



Financing for Sustainable Development Report 2022

Inter-agency Task Force on Financing for Development

Bridging the Finance Divide



United Nations

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

Financing for Sustainable Development Report 2022



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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.

Inquiries about the Task Force or its report and online annex can be sent to:

Financing for Sustainable Development Office
Department of Economic and Social Affairs
2 United Nations Plaza (DC2-2170)
New York, N.Y. 10017
United States of America
+1-212-963-7574

developmentfinance@un.org

<http://developmentfinance.un.org>



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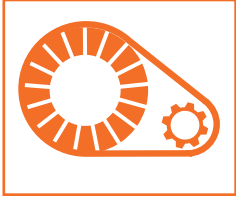
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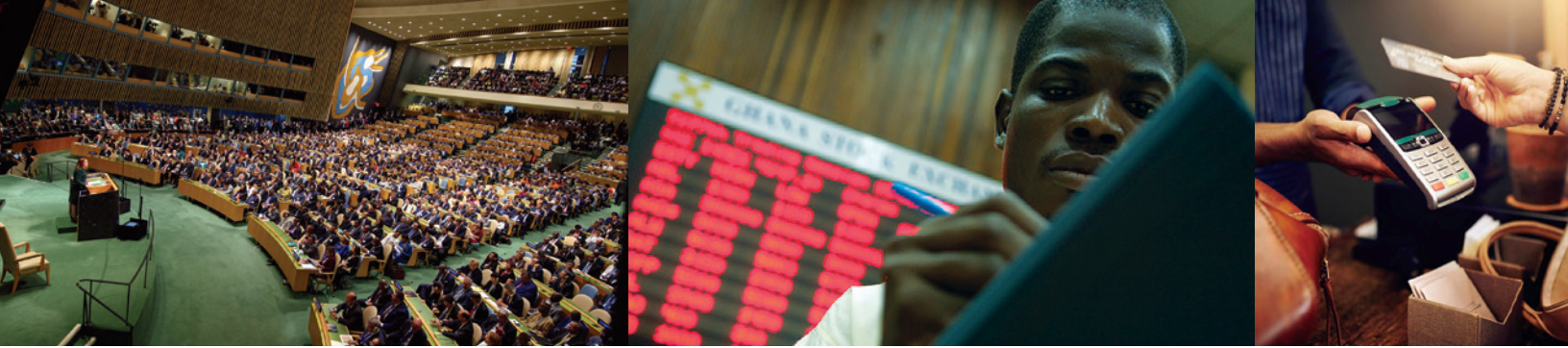
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Addressing systemic issues



Chapter III.F



Addressing systemic issues

1. Key messages and recommendations

The COVID-19 pandemic has brought to the fore the strong and growing linkages between the economic, social and environmental pillars of sustainable development. Amid growing systemic and interlinked risks, improved policy coherence and consistency—as called for by the financing for development process and reiterated in the Addis Ababa Action Agenda—is more important than ever. Decisive multilateral efforts are needed to overcome the current crisis, support countries most in need and build a more sustainable, resilient and inclusive international system.

The COVID-19 crisis continues to put stress on the international financial system amid an uneven economic recovery and tightening global financial conditions. The tightening of monetary policies in major developed economies is already causing a reversal in international capital flows, posing additional challenges for national policymakers and with the potential to put the global financial safety net (GFSN) to another test.

Countries have drawn on all layers of the GFSN, but access has been uneven and gaps remain. A record new allocation of Special Drawing Rights (SDRs) and International Monetary Fund (IMF) emergency lending were the main GFSN instruments that were accessible to most countries. Bilateral currency swaps were limited to a smaller number of countries and regional financing arrangements (RFAs) have not lived up to their potential.

- Countries with strong external positions should implement, in a timely manner, the voluntary channelling of SDRs to countries in need—considering all mechanisms under discussion;
- IMF members should replenish the IMF's concessional financing and debt relief instruments and use the Sixteenth General Review of Quotas to expand the lending capacity of the IMF;
- The role of RFAs could be strengthened by expanding their member bases and increasing their resource envelopes.

Greater cooperation—including with the IMF—can help, although RFAs should maintain sufficient autonomy to best serve their member countries' needs.

Policymakers need to have the full policy toolkit at their disposal to address the impacts of capital flow volatility. This includes monetary, exchange rate, macroprudential, capital flow management and other policies.

- The international community can support policymakers through coherent guidance that explicitly considers the effects of leakages, spillovers and interactions of different policies. An Integrated Policy Framework could help countries determine the best policy mix that could be implemented as part of a broader Integrated National Financing Framework;
- Clear and transparent communication of monetary policy shifts in source countries can help to reduce negative spillovers. Source countries' efforts to strengthen domestic financial stability and enhance incentives for long-term sustainable investment could also reduce capital flow volatility.

The pandemic has highlighted new risks to financial and macroeconomic stability, including growing non-economic risks. While the banking sector broadly withstood the March 2020 market turmoil, less regulated non-bank financial intermediaries (NBFIs) amplified market stresses and exacerbated liquidity shortages. Going forward, this risk is likely to be compounded by the growth of financial technology (fintech) intermediaries. Economic and financial stability risks associated with climate change also call for regulatory and supervisory action.

- Policymakers should follow the principle of “same activity, same risk, same rules” for NBFIs. Specific proposals include: enhanced reporting requirements; measures to reduce leverage; and increased shock-absorption capacity;
- As climate-related risks increase, policymakers should consider mandatory reporting requirements for financial institutions

on climate-risk exposures and mitigation strategies. Climate-related scenarios in stress tests could help to assess whether additional liquidity and capital buffers may be required to safeguard financial stability;

- Central banks should continue to address climate-related risks as part of their mandates for price stability and financial stability. Some central banks could consider going further and use monetary policy to support the transition to a low-carbon economy, for example, by tilting corporate bond purchases towards less polluting companies;
- Greater coordination between national authorities and with international standard-setting bodies can help to improve understanding of the systemic risks and international spillovers from NBFIs and from non-economic risks such as climate change. Comparable regulatory standards could help to prevent regulatory arbitrage and ensure a level playing field.

Rapid developments in financial technology create new opportunities and risks, including for financial stability and integrity.

During the COVID-19 crisis, big tech platforms continued to expand their activities in the financial sector. The crisis also accelerated the development of a new ecosystem of digital assets, currencies and financial services, with growing linkages to traditional financial institutions, which could increase systemic risks.

- Entity-specific regulations can complement the principle of “same activity, same risk, same rules” to address emerging risks from big tech platforms in finance, for instance, by preventing anti-competitive practices;
- Enhanced international cooperation is needed to create a comprehensive, coordinated regulatory framework for cryptoassets and so-called “stablecoins” that can also address spillover risks to the global financial system;
- Discussions on standards for central bank digital currencies should include the voice of developing countries as they may be most affected by unintended consequences such as increased capital flow volatility and currency substitution.

A strong, inclusive and coherent multilateral system is needed to overcome the COVID-19 crisis and get back on track to achieve the sustainable development goals (SDGs). The United Nations provides a universal platform to bring together discussions on financial, economic, environmental (including climate) and social issues that are being held at different multilateral forums and institutions. Additional efforts can strengthen coherence and global governance.

- A biennial summit between the G20, the United Nations Economic and Social Council and international financial institutions, proposed in the report of the Secretary-General on Our Common Agenda, could help to strengthen coherence and move the needle on joint policy action;
- The ongoing IMF Sixteenth General Review of Quotas is an opportunity to move forward on governance reform and strengthen the voice and representation of developing countries.

The next section of this chapter analyses the crisis response and challenges in the international financial architecture; section 3 reviews the implementation of agreed regulatory reforms and maps out a way forward; section 4 discusses the role of financial regulation and monetary policy in the age of climate change; section 5 puts forward recommendations to address the growing systemic risks of digital finance, assets and currencies; and section 6 considers how to strengthen global governance and policy coherence.

2. International financial architecture

Two years into the COVID-19 pandemic, many developing countries are struggling to mobilize resources for a sustainable, resilient and inclusive recovery amid reduced policy space and an expected tightening of global financial conditions. The recent allocation of SDRs afforded some relief, but additional efforts are needed to reallocate SDRs to countries most in need. The GFSN provided much needed emergency liquidity to many developing countries, while revealing inequalities and gaps that still need to be addressed. As large developed countries are beginning to tighten monetary policies, the GFSN may be tested again by a sharp reversal of international capital flows. This also increases the urgency for national policymakers to be able to use the full policy toolkit for managing capital flow volatility.

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2.1 Liquidity support from Special Drawing Rights

In August 2021, the IMF issued a historic new allocation of SDRs, equivalent to \$650 billion, providing international liquidity for developing countries to address balance of payment needs and confront the monetary and fiscal challenges of the COVID-19 crisis.

