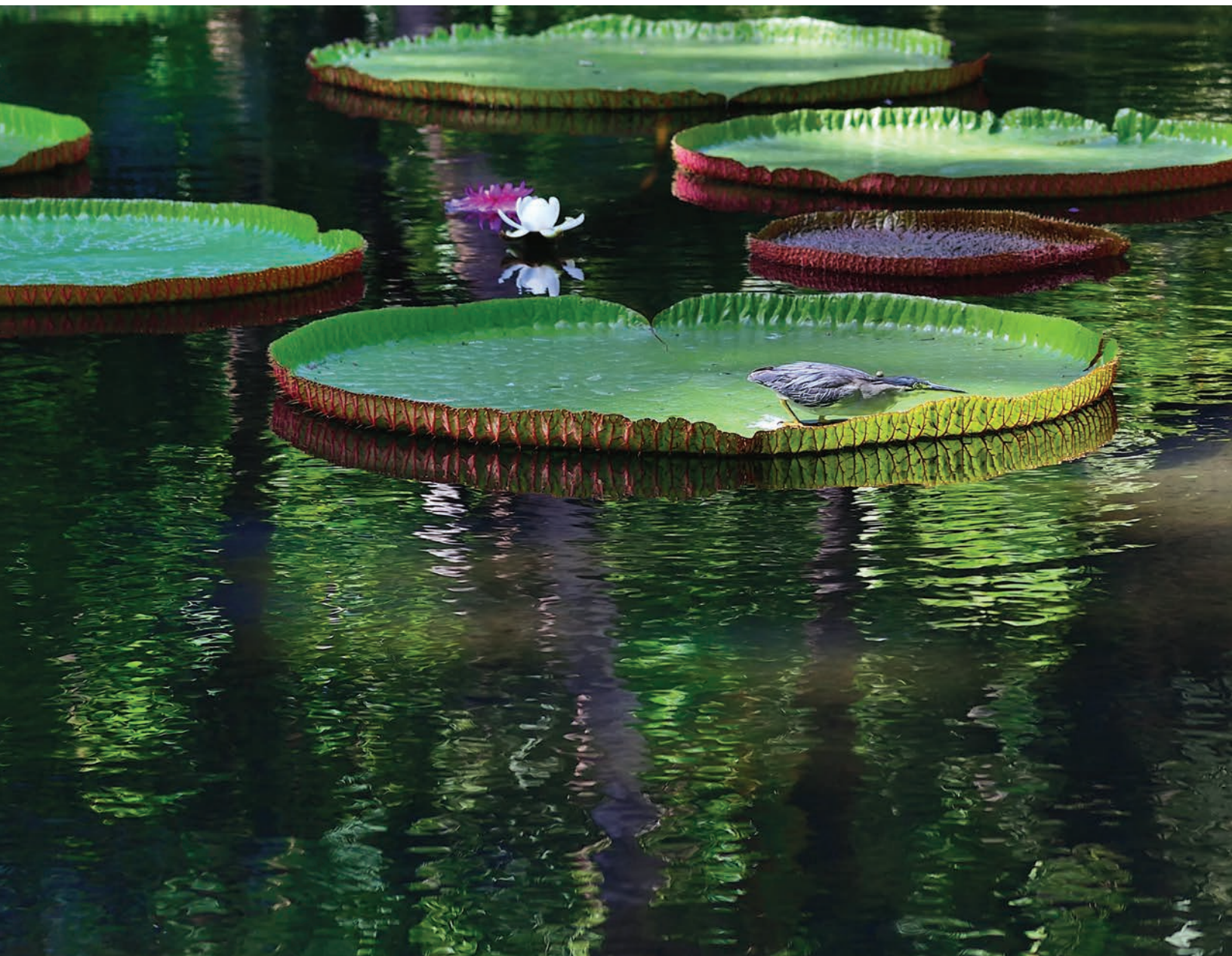


SOVEREIGN GREEN, SOCIAL AND SUSTAINABILITY BONDS:

