Spotlight 5.1

Greening capital markets: Sovereign sustainable bonds

The economic stress arising from the COVID-19 (coronavirus) pandemic propelled expansion of sovereign sustainable bond issuances. The Climate Bonds Initiative (CBI) reports that the number of sovereign green, social, and sustainable bonds more than doubled in 2020. By the end of the year, sovereign green bonds amounted to $41 billion, or a 65 percent increase over 2019. That trend continued into 2021, with Italy raising approximately $10 billion in Europe's largest green bond debut to date. Other advanced and emerging markets also intend to issue sovereign green bonds.[1]

Sustainable bonds are defined as bonds for which proceeds are used to finance or refinance green, blue, or social projects. A green bond is a debt security issued to raise capital specifically to support climate-related environmental projects.[2] Voluntary best practice guidelines for sustainable bond issuances—the Green Bond Principles (GBP)—were established in 2014 by a consortium of investment banks.[3] Sustainable bonds align with the four core components of the GBP. The current monitoring and development of the GBP guidelines are managed by the International Capital Market Association (ICMA).[4]

As of January 2022, there were no universally agreed-on definitions of green, social, or sustainable bonds, and the GBP do not provide details on what qualifies as such bonds—those definitions are largely left up to the issuers. The World Bank and International Finance Corporation (IFC) use their own criteria and definitions for eligible green and social projects. In turn, the CBI provides separate categories of sector-specific green definitions and criteria.[5]

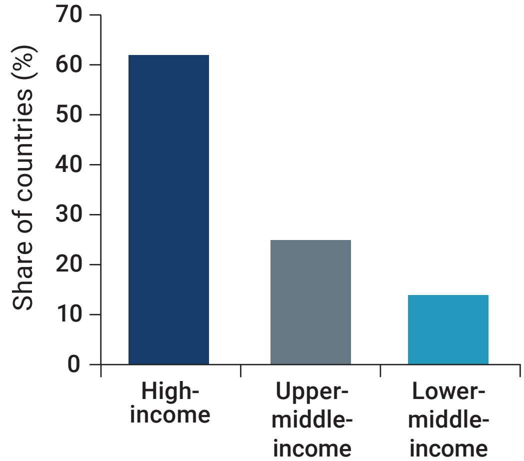
To ensure the transparency and accuracy of information disclosed by issuers to stakeholders, the GBP recommends pre- and post-issuance external reviews. For any proposed thematic bond, an issuer should appoint external review providers to assess the alignment of its bond or bond framework with the core components of the GBP. After issuance, the GBP recommends that an issuer's management of proceeds be reviewed by an external auditor to verify the allocation of funds from green bond proceeds to eligible projects.[6]

Despite significant growth in recent years, sovereign green, social, and sustainable bonds account for only 0.5 percent of the sovereign bonds market.[7] The first green bonds were issued in 2007 by the European Investment Bank and in 2008 by the World Bank.[8] These pioneer bonds defined eligibility criteria and introduced impact reporting as an integral part of issuance processes. The World Bank issuance also piloted a new model of partnership and collaboration among stakeholders, including investors, development agencies, commercial banks, and private sector players.[9] Currently, the green model is applied to bonds that are raising financing for the 17 Sustainable Development Goals (SDGs).[10] Multilateral development banks were the sole issuers of green bonds until 2012, when the first corporate green bonds emerged. In 2017, Poland issued the first sovereign green bond.

Almost a third of governments worldwide, led by high-income countries, have issued sovereign green, social, and sustainable instruments through a mix of local and national entities.[11] About 60 percent of all high-income countries have government-issued sustainable instruments. This share is significantly lower for upper- and lower-middle-income countries (see figure S5.1.1). Governments in low-income countries have so far not issued any sustainable instruments. As for origination, green, social, and sustainable instruments have been issued both locally and nationally in 15 countries. Government-backed entities have issued sustainable bonds in 34 countries, and in 16 of these countries such instruments were issued only by government-backed entities.[12]

In 2020, about 60 percent of sovereign green and social bond issuances were driven by the COVID-19 pandemic, and two-thirds were issued in domestic markets. Most pandemic-driven sustainable bonds were issued by governments across Africa.[13] These were followed by bonds to finance clean transport projects (17 percent), led by Chile. Proceeds from other green and social bonds have been allocated to aquatic biodiversity conservation, eligible green projects, energy efficiency, and other related areas.[14] Côte d'Ivoire has the highest number of sustainable sovereign bonds issued domestically (25).[15] Meanwhile, Chile has the highest number of sovereign green and social bond issuances in a nonlocal market (12),[16] followed by Hong Kong SAR, China (8).[17]

Figure S5.1.1 Share of countries with government-issued sustainable instruments, by country income group, 2020–21



Source: WDR 2022 team, based on 2020 data from Climate Bonds Initiative; 2020/21 data from International Finance Corporation; 2021 data from Refinitiv, Refinitiv Data Catalogue (dashboard), https://www.refinitiv.com/en/financial-data; World Bank, World Development Indicators (dashboard), https://datatopics.worldbank.org/world-development-indicators/.