SDRs are an international reserve asset that can be issued by the IMF to address a long-term global need to supplement existing reserves. Once they are allocated, IMF member countries can hold them as part of their foreign exchange reserves or exchange them with other countries (or prescribed holders) for freely usable currencies. While many (but not all) countries administer their SDR holdings through their central banks, this is not required by the IMF Articles of Agreement. Rather, countries' fiscal agencies are free to decide on the use of their SDRs in accordance with national legal frameworks.¹ By the end of January 2022, 35 countries had reportedly exchanged all or part of their allocations for freely usable currencies (equivalent to \$14.8 billion).²

There is broad consensus that channelling SDRs from countries with strong external positions to countries most in need can strengthen the impact of the original allocation. Since SDRs are distributed in proportion to countries' IMF quota shares, developing countries received only around one third of the total, with least developed countries (LDCs) receiving just over \$15 billion and small island developing States (SIDS) just over \$9 billion. Several countries with strong external positions have expressed interest in a voluntary channelling of their SDRs to countries most in need, with both the G7 and G20 calling for a total global reallocation of \$100 billion (while preserving the reserve asset characteristics of channelled SDRs). As of mid-February 2022, countries had pledged a total of \$60 billion.³

Three mechanisms under discussion would address immediate liquidity needs and longer-term financing requirements to invest in sustainable development. First, countries can voluntarily channel SDRs to provide resources for the IMF Poverty Reduction and Growth Trust (PRGT) that facilitates concessional lending for low-income and other vulnerable countries through IMF programmes. To meet the exceptional needs of low-income countries (LICs) as they recover from the pandemic, additional PRGT loan and subsidy resources are being mobilized just as international financial conditions are expected to tighten. Lending countries earn the SDR interest rate, thus offsetting the cost of a deficit in their SDR accounts.⁴ Lenders can also seek early repayment in case they experience

a balance of payments need, allowing on-lent SDRs to retain their reserve asset characteristics. Some countries have already channelled their existing SDRs this way, providing about \$15 billion of the \$24 billion in new PRGT loan resources mobilized under the fast-track campaign launched in April 2020.⁵ Second, countries could channel SDRs through the proposed IMF Resilience and Sustainability Trust, for affordable, long-term (up to 20 years) financing to help LICs and vulnerable middle-income countries (MICs) build economic resilience and sustainability. This is in line with calls from the Secretary-General for the establishment of a new trust fund at the IMF to address the needs of vulnerable MICs and particularly SIDS.⁶

The third option under discussion is to channel SDRs through multilateral and regional development banks that are already prescribed holders of SDRs and can support medium- to longer-term development needs based on their regional, country and sector expertise, technical knowledge and experience. There are a number of potential mechanisms for channelling SDRs via multilateral development banks (MDBs), including the possibility of drawing on the model of the PRGT to establish new trust funds at MDBs, or by using them as quasi-capital that could be leveraged further to mobilize more resources for sustainable development, including near-term needs, such as vaccine purchases, and longer-term sustainable development priorities. Yet, any proposal for channelling SDRs via MDBs needs to address national regulatory, policy and institutional arrangements that guide the level of flexibility countries have outside established IMF options.⁷ Some of this new financing could be channelled through national development banks to harness their local knowledge and expertise.

These and other proposed options are complementary and should be further explored, with a focus on rapid implementation, low interest rates, wide access and parsimonious conditionality. The PRGT is a time-tested mechanism that can be readily used, although access is limited to LICs. If the RST moves forward as planned, it should be fully operational by the end of 2022. Developing specialized trust funds for channelling SDRs through development banks should also be explored, and they could become part of a broader set of financing instruments for sustainable development. There have been other calls to use SDRs for mechanisms that aim to increase global liquidity and leverage resources for sustainable development (for example, the recently launched ECA Liquidity and Sustainability Facility⁸ and a Barbados proposal to use SDRs for climate finance⁹). Where they are not managed by the IMF or other prescribed holders, using SDRs to support such mechanisms would also require a change to the IMF Articles of Agreement. In general, channelling mechanisms should allow for a rapid disbursement of funds to a wide range of countries in need. They should do so at zero or minimal interest rates to minimize the additional debt burdens and avoid overly onerous conditions, such as fiscal consolidation measures, that could hamper a sustainable recovery and risk further long-term economic scarring. Channelling SDRs should also not crowd out existing resources for development cooperation.

2.2 Coverage of the global financial safety net

Countries have drawn on all layers of the GFSN during the COVID-19 crisis. Despite increases in coverage since the 2008 world financial and economic crisis, access is uneven and gaps remain. With the IMF at its centre, the GFSN also includes RFAs, bilateral swap arrangements and countries' own foreign exchange reserves, with bilateral currency swaps

between central banks outweighing multilateral and regional support (see below). The SDR issuance in August 2021 helped to bridge some of the gaps by providing IMF member countries with international liquidity without creating additional debt.

In addition to the historical SDR allocation, IMF lending facilities were an important source of external liquidity for most developing countries during 2020 to 2021. Out of total IMF support of \$170.6 billion, \$32.9 billion was disbursed to 82 countries as emergency financing, including through the Rapid Credit Facility (RCF) and the Rapid Financing Instrument (RFI), without formal adjustment programmes, and augmentations against existing arrangements. Over half (\$104.4 billion) was made available to countries with very strong fundamentals and policy frameworks, including under four new Flexible Credit Lines and one Precautionary and Liquidity Line. Lending via new disbursing arrangements with standard upper-credit tranche conditionality amounted to \$33.2 billion, with demand—to some extent—coming from countries that already had been discussing conventional IMF lending before the pandemic.¹⁰ The IMF also implemented several short-term measures, including increasing access limits to lending facilities and temporarily streamlining approval processes. While enhanced cumulative access limits for the RCF/RFI emergency facilities were recently extended, they were reduced to normal levels for all other instruments from January 2022. As the pandemic lingers on, and country needs change from emergency response to recovery mode—barring a potential renewed need for emergency support in some countries—a shift in IMF support would mean a return to more standard conditionality.¹¹

To better support LICs, the IMF approved a set of reforms to the PRGT, with an associated funding strategy, and continues to seek additional funding for the Catastrophe Containment and Relief Trust (CCRT). For the PRGT, the centrepiece of the approved reforms is a 45 per cent increase in the normal limits on access to concessional financing coupled with the elimination of hard limits on access for the poorest countries. The associated funding strategy aims to secure \$3.9 billion in subsidy resources (to support zero interest rates) and an additional \$17.7 billion in loan resources which could be facilitated by the channelling of SDRs.¹² In addition to its lending facilities, the IMF also provided debt service relief to its poorest and most vulnerable members under the CCRT from April 2020 through April 2022, totalling \$965 million for 31 countries. Additional funding is being sought to ensure that the CCRT has adequate resources to respond quickly to future shocks. A general quota increase would help to expand the overall lending capacity of the IMF. The Sixteenth General Review of Quotas, to be concluded by 15 December 2023, is also an opportunity to continue the process of governance reform (see section 6).

Bilateral and regional support

While multilateral mechanisms provided an important lifeline for many countries, bilateral currency swaps accounted for most of the liquidity support under the GFSN. A comprehensive analysis of the lending activities of all GFSN institutions shows that bilateral currency swaps between central banks accounted for the largest share of total liquidity support, at over \$1.5 trillion between February 2020 and October 2021.¹³ These swaps are being offered by a wide range of central banks, predominantly the United States' Federal Reserve and the People's Bank of China and, to a smaller degree, by central banks in other

advanced economies, such as Japan, Great Britain, Australia, Sweden and Switzerland. However, while their fast and plentiful deployment provided much-needed liquidity during the early phase of the COVID-19 crisis, most developing countries lack access to such arrangements. Almost 90 per cent of total bilateral swap volumes went to high-income and upper-middle-income countries. On a regional basis, central bank currency swaps were mainly offered in East and Central Asia and Europe (figure III.F.1).

Bilateral swaps are a discretionary element of the GFSN that lack the predictability and the transparency of multilateral support.

Bilateral swaps are voluntary and depend on the interests of the countries involved in the arrangement, often based on trade and financial ties and political economy considerations. Such a dynamic is opposed to the spirit of international solidarity that underpins the GFSN.

Regional liquidity sources remained almost untapped during COVID-19 but they provided a quick crisis response for those countries who accessed them.

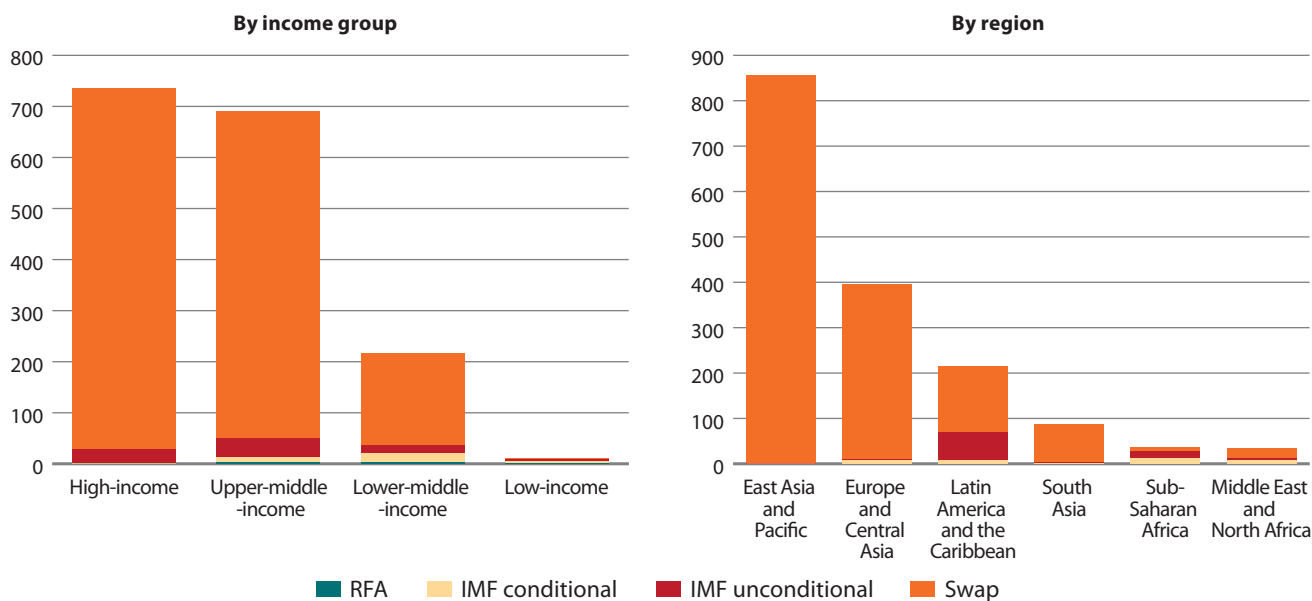
The comparative strength of RFA loans during the pandemic has been their quick disbursement, albeit with small amounts that borrowing countries had to combine with other GFSN sources. Between February 2020 and October 2021, RFAs disbursed about \$5.4 billion to member countries out of their combined \$1 trillion lending volume. Currently, developing countries have access to six RFAs, covering 61 countries.¹⁴ The most voluminous regional and trans-regional funds, the Chiang Mai Initiative Multilateralization (CMIM) and BRICS Contingent Reserve Arrangement (CRA), played no part, as member countries resorted

almost exclusively to bilateral central bank currency swaps. The Eurasian Fund for Stabilization and Development (EFSF) and the South Asian Association for Regional Cooperation (SAARC) were utilized several times, partly in combination with IMF programmes. Of the smaller funds, only the Arab Monetary Fund (AMF) received requests even though its overall lending volume is too small for the majority of its member countries to respond to a crisis as a stand-alone source.