Unlocking the Potential for Emerging Markets and Developing Economies



INSIGHTS BASED ON
WORLD BANK SURVEYS OF
PUBLIC DEBT MANAGEMENT OFFICES
AND INTERNATIONAL INVESTORS



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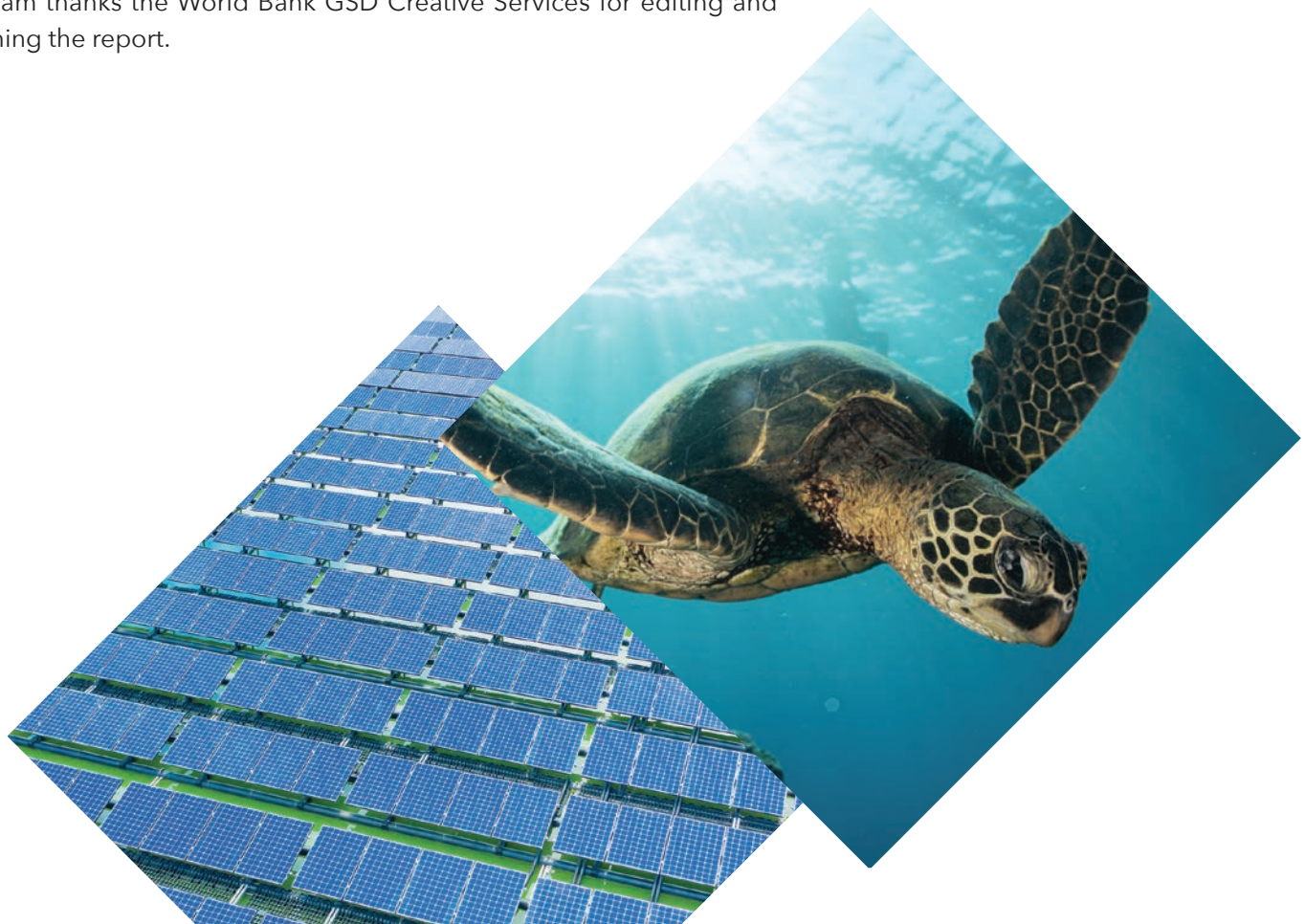
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The World Bank Treasury would like to thank the public debt management offices that participated in the survey that served as the basis for this report, as well as the international investors and intermediary banks that provided their perspectives about investments in emerging market sovereign thematic bonds. We would also like to thank the EBS Business School for their help in conducting the investor survey. The team also wishes to thank the countries that provided insights on their experiences with the sovereign thematic bond issuances featured in this report.

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The team thanks the World Bank GSD Creative Services for editing and designing the report.





List of Abbreviations

DMO	Debt management office
ESG	Environmental, social, and governance
EUR	Euro
GSS	Green, social, sustainability, and sustainability-linked
IBRD	International Bank for Reconstruction and Development
IDA	International Development Association
KPI	Key performance indicators
NDC	Nationally determined contribution
SDG	Sustainable Development Goals
SLB	Sustainability-linked bonds
SPT	Sustainability performance targets
USD	U.S. dollar
WBG	World Bank Group





Foreword

The World Bank Group is committed to tapping every opportunity to help member countries achieve sustainable growth, promote inclusion, and strengthen the resilience of their economies. Financing and promoting sustainable development and mobilizing investments of all kinds from the public and private sectors is at the heart of our work.

Our longstanding and constant presence in the capital markets and knowledge of emerging markets give us insights into new ways to increase the flow of sustainable finance into our member countries. As a pioneer of the labeled green bond and the largest issuer of sustainability bonds globally, it is our privilege to share the knowledge and experience we have acquired with our member countries. We hope they can build on the momentum generated over the past few years and attract investors looking for new and innovative opportunities to contribute to sustainable development and manage environmental, social, and governance risks.

The World Bank Treasury's Sustainable Finance and Environmental, Social, and Governance Advisory Services help develop sustainable capital markets and provide technical assistance to public sector issuers to facilitate the issuance of green, social and sustainability bonds. We work with regulators to create supportive policy environments in which projects that generate positive social and environmental benefits can secure access to deep and liquid markets.

This report focuses on the potential for emerging market sovereign issuers to tap these pools of capital, based on surveys of public debt management offices and investors. It also suggests how to meet market and investor expectations, underpinning the importance of green, social and sustainable investing.



