Governing Sustainable Finance

Environmental challenges—such as climate change; biodiversity loss; and soil, water, and air pollution—are threatening human well-being and sustainable livelihoods.[9] It is now widely recognized that climate change and environmental degradation pose serious dangers to economic activity and threaten macrofinancial stability. Financial supervisors and market participants have come to realize the financial risks related to climate change and other environmental challenges, and that these risks need to be mitigated.

Vast financial resources need to be mobilized for investment in sustainable infrastructure—including energy, transportation, waste management, and health—to deliver better and more inclusive economic, social, and environmental conditions, and to achieve the Sustainable Development Goals (SDGs) and the objectives of the Paris Agreement. These investment needs will not be met until sustainability considerations are mainstreamed in financial markets. To achieve the climate goals, it will be imperative to align financial flows with a pathway toward low greenhouse gas emissions and climate-resilient development, as stipulated in Article 2.1c of the Paris Agreement.

Recent years have seen an intensifying discourse on the role of financial governance in addressing climate and other sustainability risks and in scaling up sustainable finance. The COVID-19 crisis has further highlighted the need for greater social resilience, which is now becoming a key issue for financial decision makers. To align finance with sustainability goals and to mitigate financial risk, it is crucial to incorporate environmental, social, and governance (ESG) criteria into financial decision making.

Sustainability risks can pose financial risks both to individual financial institutions and the financial system at large. As recently pointed out by the International Monetary Fund, "ESG issues may have material impacts on corporate performance and may give rise to financial stability risks via exposure of banks and insurers and large losses from climate change" (International Monetary Fund 2019). Governance failures at financial and nonfinancial institutions have historically contributed to financial crises, including the 1997/98 Asian financial crisis. Social inequality and stagnant income among lower-income groups, as well as attempts by policymakers to address these problems through easier access to credit, contributed to the subprime mortgage crisis in the United States (Rajan 2010). With respect to environmental risk, the focus has been primarily on the physical and transition risks related to climate change (e.g., Bank of England 2015, Network of Central Banks and Supervisors for Greening the Financial System [NGFS] 2019a, Bolton et al. 2020), but issues like biodiversity loss are getting more attention recently (e.g., van Toor et al. 2020, World Bank 2020a).

Rating agencies and financial markets are increasingly paying attention to these risks. Empirical evidence shows that climate vulnerability raises the cost of capital for countries (Buhr et al. 2018; Beirne, Renzhi, and Volz 2020) and that macrofinancial risks from climate change may also amplify sovereign risk (Volz et al. 2020). Moreover, climate vulnerability is also affecting firms' cost of capital and access to finance (Kling et al. 2021).

Recent years have seen multiple public and private policies and initiatives aimed at developing standards, practices, and governance frameworks for sustainable finance, both at the national and global levels. This theme chapter presents an overview of the emerging practice of embedding sustainable development into the financial system. It first reviews initiatives aimed at enhancing market practice—through standards, taxonomies, and disclosure—before examining the efforts of central banks and supervisors to integrate sustainability factors into monetary and prudential frameworks.

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Standards, Taxonomies, and Disclosure

A lack of clarity in definitions and standards is one of the major obstacles to scaling up green and sustainable financing (Berensmann et al. 2017). The lack of commonly agreed definitions of what constitutes sustainable lending and investment practices contributes to the fragmentation of sustainable finance markets and holds back their development. A standardization of green finance practices also helps to impede greenwashing, i.e., making misleading claims about environmental impact or the performance of financial products.

To provide clarity on what financial products should be labeled "green" or "sustainable," various industry standards and initiatives have emerged, often with support from international organizations. Public–private initiatives—including the United Nations (UN) Principles for Responsible Investment (PRI), the UN Principles for Responsible Banking, and the UN Principles for Sustainable Insurance Initiative—have tried to establish sustainability standards in different areas of the financial system. Such international initiatives have been complemented by guidelines and recommendations from national finance industry associations. For instance, the Association of Banks in Singapore released Guidelines on Responsible Financing in 2015. That same year, the Indian Banking Association introduced the National Voluntary Guidelines for Responsible Finance.