RFAs could play an important role in strengthening the GFSN—which depends on the ability of all its layers to provide the necessary support for countries to overcome crises and return to stable and sustainable development.

The benefits of having a diverse range of financing sources has long been recognized as important for flexibility and resilience during times of crisis.¹⁵ RFAs also give voice and representation to their member countries, most of which are not included in other multilateral forums—for example, no members of AMF or FLAR (Latin American Reserve Fund) and only four members of CMIM are part of the G20.¹⁶ RFAs could be strengthened by expanding their member bases and, in some cases, increasing their resource envelopes (depending on political will). For example, the creation of a more comprehensive African regional financing arrangement—possibly with the support of donor funding—could increase emergency liquidity access for many countries.¹⁷ RFAs could also benefit from the enhanced exchange of experience and peer learning. While continuing cooperation with the IMF will be important, RFAs should maintain sufficient autonomy—including of their

Figure III.F.1
Use of the global financial safety net, February 2020–October 2021
(Billions of United States dollars)



Source: Mühlich, Laurissa, Barbara Fritz and William N. Kring. 2021 (based on data in www.gfsntracker.com).¹⁸
Note: Unlimited central bank currency swaps are not included. Based on an assumption of reciprocity, currency swaps between advanced economies are counted twice; and between emerging markets and developing economies once. Central bank currency swaps correspond to the sum of the maximum available central bank currency swap amount per country between March 2020 and October 2021. IMF lending corresponds to the sum of IMF loans agreed between March 2020 and October 2021. IMF conditional: Stand-by Arrangement, Catastrophe Containment and Relief Trust, Extended Fund Facility, Extended Credit Facility; IMF non-conditional: Rapid Credit Facility, Rapid Financing Instrument, Flexible Credit Line, Precautionary and Liquidity Line, Short-term Liquidity Line. RFA lending corresponds to the sum of loans by all RFAs agreed between March 2020 and October 2021.

surveillance and enforcement systems—to best serve their member countries’ needs. For instance, the reluctance of member countries to access CMIM facilities during the last decade has been partially attributed to the fact that lending was linked to agreement to an IMF programme.¹⁹

2.3 Managing capital flow volatility

Recent changes in international financial conditions have highlighted the risks associated with capital flow volatility. Increased inflationary pressures and a return to tighter monetary policies in the United States and other developed economies have affected market sentiment, with non-resident portfolio flows to emerging economies (excluding China) turning negative during the last quarter of 2021 and outflows accelerating in January 2022 (see chapter I). While cross-border capital flows can provide important benefits, such as improving access to funding for sustainable development, volatile short-term capital flows pose significant challenges for developing economies. They can affect asset prices, exchange rates, debt sustainability and financial stability, especially in the small, open economies of many developing countries. Risks are greater in the presence of underlying macroeconomic or financial vulnerabilities, but the risks exist in all countries.

Policymakers need to have all tools at their disposal—including monetary, exchange rate, macroprudential, capital flow management and other policies—to balance the benefits of international capital flows with associated risks. Capital flows continue to be driven by global factors outside the control of recipient countries, and a sharp increase in global interest rates—as may happen in 2022—can trigger large and fast capital outflows from developing countries. Policymakers in recipient countries need to prepare for such a scenario, using the full policy toolkit as needed. Source countries, in turn, should communicate monetary policy shifts in a clear and transparent manner to help reduce negative spillovers.

The initial impact of the COVID-19 shock on capital flows and developing countries’ policy responses shed light on the functioning of different policies, confirming the effectiveness of ex ante macroprudential measures (MPMs) and capital flow management measures (CFMs). Monetary policy and exchange rate adjustments typically work better in more advanced economies that have deeper financial markets.²⁰ New empirical studies of sudden capital flow reversals (including the COVID-19 shock) have, however, confirmed the effectiveness of ex ante CFMs and countercyclical MPMs for developing countries. In particular, the pre-emptive use of CFMs on capital inflows can limit related credit growth and currency mismatches. Countries with pre-emptive CFMs experienced relatively lower external finance premia and exchange rate volatility during global sudden stops and were, on average, more able to retain access to external financing.²¹ Countries with tighter MPM—including countercyclical capital buffers, loan-to-value ratios and macroprudential measures that limit foreign currency exposures—were also, on average, better shielded from financial and economic stresses during the COVID-19 shock.²²

Unintended consequences and interactions between different policies still need to be better understood and should inform more integrated policy frameworks. Empirical studies have often focused on the effects of a small set of policy measures, with limited attention to the impact of unintended leakages (shifts within or between

sectors) and international spillovers.²³ Reviews of the implementation of different policy measures such as MPMs, CFMs, monetary, exchange rate and others, also suggest that policymakers view these measures as separate, rather than considering their interactions.²⁴ The Integrated Policy Framework put forward by the IMF could help countries to determine the best policy mix based on their specific situation and needs and possible interaction between different policies.²⁵ As part of a broader Integrated National Financing Framework it could also support greater coherence between macroeconomic, financial and trade policies and financing strategies for sustainable development.

International guidance and support for the management of capital flow volatility should explicitly consider the effects of leakages, spillovers and interactions and continue to seek greater alignment between different guidelines and agreements. While the IMF “Institutional View on the Liberalization and Management of Capital Flows” (IV) considers all policy options (although with a limited role for CFMs as a temporary instrument), the World Trade Organization’s General Agreement on Trade in Services and the Organisation for Economic Co-operation and Development’s (OECD) Code of Liberalisation of Capital Movements limit the policy space of its members by ruling out the use of CFMs—as do many bilateral and multilateral trade and investment agreements.²⁶ The upcoming review of the IV is an opportunity to strengthen the advice on leakages, spillovers and interactions (including advice for source countries on mitigating spillovers while meeting their own macroeconomic and financial stability objectives) and to continue coordination with other multilateral bodies to increase consistency. While the recent focus has mainly been on the effectiveness of ex ante policy measures, the IV review should also allow more space for ex post measures to react to financial shocks, where needed—although they should not be a substitute for necessary structural reforms.

3. Agreed regulatory reforms: implementation and way forward

The March 2020 market turmoil showcased the positive effects of regulatory reforms since 2008 while also highlighting gaps and new vulnerabilities. While the banking sector showed increased resilience, some less regulated non-bank financial intermediaries amplified market stresses and exacerbated liquidity shortages, requiring central bank intervention as liquidity providers of last resort. Risks associated with NBFIs in the financial sector, growing economic and financial stability risks associated with climate change, and rapid developments in financial technology and digital assets and currencies that may pose increasing systemic risks (see sections 4 and 5) require regulatory and supervisory action to reduce financial stability risks and spillovers.

3.1 Implementation and effects of agreed reforms

The regulatory reforms agreed by the G20 following the 2008 world financial and economic crisis helped to strengthen the regulated financial system, allowing it to broadly withstand the COVID-19 shock. Regulated financial institutions helped to cushion, rather than to amplify, the macroeconomic shock at the beginning of the pandemic—supported by unprecedented policy responses (including

government support for loan forbearance and other assistance to struggling companies). Large banks held more capital and liquidity than in 2008 and were less leveraged. Early evidence indicates that higher initial capital levels allowed banks to support lending during the pandemic.²⁷ Reforms of over-the-counter derivatives markets, especially the increased use of central counterparties, helped to mitigate counterparty risks, while the insurance sector benefited from enhanced supervision standards and MPMs. Financial supervisors in many countries used flexibility within global standards to sustain liquidity provision during the early phase of the pandemic, with guidance from the Financial Stability Board (FSB) and international standard-setting bodies.²⁸

With the focus of authorities firmly on the immediate impact of the crisis, progress in the further implementation of agreed reforms was slow, and standard-setting bodies extended implementation deadlines for some reforms. Most progress was achieved in the Basel III standards that were still lagging behind in implementation. For example, six jurisdictions moved ahead with supervisory frameworks for measuring and controlling large exposures, raising the number of countries with full adoption to 18 and those with published draft or final rules to six (figure III.F.2). Several measures that were introduced in response to COVID-19 have also been made permanent in some jurisdictions, including changes to market and counterparty credit risk frameworks and margin practices to limit excessive procyclicality.²⁹

3.2 Addressing growing risks in the non-bank financial intermediation sector

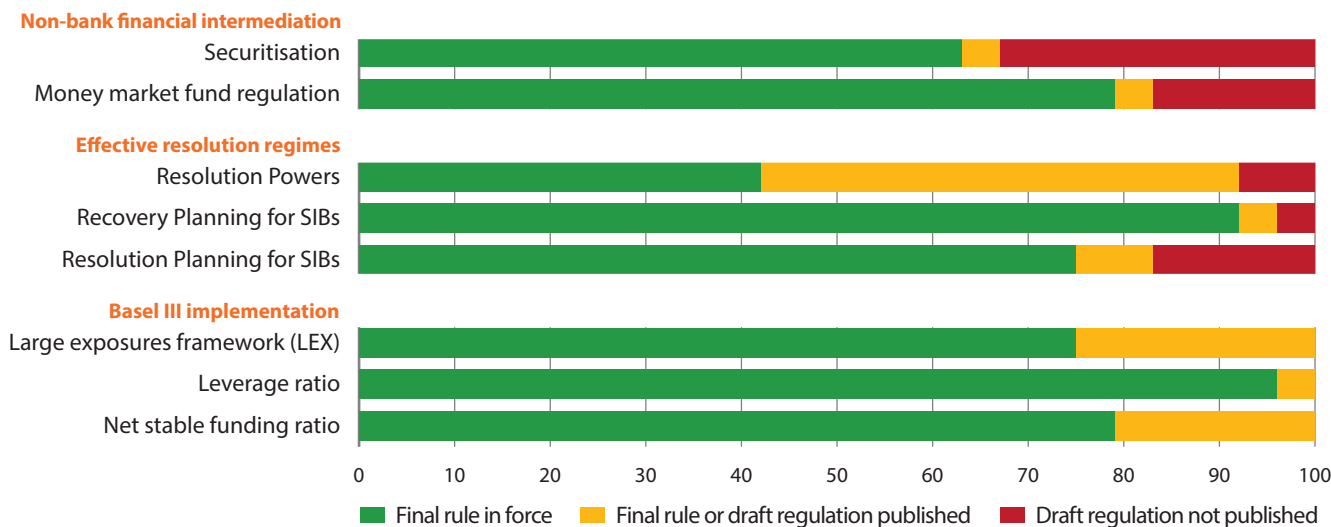
The financial market turmoil at the onset of the pandemic highlighted gaps in the regulatory framework that warrant further attention from regulatory and supervisory authorities. While the share of assets held by NBFIs experienced its sharpest decline since the