Jorge Familiar
Vice President and Treasurer
World Bank



Executive Summary

The dramatic impacts of climate change are being felt worldwide, and most countries have committed to take action to avoid its worsening and adapt to its unpreventable consequences. In particular, countries signed and adopted the Paris Agreement on climate change in 2015 and designed ambitious nationally determined contributions (NDCs) to implement adaptation and mitigation actions. The NDCs require substantial funding and are part of an even more significant financial need to meet the United Nations Sustainable Development Goals (SDGs). It is estimated that between U.S. dollar (USD)5 trillion and USD7 trillion is required around the globe to finance and meet the SDGs (UNCTAD 2014). In developing countries alone, SDG investment needs range from USD3.3 trillion to USD4.5 trillion for basic infrastructure, food security, climate change mitigation and adaptation, health, and education (UNCTAD 2014).

Mobilizing such large amounts requires creative alternatives to traditional forms of financing. Thematic bonds, which include green, social, sustainability, and sustainability-linked bonds, are emerging as a central financial solution for the NDCs and SDGs. Many governments are turning to such bonds to raise funding for critical investment needs. The thematic bond market started in 2008 with the issuance of the first labeled green bond by the World Bank. Since then, the market has



grown exponentially, and in 2021, USD1.15 trillion was issued globally. The outstanding amount of thematic bonds reached USD3.5 trillion in September 2022. Investors, shareholders, and regulators are increasingly pushing action on climate change, so demand for thematic bonds is poised to grow even more rapidly. As policy makers enact new rules and regulations on financial sector reporting, stress testing, and risk management for climate-related issues, financial institutions will continue to move into thematic instruments. In addition, shareholders are demanding that their investees move to net zero and focus on sustainability, which will also pressure financial institutions to seek thematic assets. This momentum is a significant opportunity for emerging market issuers seeking to access this strong demand for thematic bonds, which can diversify the investor base, signal commitment to sustainability goals, and achieve better pricing.

Despite the market momentum and opportunities, sovereigns represent a small fraction of the thematic bond market (nine percent of the total issued until September 2022), and emerging markets represent a small fraction (15 percent) of the total amount issued. Therefore, to better understand the barriers and challenges to sovereign thematic bond issuance, in 2022, the World Bank conducted two surveys. The first was a quantitative survey of 32 debt management offices (DMOs) in emerging markets and developing economies that answered multiple-choice questions about their perspectives, arguments for and against such transactions, challenges they face, and potential characteristics of future issuances. The second was a qualitative survey of 12 international investors and intermediary banks with USD20 trillion in assets under management, who provided insights into the main reasons for investing in emerging market sovereign thematic bonds; concerns and challenges; financial, environmental, social, and governance (ESG) factors that they consider before investing; and bond characteristics that are of interest to them.

This unique survey data yielded interesting results. First, 75 percent of surveyed DMOs intend to issue thematic bonds. These DMOs saw the following benefits of tapping the thematic bond market (in rank order): diversifying the investor base, signaling a commitment to sustainability, building a local market to motivate private sector issuers, and attracting international investors. The possibility of raising funds at cheaper rates to gain a “greenium” was the last ranked rationale for issuing thematic bonds, which is counter to many reports and anecdotal evidence from the thematic bond market. The survey also revealed that DMOs face various challenges potentially preventing them from considering thematic bond issuances. The main challenges that DMOs cited were (in rank order): cost of arranging such issuances, complications of the issuance process, and difficulty identifying eligible expenditures and projects.



Investors expressed strong interest in emerging market sovereign thematic bonds, including issuances by subnational entities, states, and municipalities. Investors highlighted several reasons for their interest in thematic bonds, including achieving ESG impact, developing the thematic bond market, diversifying their portfolios, and serving the direct business interests of their investors and shareholders. These surveyed investors seek to promote a just transition from fossil fuels to clean energy and meet their SDGs and climate goals. Investors view sovereigns as critical to thematic bond market development. When investing in emerging market sovereign thematic bonds, investors evaluate the usual financial aspects of the bond and ESG-related factors, such as the issuer sustainability strategy, the robustness of the bond framework, transparency in allocation of proceeds, and impact monitoring and evaluation (to ensure there is no “greenwashing”). Among the challenges investors reported confronting

when considering emerging market sovereign thematic bonds were weak bond frameworks, lack of institutional capacity of the issuing governments to identify and monitor eligible projects, and limited data availability. The underlying credit aspects are an overarching consideration for investors, as is the case for any debt issuances by a sovereign.

The results of both surveys reveal a convergence of the supply and demand sides regarding thematic bonds. While sustainability-linked bonds have gained significant interest from corporate issuers, most sovereigns are interested in the traditional use-of-proceeds bonds (green, social, and sustainability bonds) rather than sustainability-linked bonds, in line with the reported preference of investors. Sovereigns are open to issuing in hard and local currencies, aligning with investor interests. The preference of some DMOs for issuances in the domestic market and local currency indicates that countries view such issuances as a way of developing their domestic capital markets, which is also a goal of many international investors.

The surveys show strong alignment between issuers and investors that thematic bonds can be essential instruments to finance the vast investments required to meet NDC and SDG ambitions. DMOs must carefully assess the feasibility of thematic bonds in the context of the overall debt management strategy, including government priorities, financing gaps, and other sources of financing available (including concessional and nonconcessional) before embarking on these transactions. A better understanding by emerging market DMOs of the thematic bond market and its requirements will increase the ability and willingness of emerging market sovereigns to issue. This enhanced knowledge will also increase the confidence of investors in thematic bond issuers. International financial institutions such as the World Bank can play a critical role in assisting DMOs with capacity building and integrating thematic bonds into their overall debt management strategy.