The segment of sustainable finance that has received the most attention is the green bond market. Green bonds are debt securities whose proceeds are used to finance green projects and assets. The International Capital Market Association (ICMA), a self-regulatory body for participants in capital markets, has emerged as a key player for standard setting in this market with voluntary best practice guidelines, including the Green Bond Principles, the Social Bond Principles, and the Sustainability Bond Principles. These guidelines set out criteria regarding the definition, disclosure, and impact reporting for green, social, and sustainability themed bonds, and are widely recognized as the main international standards in this area. A number of countries have issued their own standards for green or sustainable bonds, including the People's Republic of China (PRC) in 2015 as the first country globally to do so, India in 2016, and Indonesia and Japan in 2017. In 2017, the Association of Southeast Asian Nations (ASEAN) Capital Markets Forum, which comprises capital market regulators from all 10 jurisdictions of ASEAN, issued the ASEAN Green Bonds Standards as an effort to nurture this market and facilitate green investments. The ASEAN Green Bond Standards are based on ICMA's Green Bond Principles. In 2018, the ASEAN Capital Markets Forum published the ASEAN Social Bond Standards and the ASEAN Sustainability Bond Standards.

To provide greater transparency and address problems of greenwashing, several governments and financial authorities have taken steps to develop or implement sustainable finance taxonomies. A sustainable finance taxonomy is "a classification system identifying activities, assets, and/or project categories that deliver on key climate, green, social or sustainable objectives with reference to identified thresholds and/or targets" (ICMA 2020). Well-defined and structured green taxonomies can facilitate better investment decisions and help economic policymaking in achieving national environmental objectives (World Bank 2020b). Several jurisdictions across Asia have introduced green or sustainable taxonomies, or are in the process of implementing them, including the PRC (2015), Bangladesh (2017), Mongolia (2019), Malaysia (2021), and Singapore (2021). In March 2021, the ASEAN finance ministers and central bank governors announced their support for an ASEAN Taxonomy of Sustainable Finance. The European Union's (EU) sustainable finance taxonomy regulation, which entered into force in July 2020, has emerged as the de facto global standard: not only must all EU-based financial institutions comply with the taxonomy, but also all international financial firms that wish to offer sustainable finance products to EU entities.

To enhance transparency and facilitate the analysis of climate- and environment-related risks, disclosure has become a key issue for sustainable finance. The Financial Stability Board's Task Force on Climate-Related Financial Disclosures (TCFD) has emerged as a focal point for promoting disclosure. The TCFD (2017) highlighted the importance of transparency in pricing risk, including risk related to climate change, to support informed and efficient decisions on capital allocation. The TCFD recommendations have been endorsed by many financial supervisors, some of which are planning to integrate disclosure in prudential requirements. Acknowledging the importance of environment-related financial risks beyond climate, a new Taskforce on Nature-Related Financial

Disclosure was announced in July 2020 by a coalition of nongovernmental and UN organizations to broaden the scope of disclosure.

Across Asia, several governments, supervisors, stock exchanges, and financial associations have introduced sustainability disclosure guidance in recent years (Volz 2019). The Shanghai Stock Exchange introduced Guidelines on Listed Companies' Environmental Information Disclosure in 2008. In 2010, the Singapore Stock Exchange released a Guide to Sustainability Reporting for Listed Companies. In 2016, the Singapore Stock Exchange made it mandatory for all listed companies to publish sustainability reports, effective December 2017. In 2012, the Hong Kong Exchanges and Clearing Limited introduced voluntary ESG reporting guidelines. Since 2012, the Securities and Exchange Board of India has required the 100-largest listed enterprises to publish annual business responsibility reports, while the Indian Ministry of Corporate Affairs' imposed corporate social responsibility reporting requirements under the Companies Act, 2013. In 2015, the Securities and Exchange Board of India established a "comply or explain" reporting system for corporate governance under which the top 500 companies were asked to report, among other issues, their environmental and social risk assessment standards and how they are addressing climate change and global warming. The Philippines Securities Exchange Commission has requested an annual corporate governance report from listed firms since 2013. In Viet Nam, the State Securities Commission introduced a Sustainability Reporting Handbook for Vietnamese Companies in 2013. In 2020, the National Bank of Georgia published ESG reporting and disclosure principles.