2008 world financial and economic crisis, it remained high, at 48.3 per cent in 2020 (figure III.F.3). The growth in NBF assets was outpaced by that of central bank assets and commercial bank assets, owing in part to aggressive monetary policy on the part of central banks and commercial banks' involvement in public stimulus measures (for example, direct credit programmes and public guarantee schemes). As these measures are beginning to be unwound, a return to previous trends seems likely. The growing role of fintech and large technology companies in the financial sector and the increasing uptake of digital currencies and decentralized finance (DeFi) structures, which are outside the commercial bank regulatory framework, could further accelerate the growth of NBFIs in a broader sense (see section 5).³⁰

While NBFIs can contribute to a diversified financing landscape, their activities and structures can also amplify volatility and market stress. In particular, liquidity mismatches—when holdings of illiquid long-term investments are funded with short-term borrowings—can make NBF vehicles susceptible to runs when investors need cash. They may also incentivize managers to hoard liquidity or pre-emptively liquidate assets to avoid fire-sales. While these actions may be rational from the perspective of any individual fund with short-term liabilities, they could further exacerbate system-wide liquidity shortages. Excessive leverage is an additional risk factor as it may cause downward price spirals and spillovers between asset classes if investors are forced into rapid de-leveraging, for example, to meet margin calls when market risk perceptions rise. Both of these factors played a role in the March 2020 market turmoil, when demand for US dollar liquidity increased sharply.³¹

Regulatory and supervisory authorities should close policy gaps to reduce financial stability risks and avoid overreliance on central banks as liquidity providers of last resort in future crises. Beyond the full implementation of agreed G20 reforms, policy proposals include: (i) enhanced reporting requirements to facilitate the monitoring

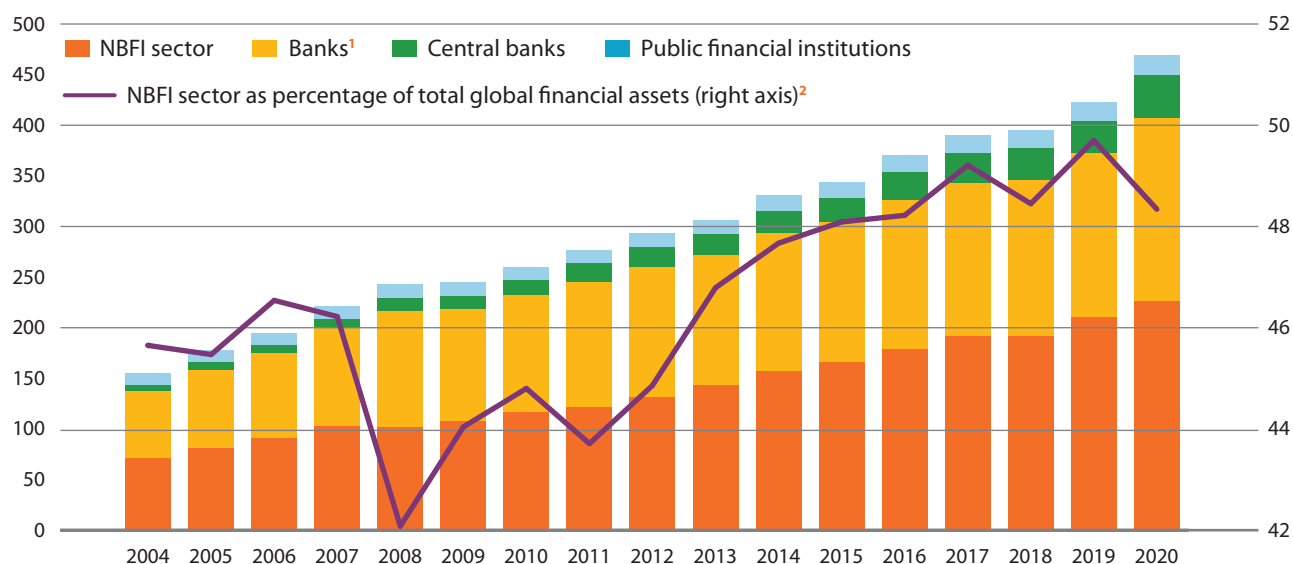
Figure III.F.2
Progress of regulatory reform implementation, 2021
 (Percentages of FSB member jurisdictions)



Source: FSB.

Note: For systemically important banks (SIBs), the five European Union members of the FSB are presented as separate jurisdictions.

Figure III.F.3

Total global financial assets, 2004–2020*(Percentages of total assets; trillions of United States dollars)*

Source: FSB. 2021. Global Monitoring Report on Non-Bank Financial Intermediation.

Note: ¹ All deposit-taking corporations; ² the NBFI sector includes insurance corporations, pension funds, other financial intermediaries (particularly investment funds) and financial auxiliaries.

of vulnerabilities; (ii) measures to reduce leverage (e.g., through tax incentives or regulatory limits) and increase shock-absorption capacity, for example, through less stress-sensitive margining practices, higher usable capital and liquidity buffers, and limits to the instant convertibility to cash; and (iii) greater coordination between national authorities and with international standard-setting bodies to better understand the systemic risks of NBFIs and address international spillovers.³²

4. Financial regulation and monetary policy in the age of climate change

In addition to the immediate losses of lives and livelihoods, increasing climate-related risks can impact asset values and threaten financial stability. While financial institutions have started to recognize the impact of climate and other non-financial risks on the value of financial assets, additional efforts are needed to fully incorporate them into decision-making and risk management frameworks. There is also room to address them through monetary policy action, including as part of central banks' mandates on price stability and financial stability.

4.1 Addressing climate risks for the financial system

Climate-related risks for financial stability

Climate-related physical and transition risks can have a material impact on financial institutions and broader implications for financial stability, requiring better tools for the assessment and mitigation of these risks. At the level of an individual institution, climate-related risks affect all traditional risk categories—credit, market,

liquidity, operational and reputational. While many financial institutions have increased their efforts to identify climate-related risks and related exposures in their portfolios, there is still a lack of frameworks to translate these exposures into quantifiable financial risk. Such frameworks require highly granular data and forward-looking modelling techniques that include long time horizons, feedback loops and risk mitigation techniques by banks or their counterparties.³³ The systemic nature of climate-related hazards and the possibility of abrupt changes in risk premia and asset prices also pose a broader threat to the stability of the financial sector.

To date, efforts to assess climate-related financial risks have focused on near-term transition risks. A recent study by the Basel Committee on Banking Supervision (BCBS) found that most banks that measure climate-related risks do so by assessing the impact of near-term transition risks on their portfolio's credit risk, based mainly on the alignment of different sectors' carbon intensity with national climate targets. Some banks are integrating the results of such assessments into their risk-management practices, which typically cover two- to five-year planning horizons. The often longer-term nature of climate-related physical risks raises additional modelling problems and tends to lie outside of banks' conventional planning horizons—although the materialization of these risks is increasingly likely to occur within the maturities of longer-dated loans and other assets.³⁴

Enhanced scenario analyses and stress testing, based on granular data and forward-looking modelling techniques, can support a more comprehensive assessment and management of climate-related risks. While some banks are already undertaking scenario analyses and stress testing, such exercises have so far been limited in scope. More comprehensive scenario analyses should cover the impact of climate change on all traditional financial risk categories over a range of relevant time horizons. They can build on scenarios developed

by international bodies, such as the International Energy Agency and the Network for Greening the Financial System. The outcomes of these analyses should inform banks' risk management frameworks, including risk mitigation strategies.³⁵

Financial institutions should disclose their climate-related risks and mitigation strategies, in comparable terms, to help regulators and market participants to identify and address institutional and broader financial stability risks. The private-sector-led FSB Task Force on Climate-related Financial Disclosures (TCFD) has put forward recommendations on climate-related financial disclosures by publicly listed companies. Despite some improvement over time, however, only 28 per cent of banks' reports were aligned with this voluntary set of disclosures in 2020—causing some jurisdictions to take steps towards making TCFD-aligned reporting mandatory.³⁶

There is also increased interest in better disclosure of the financial sector's contributions to climate goals (as opposed to the impact of climate change on financial institutions' financial profitability). For instance, the Glasgow Financial Alliance for Net Zero (GFANZ) aims to bring together financial institutions for emissions reduction and reporting on progress.³⁷ Integrating recent progress in disaster and climate risk data can also help to improve financial modelling to internalize negative external effects of financial and investment decisions on environmental and biological hazards.³⁸

A role for financial regulation and supervision

Financial sector regulators and supervisors should take a more proactive stance to ensure the stability of the financial sector in the face of growing risks. Several jurisdictions have moved towards mandatory climate-related risk disclosures, aligned with or based on the TCFD recommendations.³⁹ Financial supervisors are also increasingly using scenario analyses and climate stress tests for microprudential supervision and to identify whether climate-related risks could become systemic. While such exercises are still at an exploratory stage, they could in time be used to determine the climate-resilience of banks' portfolios and inform additional liquidity and capital requirements. For countries that have implemented the Basel II or Basel III frameworks, it might be possible to incorporate such an assessment as part of the Supervisory Review Process. However, some national supervisors have called for a complete review of the Basel Framework to fully account for climate-related financial risks.⁴⁰

Coordination between national authorities—with support from international standard-setting bodies—can further strengthen the resilience of financial markets. Increased coordination could help to establish consistent and comparable data sets and reporting standards; build frameworks for the evaluation of vulnerabilities at the national and global levels; develop effective regulatory and supervisory practices and tools; and increase capacity by sharing experiences and good practices. For example, the Network for Greening the Financial System (NGFS)—an association of 105 central banks and supervisors, including from almost all G20 countries—has developed and shared analytical work and practical tools, including on bridging data gaps, prudential supervision and climate scenario analysis.⁴¹ The BCBS Task Force on Climate-related Financial Risks recently published a consultative document with high-level principles for the effective management and supervision of climate-related financial risks as part of a broader review of the Basel Framework.⁴² The FSB *Roadmap*

for Addressing Climate-Related Financial Risks aims to bring together these and other initiatives to identify gaps, limit overlap and promote synergies, and support policy discussions at the international level, including in the G20 and G7.⁴³