About the World Bank Group: Mission and Strategy

The International Bank for Reconstruction and Development (IBRD), an international global development institution owned by 189 member countries, was established in 1944 and is the original member of the World Bank Group (WBG). As the largest development bank in the world, it supports the mission of the WBG by providing loans, guarantees, risk management products, and advisory services to middle-income and creditworthy low-income countries. The IBRD and International Development Association (IDA), which was established in 1960 and lends to low-income countries, are known collectively as the World Bank and share the same leadership and staff. The IBRD and the IDA issue bonds in international capital markets to support the development mission.

At the heart of the WBG's strategy are two goals that its Board of Governors endorsed in 2013:

- **END EXTREME POVERTY:** Reduce to 3 percent the proportion of people living on less than USD1.90 a day by 2030.
- **PROMOTE SHARED PROSPERITY:** Foster income growth for the bottom 40 percent of the population in every developing country.

To deliver on the twin goals and support the SDGs, the WBG's management and shareholders have agreed on three main priorities for our work with developing countries, including those affected by fragility, conflict, and violence: accelerate sustainable and inclusive growth, invest in human capital, and strengthen resilience.

This overarching strategic framework rests on four pillars: serving all clients in low- and middle-income countries; creating markets, mobilizing finance for development, and expanding the use of private sector solutions; leading on global issues; and improving how we do business to be agile, efficient, and closer to clients. The WBG is committed to bringing together the international community in the urgent task of achieving the goals by 2030. They can be reached only through the collaboration of all partners, including countries, other institutions, civil society, and the private sector.

The WBG consists of five organizations: the IBRD, IDA, International Finance Corporation, Multilateral Investment Guarantee Agency, and International Centre for Settlement of Investment Disputes.



About the World Bank Treasury

The World Bank Treasury ensures the long-term financial sustainability of the World Bank (IBRD and IDA).

The World Bank Treasury manages the Bank's finances to enable all operations and lending by:

- Proactively managing our balance sheet to safeguard our triple-A ratings and our strong financial position
- Strategically and cost-effectively raising funds from global capital markets and providing financing to our borrowing clients
- Managing and administering assigned internal and external portfolios effectively and delivering targeted excess returns within approved risk limits

The World Bank issued the first labeled green bond in the world in 2008 and has issued 196 green bonds in 24 currencies to raise USD16.5 billion (as of June 2022) for middle-income countries.

The Treasury also helps member countries maximize finance for development and support financial stability and resilience by:

- Developing innovative sustainable financing solutions to help our clients finance climate, pandemic, refugee crisis, and infrastructure development, among other priorities
- Offering mechanisms to reduce risks and promote private sector investment
- Applying international best practices to managing our clients' assets and reserves

PIONEERING THE ISSUANCE OF LABELED THEMATIC BONDS

In 2008, the **World Bank issued the first-ever labeled green bond** to support the financing of projects addressing climate change. This bond became the standard for a market focused on increasing transparency and investing for purpose and was designed to engage investors in the positive contribution the World Bank was making in climate change. This experience in thematic bonds and helping build sustainable capital markets is shared through the World Bank Treasury Sustainable Finance and Environmental, Social, and Governance Advisory Services Program for emerging markets.

The World Bank Treasury continues to issue green bonds as a part of its Sustainable Development Bond program, which also includes sustainability bonds. Both thematic issues follow the International Capital Markets Association's principles and guidelines. All bonds that the World Bank issues are issued under the Sustainable Development Bond program because its development operations are designed to achieve positive environmental and social goals and outcomes consistent with the World Bank Group's twin goals of ending extreme poverty and advancing shared prosperity. The World Bank takes a portfolio approach to issuing sustainable bonds, which means it supports a variety of sustainable development sectors and the range of SDGs and does not allocate bond proceeds for individual sectors or projects. Although green bonds draw attention to the World Bank's climate activities, the **World Bank uses its sustainable development bonds to raise awareness of certain SDGs and development challenges**, using World Bank projects as examples. In dedicated impact reporting that covers its entire portfolio, the World Bank provides investors with information on how their funds support the financing of education, health, sustainable transport, gender equality, health and nutrition of women and children, water and oceans, and sustainable cities, among other development themes. The World Bank is the largest issuer of sustainability bonds as identified by Bloomberg.



About the World Bank Treasury Sustainable Finance and ESG Advisory Services

The Treasury's Financial Products and Client Solutions team works with policy makers, ministries of finance, regulators, central banks, supervisors, and World Bank project teams to develop sustainable financial systems by:

- Advising on green financing strategies and action plans
- Helping borrowers consider sustainable financial instruments
- Facilitating issuance of thematic bonds
- Building the capacity of borrowers to engage with investors who incorporate ESG considerations into investment decisions
- Publishing knowledge products to share good practices and guidelines.