The EU has adopted the most comprehensive, and arguably most influential, disclosure framework. As part of its Action Plan for Financing Sustainable Growth, the EU introduced a Sustainable Finance Disclosure Regulation (SFDR). The SFDR, which came into effect in March 2021, sets out "harmonised rules for financial market participants and financial advisers on transparency with regards to the integration of sustainability risks and the consideration of adverse sustainability impacts in their processes and the provision of sustainability-related information with respect to financial products" (EU 2019). While the SFDR is directly effective in the EU only, it is likely to have a global impact as all financial firms that are selling products or services in the EU must meet these disclosure standards.

Upgrading Monetary and Prudential frameworks

A growing number of central banks and supervisors are adopting sustainable finance policies or guidelines, or have started to incorporate climate risks into micro-prudential or macroprudential frameworks (Dikau and Volz 2019). Through their regulatory oversight of money, credit, and the financial system, monetary and financial authorities are in a powerful position to support the development of sustainable finance approaches and enforce an adequate pricing of sustainability risks by financial institutions (Volz 2017). Several fora have emerged aimed at enhancing regulatory practices, including the Sustainable Banking Network, which was launched in 2012 and now comprises members from 43 emerging markets (including from 19 countries in Asia and the Pacific), and the NGFS, which was established by eight central banks and supervisors in 2017 and has grown to a membership of 90 institutions, including 17 members from Asia and the Pacific. The NGFS has become the leading platform for international cooperation to advance sustainable finance and promote best practice.

Central banks in developing Asia were among the first to introduce sustainable finance policies and incorporate environmental risk into prudential frameworks (Volz 2019). Monetary and financial authorities in the PRC started in 2007 to develop green credit policies and have since been among the most active in promoting green finance. Bangladesh Bank issued Policy Guidelines for Green Banking and Guidelines on Environmental Risk Management in 2011, requiring environmental risk management from bank and nonbank financial institutions.

Central banks and supervisors in Asia and beyond have sought to promote sustainable finance through engagement with the financial industry, e.g., through multistakeholder dialogues, capacity building efforts, and sustainable finance roadmaps. For instance, the People's Bank of China established a Green Finance Committee in 2015 to develop green finance practices, environmental stress testing for the banking sector, and guidelines on greening the PRC's overseas investments. The same year, Indonesia's Financial Services Authority (Otoritas Jasa Keuangan) established a multistakeholder task force to promote and further develop its Roadmap for Sustainable Finance through dialogue and to develop the sustainability skills of professionals (Volz 2015). Other

central banks, including the State Bank of Vietnam and the Reserve Bank of India, have also developed policies to boost green lending.

A growing number of monetary and financial authorities have developed initiatives aimed at promoting market development. For instance, the Monetary Authority of Singapore established in 2017 a Green Bond Grant Scheme for issuances that comply with internationally recognized green bond standards such as ICMA's Green Bond Principles and the ASEAN Green Bond Standards. In 2018, the Hong Kong Quality Assurance Agency launched a similar Green Finance Certification Scheme. Since 2020, the Monetary Authority of Singapore has also sought to promote the potential of digital finance in accelerating the development of green finance in Singapore and the region through a Global FinTech Hackcelerator.