4.2 Monetary policy considerations

Central banks are increasingly incorporating climate-risk considerations in their monetary policy decisions to protect their own balance sheets. They can set an example by publicly disclosing their approach. Physical and transition risks can affect central banks' balance sheets in the same way as banks' portfolios, by impacting counterparties and the financial assets used in monetary policy operations. In response, some central banks have begun (or declared an interest) to implement protective measures for their own balance sheets—including by reviewing the eligibility of assets for collateral and asset purchases based on climate-related risk profiles.⁴⁴ The Bank for International Settlements is continuing to provide support for central banks' sustainable reserve management by adding a new Asian Green Bond Fund, launched in February 2022 and managing around \$1.5 billion, to its two existing green bond funds (launched in 2019 and 2021 and managing a total of \$2 billion in green bonds).⁴⁵ Central banks can also serve as a good example for financial institutions by disclosing their own climate-related risks and mitigating strategies, in comparable terms.⁴⁶

Climate-related risks impact key macroeconomic variables, bringing them squarely into the realm of central banks' main policy mandates. Weather-related hazards and the low-carbon transition are affecting investment choices; the volatility and potential growth of GDP; employment and productivity; and price levels at the sectoral and aggregate level. Monetary policy will need to react flexibly to these changes to keep delivering on price stability and support for economic policy goals, in line with central banks' mandates. For instance, a recent study found that monetary policies that are adjusted to public climate policies (e.g., carbon taxes vs. cap-and-trade policies) are better at targeting desired price levels and increasing social welfare than monetary policies that ignore climate policies.⁴⁷ Regarding financial stability mandates, a number of central banks are already implementing scenario analyses and stress testing, as discussed above.

Several central banks have announced more proactive policy measures to support the transition to a low-carbon economy, and there is a broad set of policy options for consideration. For example, the Bank of England announced in March 2021 that it would start explicitly considering environmental and climate goals, including as part of its quantitative easing programme.⁴⁸ In July 2021, the European Central Bank committed to supporting the climate goals of the European Union, including by tilting future corporate bond purchases towards less polluting companies.⁴⁹ In December 2021, the Bank of Japan launched a new lending scheme, at zero per cent interest, to financial institutions for investment or loans they make to address climate change.⁵⁰ Earlier in 2021, the People's Bank of China announced further plans to incorporate sustainable development measures into its financial plans over the next five years.⁵¹ To support central banks in designing similar and other mechanisms, including for protective and more proactive monetary policies, the NGFS has developed a menu of policy options (table III.F.1),⁵² many of which are in line with strategies being considered by private asset managers (chapter III.B).

Table III.F.1
Selected monetary policy options for addressing climate change and related risks

Credit operations ¹		
1	Adjust pricing to reflect counterparties' climate-related lending	Make the interest rate for central bank lending facilities conditional on the extent to which a counterparty's lending (relative to a relevant benchmark) is contributing to climate change mitigation and/or the extent to which they are decarbonizing their business model.
2	Adjust pricing to reflect the composition of pledged collateral	Charge a lower (or higher) interest rate to counterparties that pledge a higher proportion of low-carbon (or carbon-intensive) assets as collateral or set up a credit facility (potentially at concessional rates) accessible only against low-carbon assets.
3	Adjust counterparties' eligibility	Make access to (some) lending facilities conditional on a counterparty's disclosure of climate-related information or on its carbon-intensive/low-carbon/green investments.
Collateral ²		
4	Adjust haircuts	Adjust haircuts to better account for climate-related risks. Haircuts could also be calibrated such that they go beyond what might be required from a purely risk mitigation perspective to incentivize the market for sustainable assets.
5	Negative screening	Exclude otherwise eligible collateral assets, based on their issuer-level climate-related risks. This could be done in different ways, including adjusting eligibility requirements, tightening risk tolerance, introducing tighter or specific mobilization rules, etc.
6	Positive screening	Accept sustainable collateral so as to incentivize banks (or capital markets) to lend (or fund) projects and assets that support environmentally friendly activities (e.g., green bonds or sustainability linked assets). This could be done in different ways, including adjusting eligibility requirements, increasing risk tolerance on a limited scale, relaxing some mobilization rules, etc.
7	Align collateral pools with a climate-related objective	Require counterparties to pledge collateral such that it complies with a climate-related metric at an aggregate pool level.
Asset purchases ³		
8	Tilt purchases	Skew asset purchases according to climate-related risks and/or criteria applied at the issuer or asset level.
9	Negative screening	Exclude some assets or issuers from purchases if they fail to meet climate-related criteria.

Source: NGFS.

Note: ¹ Credit operations are widely used to provide aggregate liquidity and usually take the form of collateralised lending. ² Collateral policy defines the range of assets that can be pledged to secure central bank credit operations as well as the risk control measures that apply to them. ³ Central banks may buy a variety of assets from both public and private sectors, typically in an effort to exert greater influence on longer-term interest rate levels and spreads while improving market liquidity.

5. Digital finance

Rapid developments in digital financial technology, further accelerated by the COVID-19 pandemic, have transformed the provision of financial services and created a new ecosystem of digital assets and currencies. While creating new opportunities for efficiency gains and financial inclusion, the large-scale adoption of these technologies also creates new risks, including for financial stability and integrity. Authorities should carefully monitor domestic and global developments, review and update regulatory frameworks when necessary and cooperate across sectors and borders to address new and emerging risks, while leaving room for innovation. International standard-setting bodies have been providing guidance and support for dealing with these challenges and should make further efforts to address the specific needs and challenges of developing countries.

5.1 Harnessing digital finance

The recent growth in digital financial services has been accompanied by an accelerated shift towards platform-based business models. The COVID-19 pandemic increased demand for cashless payment and other financial services. This trend benefited some financial service providers more than others. Larger digital platforms were able to capitalize on their broad range of services and wealth of data to cross-sell financial and other services to their customers, while several mobile money providers saw their revenue streams affected by government-mandated reductions in fees, and some smaller fintech companies had

difficulty raising funding. At the same time, the observed increase in the non-performing assets ratio by fintech non-banks, which operate outside the regulatory umbrella, highlights the importance of regulation for all fintech companies involved in lending (see chapter III.G). Many traditional financial institutions also strengthened their digital service channels, including by adopting platform models and offering third-party services (e.g., digital payments, insurance or wealth management).⁵³

Digital innovations introduced by fintech and big tech companies helped to lower the cost of formal financial services and expand access, but might lead to market dominance by a few big platforms. As highlighted in the *Financing for Sustainable Development Report 2020*, digital innovations can reduce market frictions and lower transaction costs, making it profitable to provide financial services to previously excluded or underserved individuals and micro-, small- and medium-sized enterprises (although rapid digitalization also increases the cost of exclusion—see chapter III.G).⁵⁴ The market entry of new competitors has also caused incumbent financial institutions to innovate and upgrade their customer-facing and back-end technology and provide additional services—by themselves, or by acquiring or cooperating with fintech or big tech partners. Downloads of payment apps from fintech and big tech providers (and a few incumbent banks) have increased sharply in recent years. While big tech platforms have been the main drivers in emerging and developing economies (especially where the traditional financial system was less developed and access to financial services was more limited), they have recently started to gain ground in advanced economies. Market concentration is higher in the former, but seems to be increasing in the latter as well.⁵⁵

Addressing risks from market dominance

The expanding reach of big tech platforms can threaten the business model of regulated financial institutions and cause potential risks to financial stability. In some countries, particularly in West Africa, mobile money platforms have also become systemically important actors. Yet, regulatory frameworks for these platforms differ widely between jurisdictions. Strengthened supervision and regulatory protections may be needed to ensure the continuity of critical payment services—recognizing that regulation and supervision should be proportionate to risks.⁵⁶ As discussed in the *Financing for Sustainable Development Report 2021*, as the financial activities of digital platforms become more interconnected with the rest of the financial system and/or grow to become “too big to fail”, financial regulators and supervisors need to close regulatory gaps.⁵⁷

Beyond the activity-based approach of “same activity, same risk, same regulation”, financial regulators should consider where the specific challenges of big tech companies call for complementary, entity-based regulations, including across regulatory realms.

The growing role of fintech companies has in the past increased calls for activity-based regulation to better address risks from specific activities regardless of which entity performs these activities. Activity-based regulation can also help to level the playing field between different actors and avoid regulatory arbitrage between heavily regulated banks and lightly or non-regulated fintech actors.⁵⁸ So far, however, few jurisdictions have adjusted their regulatory frameworks. At the same time, specific characteristics of big tech companies that combine different financial and non-financial services may create new risks that are not covered by a purely activity-based approach (including concerns about market dominance, data governance and operational resilience) and that may require a complementary, entity-based approach for these specific actors.⁵⁹ As some of the relevant issues lie outside of their traditional remit, central banks and financial regulators should cooperate closely with other regulators to account for the financial sector implications of data protection and access rights and anti-trust regulations. The multinational nature of big tech activities and the increase in cross-border data flows also call for increased international coordination.⁶⁰

Several jurisdictions have made progress in entity-based regulation of fintech providers and big tech platforms, although international coordination will be needed to ensure globally comparable and consistent frameworks. Most regulatory action to date has focused on strengthening competition, including through open banking requirements that ensure data portability between bank and non-bank financial service providers (e.g., in the European Union, India, South Africa and the United Kingdom) and broader regulation to prevent anti-competitive practices of digital platforms, as implemented in China in late 2020 and currently under discussion in the European Union (see chapter III.G), the United Kingdom and the United States. Some jurisdictions have also implemented or are considering data protection laws, such as the European General Data Protection Regulation.⁶¹ Greater international coordination—including through a Global Digital Compact—will be needed to ensure comparable and consistent frameworks.