Introduction

1

Sustainable development and climate mitigation and adaptation challenges have called multiple stakeholders to action. Efforts in that direction have intensified globally with adoption of the United Nations 2030 Agenda for Sustainable Development and the Paris Agreement, both in 2015. Countries have set ambitious goals to reduce greenhouse gas emissions, adapt to the adverse consequences of climate change, improve health and education, reduce inequality, and promote shared growth. Significant resources are required to achieve such goals. It is estimated that U.S. dollar (USD)5 trillion to USD7 trillion is needed globally to finance the United Nations Sustainable Development Goals (SDGs) (UNCTAD 2014). In developing countries alone, investment needs range from USD3.3 trillion to USD4.5 trillion for basic infrastructure, food security, climate change mitigation and adaptation, health, and education (UNCTAD 2014). Mobilizing such large amounts of financing will require creativity and innovation in developing alternatives that complement more-traditional funding sources.

Labeled green, social, sustainability, and sustainability-linked bonds, collectively known as thematic bonds¹, are alternative financial solutions that can help borrowers access private sector financing to address those challenges (Box 1).

¹ Thematic bonds include green, blue, social, gender, sustainability, and sustainability-linked bonds. These bonds are also collectively known as GSS; GSS+; environmental, social, and governance (ESG); or sustainable bonds.



BOX 1. THEMATIC BOND DEFINITIONS

Thematic bonds are fixed-income securities issued in capital markets to raise financing for projects and activities related to a specific theme, such as climate change, education, housing, ocean and marine conservation, and the Sustainable Development Goals. For the purposes of this report, such sustainable finance instruments include green, social, sustainability, and sustainability-linked labeled bonds. Blue bonds² are considered a subcategory of green bonds and gender bonds a subcategory of social bonds. Thematic bonds are also known as GSS; GSS+; environmental, social, and governance (ESG); or sustainable bonds.

Green bond proceeds are designated to finance projects and activities that are expected to have a positive environmental impact (World Bank 2015). **Blue bonds** finance projects aimed at ocean and marine conservation (UN Global Compact 2020).

Social bonds raise funds for projects with expected positive social outcomes, helping issuers address societal inequalities. Social project categories include affordable basic infrastructure (clean drinking water, energy, sanitation); access to health, education, and financial services; affordable housing; employment generation; and food security (ICMA 2021). **Gender bonds** focus exclusively on gender equality (ICMA, IFC, and UN Women 2021).

Sustainability bond proceeds support a combination of green and social projects or activities.

Green, social, and sustainability bonds are usually referred to as use-of-proceeds bonds, given that resources raised through these securities are earmarked for specific projects designed to generate the intended impacts.

Sustainability-linked bonds do not earmark proceeds for specific projects or expenditures. Instead, the issuer commits to meeting predefined key performance indicators within a timeline for defined sustainability policies and actions (ICMA 2020). Such indicators can be related to environmental or social objectives and must be verifiable and ambitious. In most linked structures, if the key performance indicators are not met, the borrower must increase (step up) the coupon payment to investors.

Thematic bonds are expected to follow the voluntary standards that the International Capital Market Association established in close consultation with international financial institutions and key market participants. To issue such bonds, the issuer must establish a governance framework. In the case of use-of-proceeds bonds, the issuer discloses the types of projects that will be financed and the processes established to identify eligible assets and expenditures, tracks the allocation of bond proceeds, and reports the allocation of bond proceeds to eligible projects and the environmental impact of the projects supported. As with any other debt instrument, the transaction should be aligned with the borrower's overall debt management strategy (Hussain 2022). The current stage of market development and market readiness for these types of bonds are also relevant factors to evaluate when considering such issuances (Boitreaud et al. 2020).

² Blue bonds are a developing concept and there is increasing demand for commonly agreed references. Apart from using a use-of-proceeds structure, they can also be issued under a sustainability-linked bond framework (UN Global Compact 2020a).

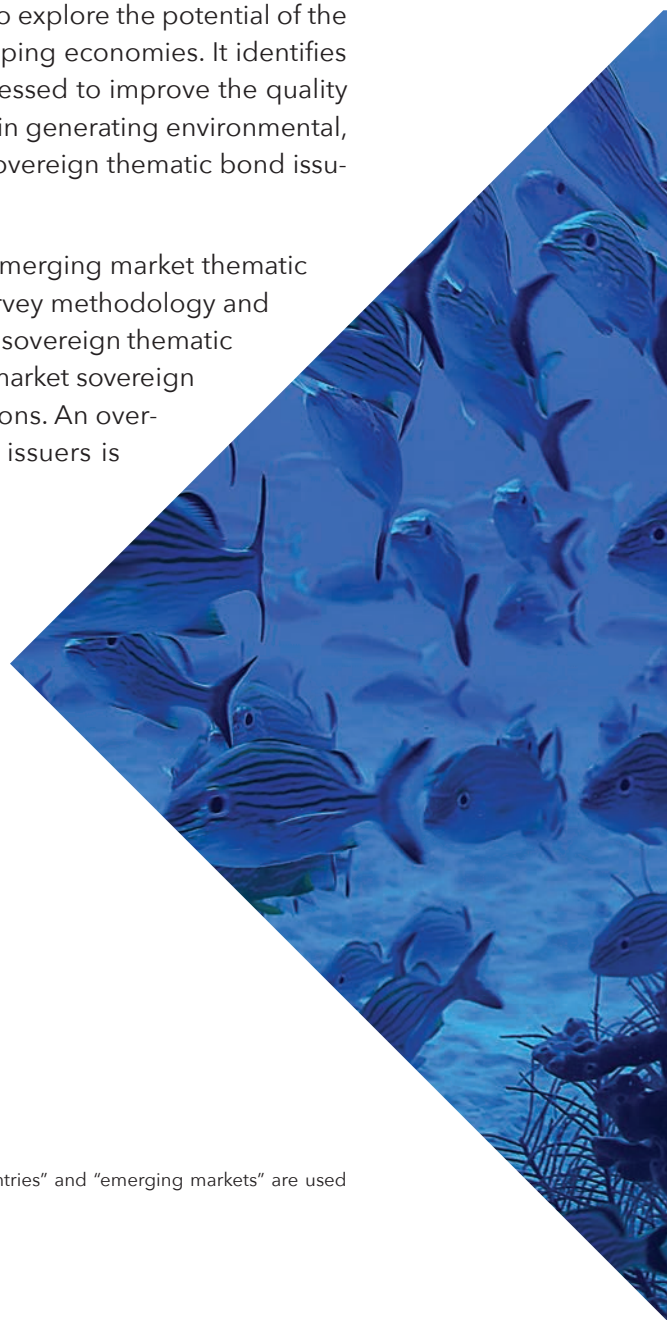
These financing instruments allow investors to use their capital to contribute to climate goals and SDGs and to manage ESG-related risks in their portfolios. For issuers, thematic bonds provide an opportunity to highlight their commitment to and progress made in sustainability, differentiate themselves from their peers, and diversify their investor base by attracting a range of investors with ESG objectives integrated into their investment frameworks.