Social bond issuance worldwide jumped sevenfold, to $148 billion, in 2020, primarily targeting health care, education, and small and medium enterprises. Most of these bonds were issued by governments and multilateral development agencies.[18] Although public issuers, unlike private ones, have a direct mandate to provide social services, private social bond issuance has also gained momentum. Private issuers of social bonds have aimed to finance programs to support stakeholders, employees, customers, and local communities.[19] These bonds also give firms an opportunity to broaden their pools of investors.[20] Overall, sustainable debt reached a new peak in 2020, amounting to a record high of $732 billion across bond and loan varieties raised with environmental and social purposes for a resilient post–COVID-19 recovery.[21]

Although the global sovereign sustainable bond market is still small, some evidence of "greenium" (a premium in the pricing of green bonds) is beginning to emerge in both developed and emerging markets. In 2020, Germany introduced a unique twin bond structure that included a conventional vanilla bond and a green bond—the only difference between the two was the use of proceeds. The German green bond, priced with a greenium, maintained a lower yield in the secondary market and exhibited lower volatility than its vanilla twin.[22] Green bonds in emerging markets have shown strong performance. For example, in 2020 the emerging market subset of the J.P. Morgan Green Bond index (6.6 percent) outperformed its conventional index (5.4 percent). Overall, the green subset showed lower volatility for similar performance than regular bonds in emerging markets.[23] However, the evidence of green bonds premia—which would provide greater incentives for issuance of green bonds—is still mixed.[24]

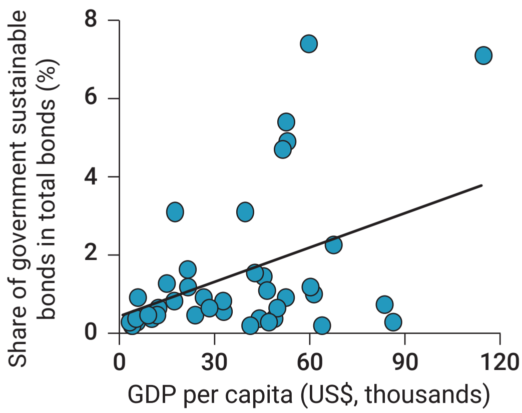
Sovereign issuers can include sustainable bonds in their medium-term debt management strategies. This approach offers an opportunity to attract and expand the investor base, while allowing a wide range of funding alternatives. Yet any new borrowing should be consistent with fiscal spending and deficit plans to keep public debt on a sustainable path. Moreover, issuers should have large green expenditures that they can support with sustainable debt. Other challenges include limited impact investing in emerging markets because of credit rating restrictions and lack of understanding of green instruments, coupled with narrow regulatory mandates.[25] Some countries use monetary policy levers to encourage green financing. China, for example, offers green lending incentives by considering qualified green bonds and accepting certain green loans as collateral in its medium-term lending facility—a key monetary tool used to manage liquidity needs in the banking system.[26]

Government-issued green and social bonds often provide longer tenors than corporate bonds. As of August 2021, at least 175 green and social sovereign bonds had been issued worldwide. About 30 percent of these bonds have maturities of at least 10 years (the sustainable bond with the longest tenor—of 50 years—was issued in April 2020 by the government of Indonesia).[27] Similarly, Bulgaria; Chile; Hong Kong SAR, China; Hungary; and Poland have issued sustainable bonds with tenors of 30 years or more. In 2021, green and social sovereign bonds issued in the range of less than 5 years and 6–10 years comprised 50 percent and 30 percent of the issuances, respectively. By contrast, sustainable bonds issued by corporate entities tend to have lower tenors, typically 5–10 years.[28] However, longer term maturities may not be in line with a country's debt strategy because of the implied higher yields.