Strengthening cybersecurity

The growing digitalization of financial services and increased usage of remote access technologies during the COVID-19

pandemic has worsened cyber risks, posing a growing threat to financial stability. The number of cyberattacks has increased during the COVID-19 pandemic, as malicious actors have exploited vulnerabilities from the increased use of remote access protocols (including by the workforce of financial institutions). In 2021, cyberattacks increased by 50 per cent, with the average cost of a data breach rising to \$4.24 million from \$3.86 million in 2020, owing to slower response times by staff working from home.⁶² The financial sector has been among the most targeted.⁶³ In addition to direct attacks on financial institutions, the growing reliance on a small set of third-party service providers (such as cloud computing services) has increased the exposure of the financial sector to system outages and disruptions, potentially affecting the integrity and availability of assets and services, causing financial and reputational losses and threatening the broader stability of the financial system.

Public and private stakeholders must work together to strengthen the resilience of the financial sector against cyber risks. Current responses to cyber risks are fragmented between individual financial institutions, different regulatory and supervisory authorities and Governments. Greater coordination, with clear responsibilities and reporting structures, and information-sharing across organizational and jurisdictional boundaries can help to shorten response times to cyber incidents. Capacity building and sharing of best practices can strengthen the resilience of individual institutions and the regulatory and supervisory capacities of national authorities.⁶⁴ International organizations and standard-setting bodies have been providing support by developing guidelines and toolkits on effective practices.⁶⁵ Regional efforts can be a step forward to strengthen international coherence, such as the proposed European Digital Operational Resilience Act, expected to be finalized in 2022.⁶⁶

5.2 Digital assets and currencies

Interest in cryptoassets and digital currencies, including so-called “stablecoins” and central bank digital currencies, continues to grow. Easy global financing conditions during 2020 and most of 2021 spurred the risk appetite of global investors who took advantage of increasing trading opportunities for cryptoassets. Meanwhile, many central banks have stepped up efforts to design their own retail digital currencies to address the growing demand for a safe, universally accessible and accepted unit for financial transactions.

Cryptoassets and stablecoins

The growth in cryptoassets such as Bitcoin has been driven primarily by their use as speculative assets, and their increased adoption is raising financial stability concerns. The excessive volatility of cryptoassets has so far prevented them from fulfilling the basic functions of money as a reliable store of value, unit of account and medium of exchange. More recently, however, increased investor interest and the exploration of new trading opportunities—including by institutional investors and some banks—has meant that cryptoassets are no longer on the fringes of the financial system. This, in turn, has caused a significant increase in the correlation of cryptoasset prices with traditional equity valuations, reducing the perceived benefits of diversification and increasing the risk of spillovers between asset classes.⁶⁷

Total market capitalization for crypto assets and stablecoins has increased around 15 times in value since January 2020, reaching \$2.8 trillion in mid-November 2021. Bitcoin still accounts for over 40 per cent of the total, while the fast-growing Ether—of the Ethereum blockchain—now accounts for just under 20 per cent. Private stablecoins, such as Tether and USD Coin, which aim to peg their value to the US dollar, currently make up around 5 per cent of the total (figure III.F.4).

A broader adoption of cryptoassets could affect national economic policies and further heighten financial stability risks. While developing countries in general have seen a more rapid adoption of cryptoassets and stablecoins, it was a surprise to many when El Salvador adopted Bitcoin as legal tender in June 2021. Although it has been argued that Bitcoin could help to reduce remittance costs for citizens working abroad, the impact on financial inclusion may be limited as only around one third of the population are currently active Internet users. At the same time, Bitcoin's volatility against the US dollar—the country's official currency since 2001—could affect household incomes and savings, tax revenues, and domestic price stability more broadly.⁶⁸ The pseudo-anonymous nature of Bitcoin transactions also raises concerns about financial integrity and compliance with tax rules and standards on anti-money laundering and combating the financing of terrorism (AML/CFT), increasing the risk of illicit financial flows (see chapter III.A).

While stablecoins share many of the characteristics of cryptoassets (including their pseudo-anonymous nature), they have more currency-like features, as they are generally tied to a currency or a basket of currencies, which is intended to stabilize their value. Their

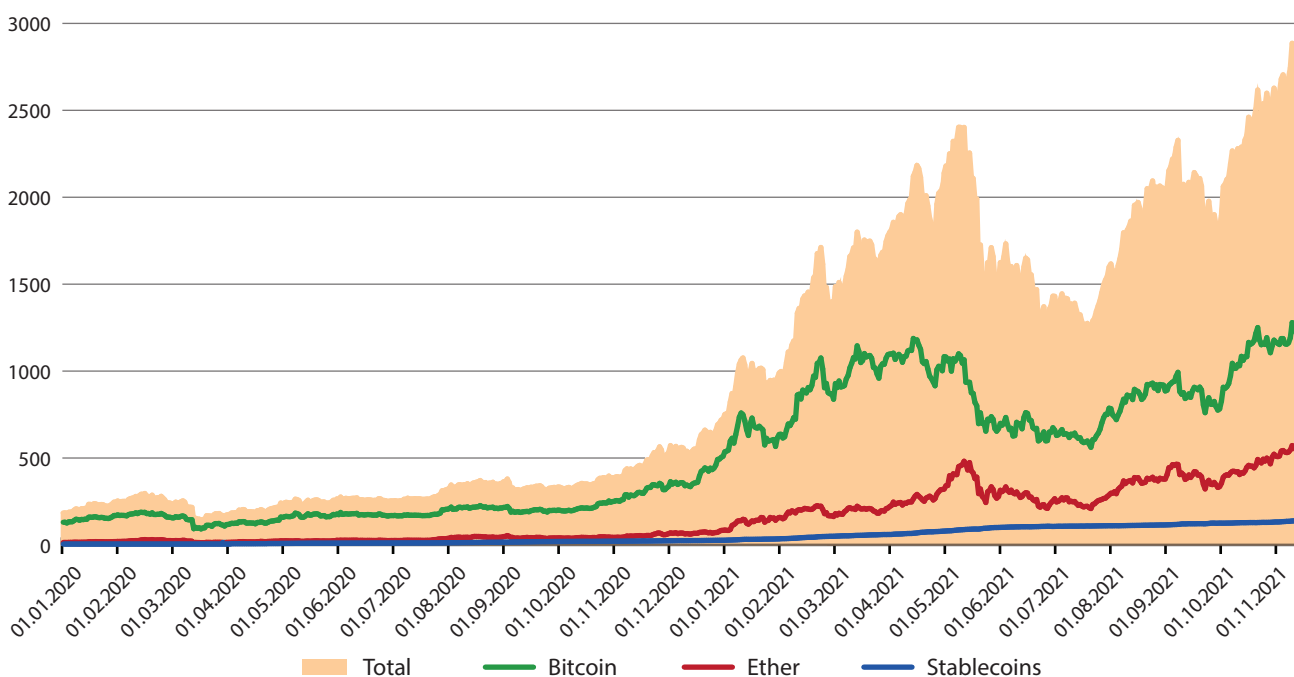
main use is still limited to facilitating the conversion of official currencies into cryptoassets or for trading between different cryptoassets, but their supporting role for the rapidly growing DeFi market (see below) has meant a rapid increase in their use since mid-2020 (figure III.F.4). Depending on regulatory frameworks, their role could grow quickly, especially if they were to be adopted at scale by big tech companies with global reach and large network effects. Even now, with limited adoption, the lack of appropriate regulation and oversight means that they generate operational and consumer protection risks, in addition to concerns about financial integrity.

Depending on their design, stablecoins can be vulnerable to runs, with possible spillovers into the broader financial system. Different stablecoins use different types of collateral, exposing them to various degrees of risk and possible transmission channels. Some of them are fully backed by cash or assets that are considered safe and liquid (such as bank deposits and government bonds). Others are backed by assets, such as corporate bonds or commodities, in addition to cash—making them similar to money market funds prior to 2008. Yet others are backed by cryptoassets or aim to maintain their peg through algorithms that adjust the supply of tokens according to market conditions. In all cases, a sudden loss of confidence could lead to runs, when investors try to redeem their holdings, possibly triggering rapid sales and price corrections of underlying assets.⁶⁹

Increased adoption and use of stablecoins across multiple jurisdictions—turning them into global stablecoins (GSCs)—could create both opportunities and risks. As discussed in previous *Financing for Sustainable Development Reports*, GSCs could potentially increase the

Figure III.F.4

Market capitalization for cryptoassets and stablecoins, January 2020–November 2021
(Billions of United States dollars)



Source: Bank for International Settlements.

efficiency and reduce the cost of cross-border payments (among other options for improving cross-border payments, as laid out in the FSB Roadmap developed for the G20).⁷⁰ However, GSCs also raise new risks, including (i) financial stability risks—through currency mismatches or operational failures; (ii) increased capital flow volatility—including through avoidance of capital flow management measures; and (iii) the risk of currency substitution in some developing countries—similar to cases of dollarization—which, in the extreme, could mean that countries would be subjected to monetary policy decisions made by private currency providers.⁷¹

As cryptoassets and stablecoins become more widely adopted, regulatory and supervisory authorities need to address the implications for financial stability and for the functioning of the international monetary and financial system. National authorities need to closely monitor the use of cryptoassets and stablecoins, linkages to the financial system and potential macroeconomic implications within their jurisdictions. They should apply existing regulations and international standards, where appropriate, following the principle of “same activity, same risk, same regulation”. Where necessary, they should update their regulations in line with the recommendations of international standard-setting bodies, including the AML/CFT standards developed by the Financial Action Task Force; the BCBS proposals on the exposure of banks to cryptoassets; and the FSB recommendations for the regulation, supervision and oversight of GSC arrangements. Enhanced international cooperation will be needed to create a comprehensive, coordinated regulatory framework that can also address spillover risks to the global financial system.⁷²

Policymakers should also address underlying structural problems that drive the adoption of cryptoassets and stablecoins. Where the adoption is driven by weak macroeconomic performance and high inflation expectations, macroeconomic policies and structural reforms can help to stabilize the macroeconomic environment while regulatory action can disincentivize the use of non-official currencies. Where the adoption is driven by inefficiencies in the domestic financial system and a lack of access to financial services, policymakers can consider how to improve the functioning and inclusiveness of the financial system, including possibly through the introduction of a central bank digital currency (see below). Where the main goals are tax and regulatory evasion, this will have to be addressed by stronger and internationally coherent regulation and supervision (see also chapter III.A).