Given the role of thematic bonds in mobilizing private sector funding for sustainable development, the World Bank conducted two surveys in early 2022, one with public debt management offices (DMOs) and one with international investors, to gauge the potential for increasing sovereign thematic bond issuances in emerging markets.³ DMOs of emerging and developing countries provided their perspectives, arguments in favor of and against such transactions, challenges they face, and potential characteristics of future issuances. Investors and intermediary banks responded to questions about the main reasons for investing in emerging market sovereign thematic bonds, concerns and challenges, financial and ESG factors they consider before investing, and bond characteristics of interest to them.

This report presents an analysis of both surveys and explains how to explore the potential of the sovereign thematic bond market in emerging markets and developing economies. It identifies gaps in knowledge and governments' capacity that must be addressed to improve the quality of thematic bond transactions and thus maximize investor interest in generating environmental, economic, and social outcomes. Moreover, it builds on previous sovereign thematic bond issuances to extract lessons learned.

This report is divided as follows. Section 2 presents the status of emerging market thematic bonds, focusing on sovereign issuances. Section 3 explains the survey methodology and presents the findings, including issuer and investor perspectives of sovereign thematic bond transactions. Section 4 captures the experience of emerging market sovereign thematic bond transactions. Section 5 provides the main conclusions. An overview of select sovereign thematic bonds from emerging market issuers is provided in Appendix A.

³ For the purposes of this report, the expressions "emerging markets and developing countries" and "emerging markets" are used interchangeably and include World Bank Group client countries.

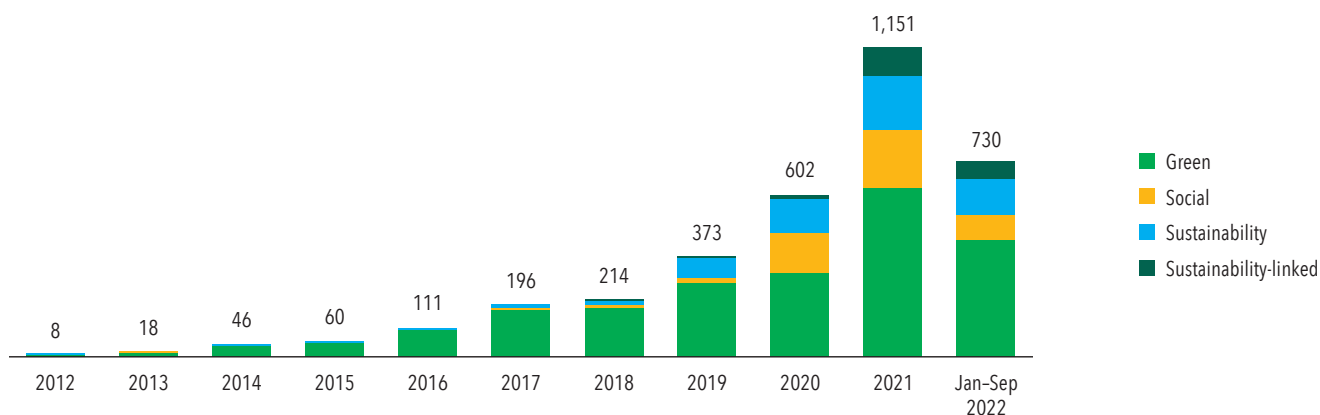


State of the Thematic Bond Market

2

The thematic bond market has grown tremendously since the World Bank first issued a labeled green bond in 2008. The total amount of bonds associated with a thematic label reached USD3.5 trillion in September 2022, with green bonds representing the largest portion (64 percent). New issuances reached a record USD1.1 trillion in 2021, up from USD8 billion in 2012 and USD602 billion in 2020 (Figure 1).