The NGFS has forged a consensus among central banks and supervisors that it is necessary to integrate climate-related risks into micro-supervision and develop macroprudential approaches to address environmental (and especially climate) risks. In December 2020, the ASEAN central banks and monetary authorities jointly published the *Report on the Roles of ASEAN Central Banks in Managing Climate and Environment-Related Risks*, which emphasized that "[c]entral banks should be in a state of readiness to manage the risks stemming from climate change and environment-related events more proactively to ensure ASEAN continues to grow and prosper in a sustainable manner, into the far future and for the generations to come" (Anwar et al. 2020). Several central banks in the region have already started to adjust their prudential policies. Already in 2015, the State Bank of Vietnam issued a directive on managing environmental and social risks in credit extension. The Bangko Sentral ng Pilipinas launched a Sustainable Finance Framework in April 2020, setting out expectations for banks to develop transition plans and integrate these into their corporate governance and risk management frameworks. The Bangko Sentral ng Pilipinas is currently amending this framework to direct banks and other financial institutions to integrate climate change and other environmental and social risks in their enterprise-wide risk management frameworks. In December 2020, the Monetary Authority of Singapore published three guidelines on environmental risk management for financial institutions to formulate expectations of environmental risk management for all banks, insurers, and asset managers. And Bank Negara Malaysia issued guidance for the financial sector for enhancing risk management as part of its Climate Change and Principle-Based Taxonomy in May 2021.

Building on the pioneering work of the Bank of England (2019) and De Nederlandsche Bank (Vermeulen et al. 2018), numerous central banks have started to work on climate stress-testing that considers multiple scenarios associated with different low-carbon transition pathways. In 2020, De Nederlandsche Bank was the first central bank to carry out an analysis of biodiversity risks for the financial sector (van Toor et al. 2020). Such climate and environment stress tests can be used for both micro- and macroprudential supervision.

Last but not least, central banks have also started to integrate sustainability factors into their own portfolio management. The NGFS (2019b) has recommended that central banks adopt sustainable and responsible investment principles such as the PRI for portfolio management, including policy portfolios, and commit to following the recommendations of the TCFD. In 2019, the DNB was the first central bank to sign the PRI. In 2020, the Bank of England was the first central bank to publicly disclose the climate-related financial risks in its portfolio, building on the TCFD recommendations.

Challenges and Outlook

In the face of significant macrofinancial risks stemming from climate change and other sustainability risks, monetary and financial authorities have started to develop policies and frameworks for mitigating and managing these risks and for scaling up sustainable finance. Financial markets are also starting to integrate sustainability risks in investment and lending decisions.

However, major challenges remain. Despite rapid growth, sustainable lending and investment still account only for a small fraction of the total. Financial markets continue to finance investments that undermine the achievement of the Paris Agreement's objectives and the SDGs. Financial markets still predominantly focus on short-term returns and ignore long-term risks to nature and society. The timeframe to prevent catastrophic global warming and reverse biodiversity loss is short. It will be crucial to rapidly align financial markets with sustainable development goals to enable a green recovery from the economic impacts of the COVID-19 pandemic.

Despite laudable private sector initiatives, it is clear that public policies are needed to mainstream sustainable finance and ensure that sustainability risks are disclosed and fully incorporated in risk analysis. A key step is to make the disclosure of climate risks mandatory, building on the TCFD recommendations. Moreover, supervisors need to set clear expectations regarding risk management by financial institutions. Methodologies for environmental risk analysis and stress testing have improved significantly and are easily available (Ma, Caldecott, and Volz 2020). Financial supervisors must ensure that these are widely adopted. Furthermore, central banks and supervisors need to calibrate their monetary and prudential instruments to take account of sustainability risks. Importantly, policy efforts need to go beyond addressing the climate challenge and not forget other environmental challenges (Northrop et al. 2020, World Bank 2020a).

International cooperation among monetary and financial authorities through fora such as the NGFS and the Sustainable Banking Network will help advance best practice for sustainable finance policies. Governments and supervisors can also support sustainable lending and investment by developing a taxonomy of economic activities. To facilitate cross-border comparability, international cooperation will be important. Public financial institutions can play an important role in enhancing sustainable finance not only through their own balance sheets but also by promoting best practice.

While financial policies can go a long way in mainstreaming sustainable finance, governments also need to set conducive framework conditions and work on overcoming bottlenecks to sustainable investment in the real economy. Without the right fiscal, energy, and infrastructure policies in place, we are unlikely to see investment in renewable energy and sustainable infrastructure to the scale needed to achieve the objectives of the Paris Agreement and the SDGs.

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