Decentralized finance

Closely linked to the growing market valuation of cryptoassets and stablecoins is the rise of DeFi. Based on a public blockchain—most frequently Ethereum—developers can create digital assets, such as cryptocurrencies, stablecoins or non-fungible tokens (NFT), that can be traded or lent out through decentralized applications, with transactions carried out automatically through “smart contracts” (blockchain-based code that triggers actions according to predefined terms and rules). Different components can be combined to create new financial instruments and services—allowing for new uses, but also potentially aggravating vulnerabilities by introducing unexpected interactions and increasing the risk of flash crashes. The value of digital assets locked into DeFi services grew almost tenfold from mid-2020 to the end of 2021. As of 31 December 2021,

digital assets locked in DeFi services were valued at \$86.4 billion (down from a peak of \$112.5 billion in November 2021).⁷³ While part of this increase can be attributed to the rise in prices of digital assets, growth has also been driven by an expanding ecosystem of applications and users.⁷⁴

DeFi has the potential to replicate many of the services provided by traditional financial institutions and create new applications.

According to its proponents, DeFi could increase transaction speed and efficiency. For instance, decentralized exchanges can execute trades through smart contracts without the help of escrow services or central clearinghouses. Other DeFi services include decentralized borrowing and lending platforms, which pool liquidity in the form of digital tokens that borrowers can access if they provide sufficient digital collateral. Such loans are typically used to leverage trading and/or acquire new assets. These and other services are still in their infancy, and they are mainly used to speculate on the value of digital assets with little to no connection to the real economy.⁷⁵

If DeFi applications continue to evolve and bridge the gap to the real economy, they could have a transformative impact on the global financial sector, with far-reaching effects on monetary policy and financial and macroeconomic stability, including by accelerating the broader adoption of cryptoassets and stablecoins and amplifying associated risks (see above). To do so, blockchain technology would need to be made more efficient and less energy-intensive. This is already happening to an extent. The announced changes of the Ethereum blockchain on transaction verification could reduce its energy intensity and increase the number of transactions that can be processed; several competing blockchains also aim to address these issues.

A range of new and emerging risks related to DeFi have been identified, some of which also exist in the traditional financial sector, while others are specific to the DeFi sector. The latter include: (i) technical risks—failures of the software systems for the execution of transactions, pricing and integrity; (ii) operational risks—failures of human systems for maintenance, security management and governance; (iii) legal compliance risks—related to the use of DeFi for illicit activities, fraud and market manipulation or tax and regulatory evasion; and (iv) emergent risks to financial stability—for example, large-scale flash crashes stemming from the interaction, scaling and integration of DeFi components. The automated execution of smart contracts in times of high market volatility could increase the likelihood and severity of flash crashes and downward price cascades. High levels of leverage, including in DeFi lending and derivatives trading, could also lead to fire sales and rapidly falling prices in the case of a downturn. Owing to the global nature of DeFi operations, contagion risks could be greater than in the traditional financial sector.⁷⁶

The decentralized nature of DeFi and its evolving characteristics pose new challenges to regulators and supervisors. They need to carefully monitor new financial instruments and apply and/or review and adapt existing financial regulations according to their functions and risks. Without financial intermediaries, it will be difficult to identify regulatory subjects to enforce regulations. While it could be technically feasible to embed regulations into the underlying software protocols—as the ultimate expression of regulatory technology (RegTech)—this would require close cooperation between regulators and software developers (which would also depend on significant political will) and strong supervisory

capacities and resources,⁷⁷ and would need to keep pace with technological changes over time. A natural entry point for more traditional regulation could be the governance structures of DeFi platforms (typically organized around holders of “governance tokens”, often the platform developers).⁷⁸ International standard-setting bodies and authorities could support international cooperation to exchange information and develop comparable standards to address the cross-jurisdictional implications of DeFi.

Central bank digital currencies

The increasing digitization of financial services and the evolution of a new ecosystem of assets and services has also raised interest in central bank digital currencies (CBDCs). In February 2022, a total of 68 central banks were actively engaged in different stages of work on retail CBDCs (figure III.F.5). The Central Bank of the Bahamas was the first to launch a retail CBDC in October 2020, with the primary goal of increasing financial inclusion. One year later, the Central Bank of Nigeria launched its own CBDC to (i) increase financial inclusion; (ii) facilitate and lower the cost of remittances; and (iii) reduce informality by making transactions more transparent and traceable.⁷⁹

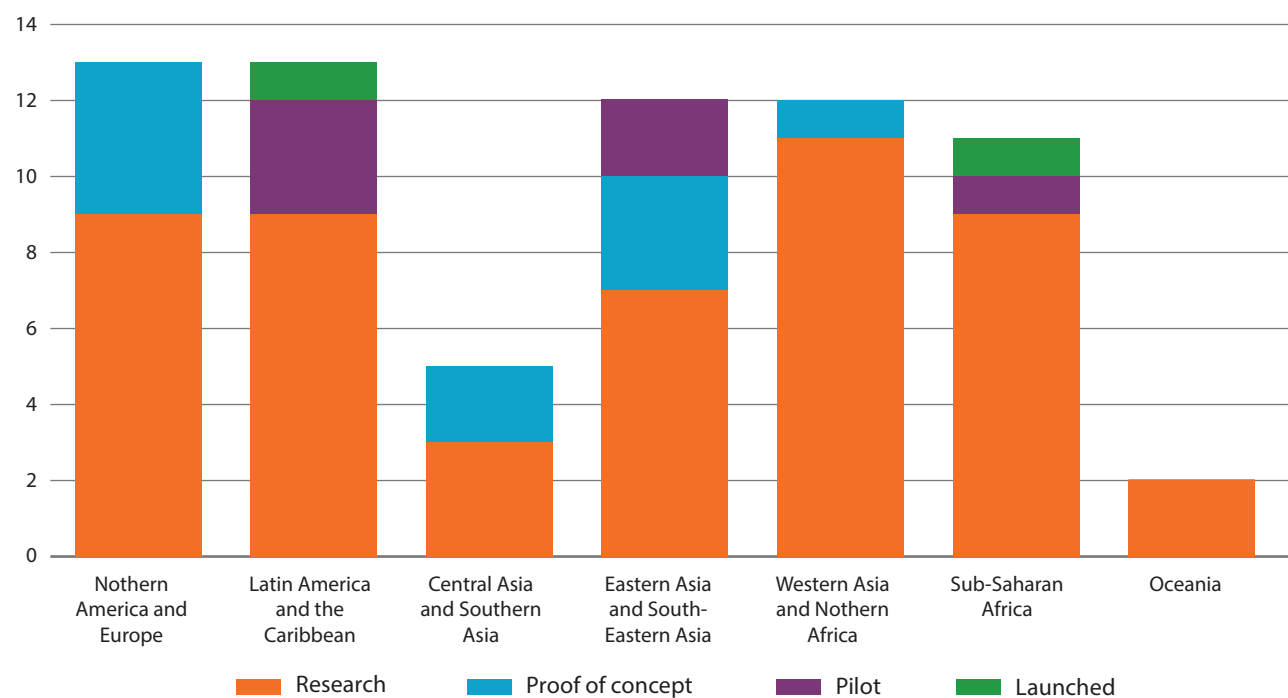
Retail CBDCs can have different characteristics, depending on technical design choices. CBDCs could be similar to cash, or they could grant account-based access requiring digital identity verification to allow for better monitoring to deter and detect illicit activities. The interaction of retail CBDCs with the financial system can also take on different forms: a two-tier system would essentially mimic the structure of financial markets today, as consumer-facing services and financial intermediation would be

carried out by private actors (such as banks) while central banks would provide the operational backbone and use their regulatory and supervisory powers to ensure a level playing field. A one-tier architecture, where retail clients hold accounts directly with the central bank, would effectively eliminate the need for financial intermediaries, with central banks deciding on credit allocation—giving them much more direct control over the economy, but also making them carry the full risk of credit defaults and maturity mis-matches. The design as a one-tier or two-tier system would also affect monetary policy transmission channels: in a two-tier system, monetary transmission channels would be essentially the same as in today’s financial sector, while in a one-tier system, central banks could use interest-bearing CBDC accounts to directly set retail interest rates.⁸⁰

CBDC design choices must be tailored to the characteristics of each economy and their financial sectors. Another important choice has to do with the openness of payment networks and their interoperability. Similar to GSCs, CBDCs could help to enhance cross-border payments, but they also carry risks, especially in relation to possible currency substitution and capital flow volatility (including from illicit financial flows) for countries that cannot adopt their own CBDC—particularly small developing countries. Specific design choices could help to mitigate those risks: by using an account-based system and tying the CBDC to digital identification, issuing central banks could retain control over their user base and the kind of transactions performed (i.e., they could limit non-residents’ access to the CBDC).⁸¹ Ongoing experiments on linking national wholesale CBDCs for cross-border settlements⁸² could also be replicated for retail CBDCs.

Figure III.F.5

Status of central bank digital currencies (retail), February 2022, by region (Number of central banks)



Source: UN/DESA based on CBDC Tracker.

Central banks should continue their exploratory work to develop appropriate designs for CBDCs, with support from international standard-setting bodies who can develop proofs of concept and prototypes and foster broad dialogue and peer learning. A group of central banks and the Bank for International Settlements published a set of common principles for CBDCs in October 2020.⁸³ This was followed by an agreement of the G7 Finance Ministers and Central Bank Governors on public policy principles for the implementation of retail CBDCs in October 2021.⁸⁴ Such discussions should be broadened, with developing countries having an active voice. This includes countries that cannot adopt their own CBDCs, as they are most likely to be affected by unintended consequences and cross-border spillovers. Special consideration should also be given to the potential role of CBDCs in nascent DeFi systems, where they might be traded in parallel or in lieu of private stablecoins.⁸⁵

6. Global governance and policy coherence

6.1 Governance at international institutions and standard-setting bodies

Reform in global economic governance remains urgent, yet progress in this area has been uneven. In the Addis Agenda, Member States committed to strengthening the voice of developing countries in international economic decision-making and global economic governance. While the representation of developing countries in financial institutions, regional development banks and standard-setting bodies increased slightly between 2005 and 2015, vote shares have remained largely constant since then, and major advanced economies continue to hold de facto veto powers in their decision-making boards (figure III.F.6, left-hand panel).

