate a minimum of 0.8 per cent of their annual investment to data ecosystems through CRAF'd and GDF, as well as increase the transparency of their funding; (ii) **low-income country governments** to allocate 0.5 per cent and **middle-income countries** 0.1 per cent of their annual spending towards data ecosystems; (iii) **the private sector** to be a core partner in establishing and utilizing data ecosystems; and (iv) **all ecosystem participants** to collaboratively drive the agenda forward.

**Source:** United Nations and World Bank. 2022. *Investment Case: Multiplying Progress through Data Ecosystems*. Data with Purpose Publication.

## 4. Accessibility, discoverability and innovation

**A strong data ecosystem and improved interoperability can enhance policy design and decision-making.** A strong data ecosystem (see *2022 Financing for Sustainable Development Report*) should support the application of new, innovative tools to integrate data from all relevant sources. Data is increasingly used for “immediate action” to provide decision-makers with information needed to assess a current situation, develop solutions and monitor progress. Advanced and innovative nowcasting, forecasting and early warning systems are critical elements to be integrated through improved interoperability. Official data from national surveys and censuses remains a fundamental source for most policy-relevant predictive and simulation models. In contrast, administrative data is underexploited, partly due to widespread quality issues but also because of siloed systems and obstacles to sharing. Geospatial data is timely data with extensive geographic coverage and has the potential to integrate various types of data. Private intent data or “big data” offers immediacy and fine disaggregation but has limitations on its use for development purposes.<sup>38</sup> The lack of internationally accepted standards for integrating data as well as concerns about licensing, privacy and security, hinder data-sharing. Furthermore, the costs of data integration rise with the increasing number of disaggregated and scattered data sources administered by different stakeholders with varying levels of technical capacity. There are also challenges with outdated technical infrastructure and skills as well as limited government capacity and weak data governance policies. Investments in strengthening data ecosystems and enhancing the interoperability of data can help in the integration of diverse sources (see box IV.5).

#### Box IV.5

##### Standards for the digitalization of multimodal trade and transport data exchanges

The United Nations Economic Commission for Europe (UNECE) and its subsidiary body, the United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT), developed a set of standards for the digitalization of multimodal trade and transport data exchanges to enable the fast and paperless transmission of trade data across different modes of transport and ensure its international acceptance. This helps with harmonizing standards on the digitalization of trade-related cargo shipment documentation, capturing data exchange structures for maritime, inland water, air, road and rail cargo movements. These standards for digital data-sharing support the seamless flow of information, which facilitates trade and transport in the European Union, notably in the areas covered by the European Union’s single window and electronic freight information regulations.

**Source:** UNECE.

**The establishment of data stewards can help to promote accessibility, interoperability and governance.** A data steward helps to address issues related to the governance, management, access, and equitable and inclusive use of data for public benefit in a systematic, sustainable and responsible way. Accordingly, the United Nations Statistical Commission and the UNECE Conference of European Statisticians are working towards the development of a common understanding of the roles of a data steward and possible models for its implementation within different national data ecosystems.<sup>39</sup> With special consideration given to the role of the national statistical office, a data steward should promote data quality, data interoperability, open data and sharing of data among public and/or private sector organizations. Data stewardship strengthens public trust in official statistics and data management across the public sector and is necessary for maximizing the value of data assets. National statistical offices have inherent and unique expertise to lead data stewardship in the national statistical system and to take on data stewardship responsibilities across the national data ecosystem. A task team under the Committee of Experts on Big Data and Data Science working on privacy-enhancing technologies, as well as a United Nations Privacy-enhancing Technologies Lab, have been established to resolve privacy and confidentiality issues involving innovative data sources.

**More attention is needed on the usability, discoverability and accessibility of data.** International assistance provided to statistics and data systems in low-income countries has largely focused on the production of data. Less attention has been paid to enabling and promoting access to and use of data. Datasets of multiple sources and types remain locked and/or underexploited due to issues of usability, discoverability and accessibility. There is considerable underinvestment in data tools and processes—from data collection to use. Improving access to and the use of data requires improvement in many areas, such as convenience (for example, formats and access mode), visibility, discoverability, usability and accessibility of data. This means that data producers need to improve their documentation, packaging and publishing of data so that data users

can find, access, analyse and use available sources. The United Nations Statistics Division has developed an e-learning course to help improve user engagement.<sup>40</sup>

**The high costs of innovative data methods and limited capacity hinder application in poorer countries.** The official use of innovative big data and advanced analytics in policymaking demand new capacity, skills and frameworks from governments to assess and audit data quality. New tools and standards must be developed to document the production process to ensure transparency and accountability. Dissemination mechanisms need to be updated to allow access to and use of data collected through new technologies. The high cost of acquiring datasets, like high-resolution satellite imagery, can be challenging for governments, in particular LDCs. The information technology cost, such as cloud or on-premises infrastructure, for the storage and analysis of large datasets may also be a barrier for poorly funded agencies.

**Initiatives to guide and promote the use of big data and data science support innovations in the use of data.** Innovative data methods and sources can support the generation of statistics in various areas, transforming the production of official statistics and enabling the provision of almost instant information on phenomena that were difficult to capture before. The United Nations Expert Group on Big Data and Data Science for Official Statistics has issued methodological guidelines and recommendations on the use of mobile phone data, earth observation data, data from automated identification systems of vessels, transaction data and web-scraped data.<sup>41</sup> In 2020 and 2021, regional hubs for

big data were established in Brazil, China, Rwanda and the United Arab Emirates to assist national statistical offices in building data science skills and incorporating new skills in their workstreams for statistical production. The Expert Group also established a sector hub on Artificial Intelligence for Environment and Sustainability for the System of Environmental-Economic Accounting, which is operated by the Basque Centre for Climate Change in Spain and specializes in sustainability and environmental issues. The Data for Now initiative also helps countries and partners to increase the use of innovative data sources, methods and approaches.<sup>42</sup>

**National statistical offices can play a central role in encouraging open data.** Open data enhances information transparency, access and use of public sector data.<sup>43</sup> Access to data and metadata can be accelerated when data is provided in a machine-readable format, allows bulk download or is stored in application programming interfaces.<sup>44</sup> This requires sufficient resources and technical capacity to launch and maintain open data platforms. Data security and privacy protection measures must also accompany the use of open data. For example, datasets built on microdata across sectors (e.g., healthcare, education, transportation, criminal justice, property registration/housing and voter registration data) contain private individual records that need to be safeguarded. The challenge of open data initiatives is to balance privacy protection with data accessibility. To ensure this balance, national statistical offices should play a central role in the fast-changing data ecosystem and open data value chain. They can help with standard-setting and regulations as well as improving data literacy to encourage the use of open data.

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