Although there is no conclusive cross-country pattern, some sovereign green and social bond issuances have paved the way for similar debt issuances by the private sector. For example, in 2017 Nigeria became the first African country to issue a sovereign green bond, which was followed by the first green corporate issuance from Access Bank.[29] Similarly, in 2019 Chile became the first green sovereign bond issuer in Latin America, and, soon after, Banco de Chile issued a green bond to raise funds for renewable energy projects.[30]

In line with bond issuance trends, further analysis shows a strong correlation between the share of green and social bonds in total sovereign issuances and gross domestic product (GDP) per capita (see figure S5.1.2). Lower-income countries usually have less fiscal space for bond issuances because of their limited financing capacity, weaker institutions, lack of strong regulatory frameworks, and limited awareness of and experience in financial markets.[31] Similarly, the extension of domestic credit to the private sector (as a percentage of GDP) is significantly correlated with the issuance of sovereign sustainable bonds—countries that issue sovereign sustainable bonds tend to have more developed financial sectors and stronger macroeconomic fundamentals.[32] Ultimately, determining the specific underlying drivers affecting governments' ability or willingness to issue sustainable debt requires further research.

Figure S5.1.2 Correlation between share of green and social bond issuances and GDP per capita



Source: WDR 2022 team, based on data from Refinitiv Data Catalogue (dashboard), Refinitiv, New York, https://www.refinitiv.com/en/financial-data; 2021 data from World Bank, World Development Indicators (dashboard), https://datatopics.worldbank.org/world-development-indicators/.

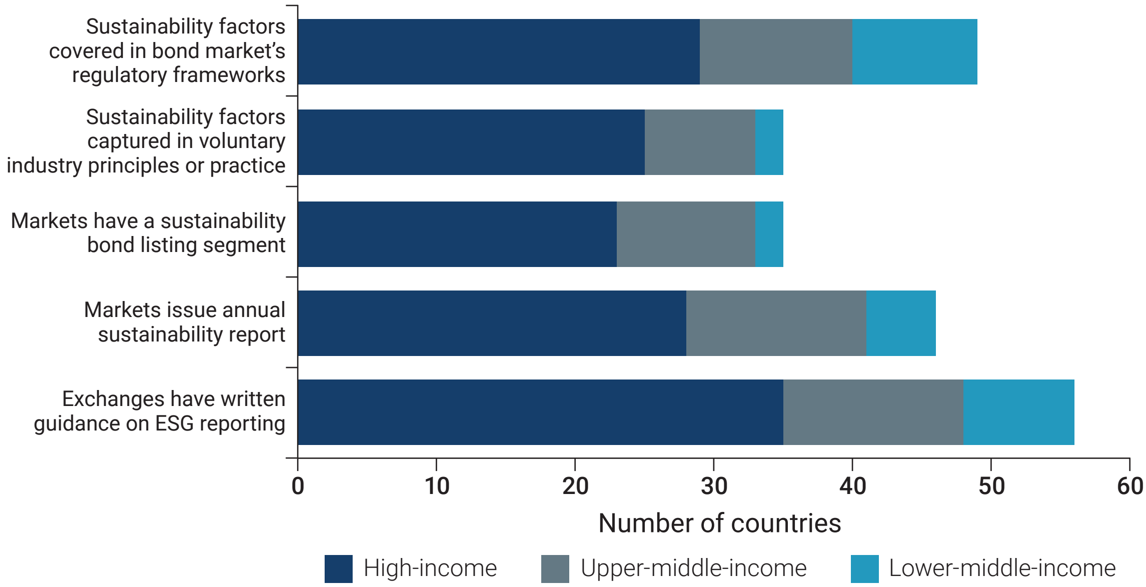
Note: The relationship is statistically significant at 1 percent; t = 3.3; number of observations = 41. GDP = gross domestic product.

Some emerging markets are noteworthy in their proactive approach to developing green bond markets. In 2016, following the adoption of the 2015 Paris Agreement on Climate Change, Nigeria ratified its Nationally Determined Contributions (NDCs) committing it to reducing greenhouse gases.[33] And, as noted, in December 2017 Nigeria issued Africa's first sovereign green bond—only the fourth globally—of $29.7 million with a five-year maturity.[34] Malaysia's sustainable finance market accounted for 22 percent of the total Association of Southeast Asian Nations (ASEAN) market in 2020.[35] To promote issuances of sustainable *sukuk* and bonds, Malaysia actively participates in the development and implementation of capital market integration and connectivity initiatives undertaken by the ASEAN Capital Markets Forum. Domestically, the Securities Commission has been playing a pivotal role in supporting development of responsible investment.[36]