Capital increases in international financial institutions and regional development banks are important not only to strengthen their resource envelope, but also as an opportunity to revisit the allocation of voting rights. The ongoing IMF Sixteenth General Review of Quotas, which shall be concluded no later than 15 December 2023, is an opportunity to continue the process of IMF governance reform. Any adjustment in quota shares would be expected to result in increases in the quota shares of dynamic economies in line with their relative positions in the world economy and, hence, are likely in the share of emerging market and developing countries as a whole, while protecting the voice and representation of the poorest members. The World Bank's most recent shareholding review in 2020 concluded with no adjustment in shareholding. The next such regular review will take place in 2025.

For the first time in over 50 years, there has been a major revision of voting rights at the International Development Association (IDA). At the 2021 Annual Meetings of the World Bank Group and IMF, IDA's Board of Governors endorsed the outcome of a review of IDA's voting rights framework and recommended its implementation under the Twentieth Replenishment of IDA resources (IDA20). While representatives of IDA's recipient countries participate in replenishment discussions and also exercise their voice this way, the new framework aims to ensure fairness, incentivize future contributions and enhance the voice of recipient

members. It sees the voting power for Non-Recipients (IDA members that do not borrow from IDA) gradually aligning to their level of contributions to IDA. Recipients' voting power will be boosted over the next several replenishments and protected from dilution.⁸⁶

In recent years, there has been no significant progress in strengthening the voice and participation of developing countries in international standard-setting bodies. Developed countries remain predominant in most standard-setting bodies—most of which were set up by their national regulatory and supervisory authorities. Despite the commitments made in the Addis Agenda, there was no increase in the participation of developing countries in 2021, with the weight of developing countries in the governance of the International Organisation of Pension Supervisors, International Association of Insurance Supervisors and International Accounting Standards Board falling due to rotating executive body memberships (figure III.F.6, right-hand panel). The set-up of the new International Sustainability Standards Board under the International Financial Reporting Standards Foundation is an opportunity to ensure appropriate representation of developing countries from the beginning.⁸⁷

6.2 Improving coordination and policy coherence

Improved coherence and consistency of policies and increased cooperation between major international institutions has been a long-standing objective in the financing for development process. The Addis Agenda calls for the coherence of international financial, monetary and trading systems, as well as investment, development policy and environmental institutions and platforms. It also calls on development finance institutions to align their practices with the 2030 Agenda for Sustainable Development. Increased multilateral coordination is also needed in areas such as tax, competition and non-economic issues, including climate change, disaster risk reduction, human rights, gender and migration.

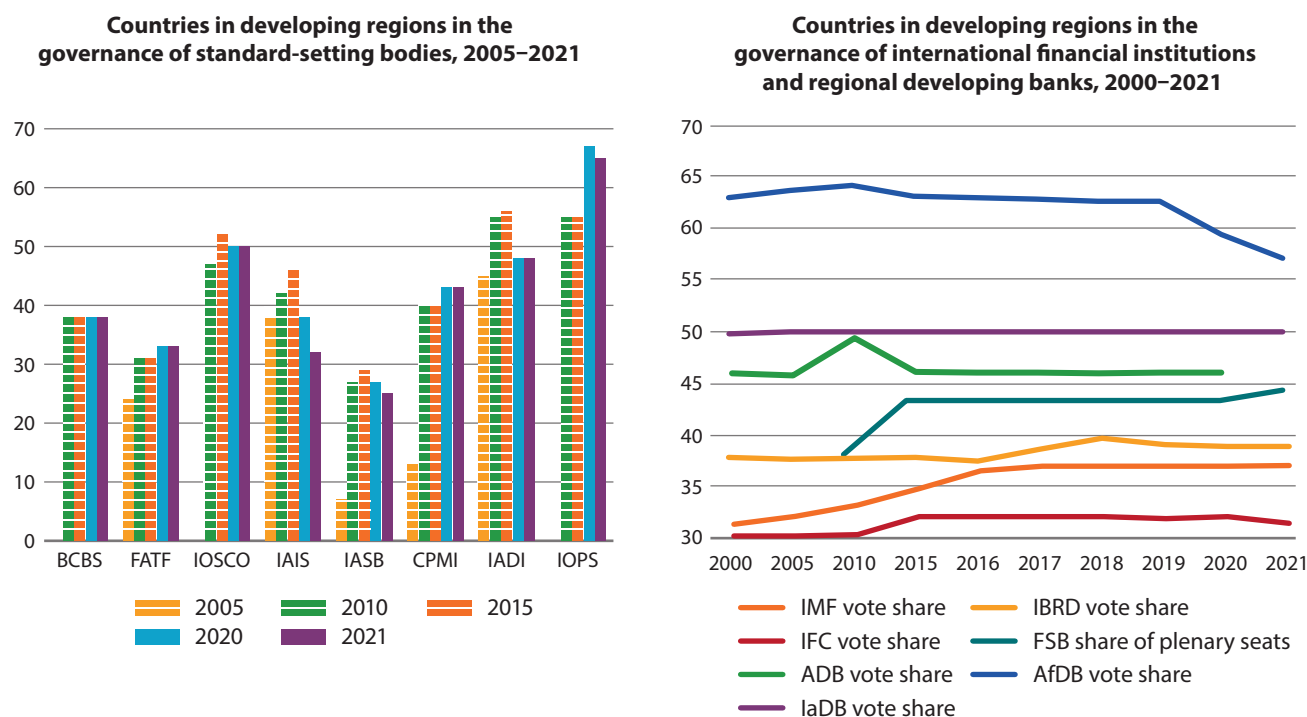
The IMF, World Bank and other multilateral development banks continue efforts to align their activities with the Sustainable Development Goals (SDGs) and the Paris Agreement. In April 2021, the IMF launched a new long-term macroeconomic framework to support its members in the design and analysis of development financing strategies to achieve the SDGs, which could be utilized within a broader Integrated National Financing Framework.⁸⁸ The World Bank Group published its updated Climate Change Action Plan for 2021-2025, committing to align all new operations with the Paris Agreement by mid-2023.⁸⁹ The multilateral development banks and the IMF recently published a joint report highlighting their respective contributions to helping countries overcome the current crisis and achieve development goals.⁹⁰ The impact of such efforts could be further strengthened through increased cooperation between the international financial institutions, including multilateral development banks, and with the United Nations.

To support a strong, sustainable and inclusive post-COVID-19 recovery, all stakeholders should align their actions with climate protection and ensure they are gender-responsive. The transition towards more environmental sustainability must be inclusive and support growth in sustainable and labour-intensive sectors that open opportunities for advancing gender equality. Countries should step up efforts to implement the Enhanced Lima Work Programme on Gender that

Figure III.F.6

Representation of developing countries in international institutions and standard-setting bodies, 2000–2021

(Percentages 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 M49 classification of developed and developing regions. The main international SSBs include the Basel Committee on Banking Supervision (BCBS); the Financial Action Task Force (FATF); the International Organization of Securities Commissions (IOSCO); the International Association of Insurance Supervisors (IAIS); the International Accounting Standards Board (IASB); the Basel Committee on Payments and Market Infrastructure (CPMI); the International Association for Deposit Insurers (IADI); and the International Organisation of Pensions Supervisors (IOPS). The Basel Committee on Banking Supervision (BCBS) had no developing country members in 2005; and IOSCO and IOPS do not have data prior to 2010.

calls for integrating gender considerations into the work of Parties and the Secretariat in the implementation of the United Nations Framework Convention on Climate Change and the Paris Agreement to achieve gender-responsive climate policies and actions.⁹¹ National, regional and multilateral development banks, development finance institutions and export credit agencies also expressed their joint commitment to support gender equality and women's empowerment, at the Generation Equality Forum in July 2021.⁹² Enhanced public-private collaboration building on existing initiatives such as NGFS, GFANZ and the Finance in Common Summit of global public development banks, could strengthen alignment around the SDGs and the Paris Agreement to support the reorientation of financial flows and capital.

For over 75 years, the United Nations has provided an inclusive forum for addressing global challenges, forging multilateral consensus and fostering policy coherence. Within the United Nations, the General Assembly and the Economic and Social Council are the main forums for building global consensus on key economic and social norms and goals, including the 2030 Agenda for Sustainable Development and the Addis Ababa Action Agenda. To discuss the policies needed for financing for sustainable development, the Economic and Social Council Forum

on Financing for Development follow-up (FfD Forum) continues to provide an important platform.

The United Nations system aims to support the accelerated implementation of international agreements, including on the SDGs, and to strengthen cooperation with other forums and institutions. The Inter-agency Task Force on Financing for Development, convened by the Secretary-General, has been bringing together the views of over 60 institutional members and helping to shape joint analysis and recommendations for its annual *Financing for Sustainable Development Report* since its inception in 2016. Ongoing work to increase coherence and leverage synergies within the United Nations system itself will also strengthen its capacity to assist Member States in the implementation of agreed Goals. In his report on Our Common Agenda, the Secretary-General proposes the establishment of a biennial summit at the level of Heads of State and Government between the members of the G20 and the members of the Economic and Social Council, the Secretary-General and the heads of the international financial institutions. Enhanced coordination at the highest level between these multilateral forums and institutions can help to move the needle on joint actions towards a more sustainable, inclusive and resilient global economy.⁹³

Endnotes

- 1 The SDR allocation has important macroeconomic benefits for the global economy and for member countries. At the same time, the SDR allocation entails risks that need to be considered and managed. Recipient countries could delay needed macroeconomic adjustment and reforms or use SDRs without fully considering the potential costs and risks. These include, among others, the quarterly interest charges at variable interest rates associated with the use of SDRs and the need to monitor closely SDR holdings to ensure timely settlement of SDR-denominated obligations to the Fund. Additionally, risks arising from making an inadequate use of SDRs could be high in countries with unsustainable debt or weak governance. This underscores the need for enhanced efforts to strengthen transparency and accountability. Members should not use SDRs to maintain unsustainable policies. Doing so may lead to costs, including by undermining members' ability to secure adequate access to future financing. For further discussion see, IMF. 2021a. "Guidance Note for Fund Staff on the Treatment and Use of SDR Allocations." *IMF Policy Paper*. August 2021.
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