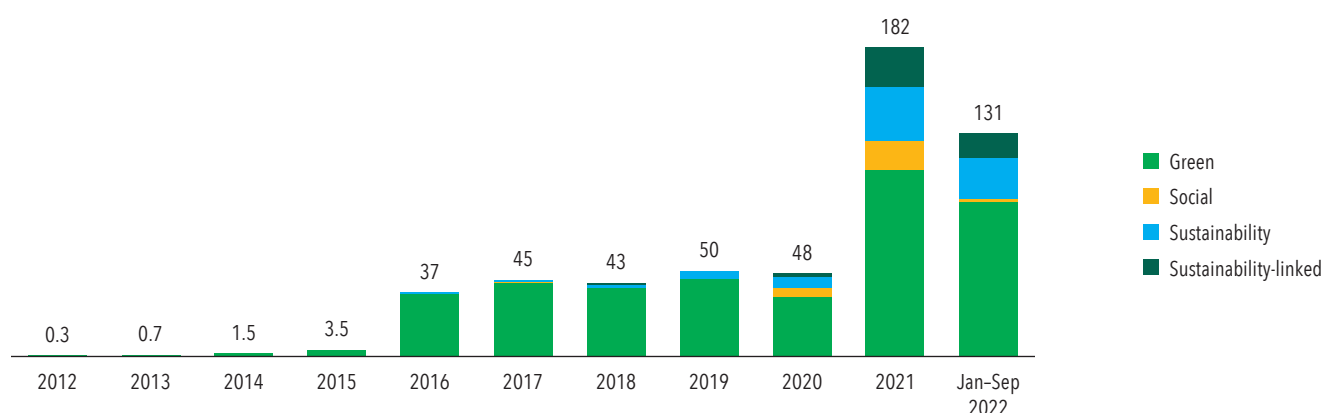
FIGURE 1. Global Thematic Bond Market, Annual Issuance 2012–2022 (USD Billion)



Source: World Bank, based on data from Bloomberg 2022.

Emerging markets represent a small fraction—15 percent of the total amount issued (based on data from Bloomberg (2022))—but interest is growing. In 2021, emerging market issuers issued USD182 billion in thematic bonds, more than triple the amount issued in 2020. In the first nine months of 2022, emerging markets issued USD131 billion in thematic bonds, more than double the amount issued during all of 2020 (Figure 2). Emerging market green bond issuances are projected to reach USD150 billion annually by 2023 (Amundi Asset Management and IFC 2022), a substantial increase from the USD109 billion registered in 2021.

FIGURE 2. Emerging Market Thematic Bonds, Annual Issuance 2012–2022 (USD Billion)



Source: World Bank, based on data from Bloomberg 2022.

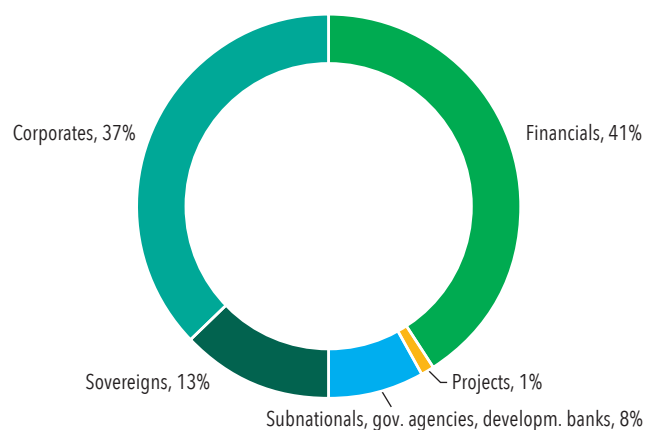
In emerging markets, financial institutions have dominated thematic bond issuances (41 percent of total amount issued up to September 2022), followed by corporates (37 percent). Public sector issuers such as sovereigns made up 13 percent of the total amount issued and subnational governments (regional and local), government agencies, and development banks eight percent (Figure 3).

Sovereign thematic bond issuances started with Poland's first green bond in 2016.⁴ Even though sovereigns represent a small fraction of the thematic bond market (nine percent of the total issued up to September 2022), interest in such instruments has grown. In 2021, sovereign issuances reached USD124 billion, more than triple the USD45 billion issued in 2020 (Figure 4).

As of September 2022, 40 sovereign borrowers had issued USD308 billion in thematic bonds. Eighteen of those are emerging markets, with a total issuance of USD70 billion (Box 2). Chile leads among emerging market sovereigns as the largest sovereign issuer of thematic bonds and the only one to have issued a variety of thematic bond types (green bonds, social bonds, sustainability bonds, and the first sustainability-linked bond issued by a sovereign).

Emerging market sovereign thematic issuances have mostly been denominated in hard currencies such as the U.S. dollar, euro, and Japanese yen, which account for 74 percent of bonds to date (Figure 5) and 76 percent of the amount issued. However, an increasing share of sovereign issuers are issuing in local currency, with the equivalent of USD17 billion issued (24 percent of the total amount) in Colombian peso, Chilean peso, Fijian dollar, Malaysian Ringgit, Mexican peso, Nigerian naira, Thai baht, and Uzbekistani som.