Sustainable finance regulation has improved recently, especially in emerging markets. In 2020, the central bank of the Philippines issued the country's first sustainable finance framework. Similarly, Colombia's banking regulator established a framework for issuing and investing in green bonds. On a larger scale, in the European Union (EU) the EU Taxonomy and EU Green Bond Standard have increased transparency and comparability, as well as provided further guidance for green bond issuance. The EU Taxonomy also introduced a classification system for environmentally sustainable economic activities.[37] In the meantime, it was reported in November 2020 that public development banks had joined forces to support economic and social transformations toward a sustainable future.[38] The International Financial Reporting Standards Foundation is also working on sustainability reporting standards.[39] But despite these advances, worldwide the overall level of sustainable regulatory development remains low (figure S5.1.3).[40]

To meet their green goals and help channel more financing to sustainable activities, countries need to actively advance sustainable finance. A growing number of high- and middle-income countries have developed sustainable regulatory frameworks, and some emerging markets have made significant progress in implementing sustainable policies. However, much more progress is needed worldwide. In addition, the private sector must adopt sustainable investment practices outside of regulatory mandates. Stock exchanges can support issuers to determine what types of climate-related risks and opportunities need to be disclosed to investors and should have a say in the disclosures required by law. By developing sustainability listing requirements in collaboration with regulatory authorities, stock exchanges can help to ensure compliance among listed companies and set the standard for non-listed corporations. Exchanges should work closely with listed companies to ensure the accuracy and consistency of reported data.[41] Further alignment and implementation of global standards and policy frameworks would help further mobilize capital directed at sustainable economic activities.[42]

Figure S5.1.3 **Regulatory coverage of sustainability factors in capital markets, by country income group**



Source: International Finance Corporation sustainability dataset, 2021, forthcoming (see note).

Note: No low-income country has any of these regulatory features. ESG = environmental, social, and governance. The global sustainability dataset was compiled by the International Finance Corporation's Development Impact team between June and October 2021. It covers more than 70 indicators across five thematic areas: government bonds, corporate bonds, equity, regulatory framework, and institutional investors. A variety of primary and secondary sources were used in collecting the data, including desk research (mostly for country-specific sources), Climate Bonds Initiative, International Capital Market Association, Refinitiv, Bloomberg, International Monetary Fund, Asian Development Bank, and Sustainable Stock Exchanges Initiative.

Notes

1. Fatin (2021).
2. World Bank (2015). As defined by the International Capital Market Association (ICMA), *green bonds* are any type of bond instrument whose proceeds or an equivalent amount will be exclusively applied to finance or refinance, in part or in full, new or existing eligible green projects. They are aligned with the four core components of the Green Bond Principles. *Social bonds* are use-of-proceeds bonds that raise funds for new and existing projects with positive social outcomes. The four core components are the same as those set for green bonds. *Sustainable bonds* are bonds that intentionally mix eligible green and social projects. *Sustainability-linked bonds* are any type of bond instrument for which the financial or structural characteristics can vary, depending on whether the issuer achieves predefined sustainability objectives.
3. The banks are Bank of America Merrill Lynch, Barclays Corporate and Investment Bank, BNP Paribas, Citi, Crédit Agricole, Daiwa, Deutsche Bank, Goldman Sachs, HSBC, JPMorgan Chase, Mizuho Securities, Morgan Stanley, Rabobank, and SEB.
4. See Climate Bonds Initiative, "Green Bond Principles and Climate Bonds Standard," https://www.climatebonds.net/market/best-practice-guidelines.
5. Broad green project categories suggested by the Green Bond Principles include energy; buildings; transport; water management; waste management and pollution control; nature-based assets, including land use, agriculture, and forestry; industry and energy-intensive commercial; information technology; and communications. See Climate Bonds Initiative, "Green Bond Principles and Climate Bonds Standard," https://www.climatebonds.net/market/best-practice-guidelines.

6. ICMA (2021).
7. Fatin (2021).
8. IFC (2016). The bonds were issued under the label Climate Awareness Bonds with the proceeds dedicated to renewable energy and energy efficiency projects (World Bank 2008). The World Bank issued its first green bond in November 2008 for a group of Scandinavian investors; it was valued at $267 million with a maturity of six years. The bond was listed on the Luxembourg Stock Exchange. In February 2013, IFC issued a green bond worth $1 billion to support climate-friendly projects in emerging economies. The issue was heavily oversubscribed and marked the largest climate-friendly issuance up to 2013. Through this issuance, IFC was able to change the private placement format of the green bond market to public mainstream.
9. World Bank (2019).
10. World Bank (2018).
11. Between 2007 and 2021, seven countries—China, France, Germany, Japan, the Republic of Korea, Sweden, and the United States—issued over 100 sustainability instruments. The United States has a record number, with over 1,350 issuances, followed by Germany with 162. In terms of volume, France is the world leader, with issuances worth more than $81 billion by 2020, followed by Germany with $23 billion.
12. International Finance Corporation sustainability dataset, 2021, forthcoming. See figure S5.1.3 for a description of this dataset.
13. Refinitiv, Refinitiv Data Catalogue (dashboard), https://www.refinitiv.com/en/financial-data.
14. International Finance Corporation sustainability dataset, 2021, forthcoming; Refinitiv, Refinitiv Data Catalogue (dashboard), https://www.refinitiv.com/en/financial-data.
15. Côte d'Ivoire's economy remains stronger than that of many of its peers. The country was recently upgraded by all three international rating agencies—S&P, Moody's, and Fitch. The political risk diminished significantly after the peaceful elections of March 2021. And the country was able to make a quick V-shaped recovery from the onset of the pandemic (Murdoch 2021).
16. Social bonds are becoming more common in Chile as the government prepares to fight the long-term social impacts of the COVID-19 pandemic. Bond issuances by Chile under the COVID-19 Transitory Emergency Fund focus on social projects as outlined in the country's sustainable bond framework. The government can use the proceeds to fund a wide range of initiatives, including community support through job creation, access to education, food security, essential health services, and programs designed to prevent unemployment derived from socioeconomic crises (BNP Paribas 2021).
17. International Finance Corporation sustainability dataset, 2021, forthcoming; Refinitiv, Refinitiv Data Catalogue (dashboard), https://www.refinitiv.com/en/financial-data.
18. BNEF (2021).
19. S&P Global (2020).
20. Mutua (2020).
21. BNEF (2021).
22. Harrison (2021). Based on secondary market data, the average emerging market greenium stands at −3.4 basis points, which represents 3.5 percent of the average spread of bonds in the sample.
23. Amundi and IFC (2021).
24. A study by the International Monetary Fund suggests that, although some issuers claim that tapping the green bond market lowers their borrowing costs, a discount is rare (*Economist* 2020). A 2019 study showed that, on average, a greenium of two basis points was found in a sample of euro- and US dollar–denominated bonds, while in 2020 another study comparing 640 pairs of bonds revealed no difference in yields of green versus nongreen bonds (Affirmative Investment Management Partners Limited 2021). Some studies project an expansion of the emerging market greenium given the high-yield nature of the market (Amundi and IFC 2021).
25. World Bank (2020). See also Kim (2021).
26. PBC (2018).
27. Murdoch and Jefriando (2020).
28. According to historical data, tenors do not differ based on the market of issue. For example, sovereign sustainable bonds issued domestically are just as likely to have tenors as long as similar bonds issued in international markets. See Harrison and Muething (2021); Refinitiv, Refinitiv Data Catalogue (dashboard), https://www.refinitiv.com/en/financial-data. Within a given market, the sovereign issuer typically issues at longer maturities than firms because the sovereign provides the benchmark yield curve for corporate bond issuers. By this means, the sovereign sends a pricing signal so that firms can price at a margin over the "risk-free" rate at each tenor.
29. CBI (2017); Fatin (2019); SBN (2020a).
30. CBI (2019).
31. SBN (2020b).
32. International Finance Corporation sustainability dataset, 2021, forthcoming.
33. When preparing NDCs, some countries attached conditions to the implementation of some measures. These are referred to as conditional contributions as opposed to unconditional ones. See Jacobsen (2020).
34. Hassamal, Abolo, and Ogaga (2021); Whiley (2018).
35. Nguyet et al. (2021).
36. SC (2021).
37. Amundi and IFC (2021).
38. FiC (2020).
39. IFRS (2021).
40. Amundi and IFC (2021). Since 2012, the IFC's Sustainable Banking Network (SBN) has supported policy and industry initiatives to promote sustainable finance in emerging markets. Currently, 39 countries are members of the SBN and are committed to developing and implementing sustainable finance frameworks in line with international

standards. The SBN supports members through technical resources, capacity building, and peer-to-peer knowledge exchange. According to the SBN's 2019 Global Progress Report, of the 11 low-income countries in the SBN, four are in the "advancing" stage of their sustainable finance journeys (SBN 2019).

41. SSE (2021).
42. Such global initiatives include developing benchmark green taxonomies, establishing the Network for Greening the Financial System, enforcing green bond standards, implementing the recommendations of the Task Force on Climate-Related Financial Disclosures, and building capacity and technical assistance for emerging markets. See Amundi and IFC (2021).

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