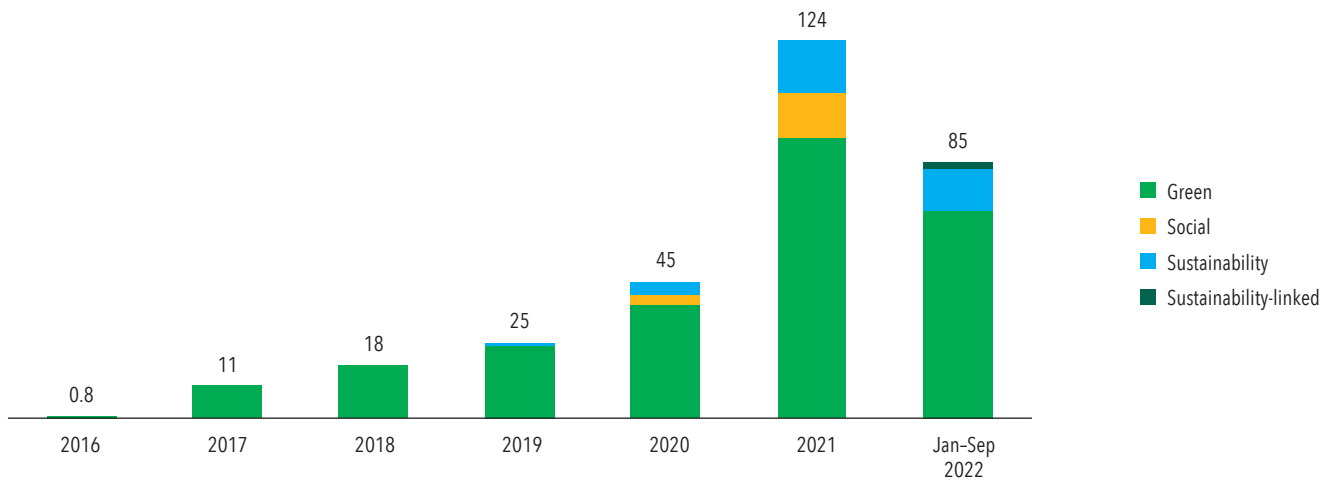
FIGURE 3. Emerging Market Thematic Bonds, According to Issuer Type



Source: World Bank, based on data from Bloomberg 2022.
Note: Data up to September 2022.

⁴ More information can be obtained at <https://www.gov.pl/web/finance/issues-international-bonds>.

FIGURE 4. Sovereign Thematic Bonds, Annual Issuance, 2016–2022 (USD Billion)

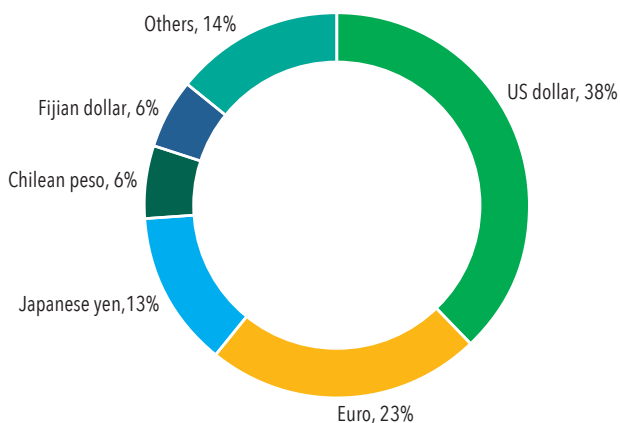


Source: World Bank, based on data from Bloomberg 2022.

About 74 percent of sovereign thematic bonds issued to date by emerging markets are benchmark-size of at least USD300 million, and 41 percent are at least USD1 billion (Figure 6). Benchmark-driven investments are playing a growing role in emerging bond markets because inclusion in major indices provides greater access to external financing.

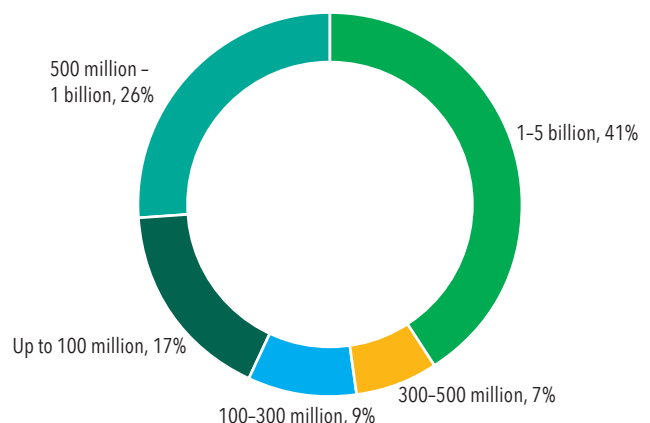
Seventy-six percent of emerging market thematic bonds have been issued in international markets and 24 percent in domestic markets (based on data from Bloomberg (2022)). One was a private placement (the Seychelles blue bond). Indonesia and Malaysia used the Sha’riah-compliant sukuk format. The Seychelles blue bond and the Ecuador social bond were credit enhanced with World Bank and Inter-American Development Bank guarantees, respectively.

FIGURE 5. Emerging Market Sovereign Thematic Bonds According to Currency, 2016–2022



Source: World Bank, based on data from Bloomberg 2022. Note: Data up to September 2022.

FIGURE 6. Emerging Market Sovereign Thematic Bonds According to Size, 2016–2022 (USD)



Source: World Bank, based on data from Bloomberg 2022. Note: Data up to September 2022. Size at first issuance, not considering reopenings.

BOX 2. EMERGING MARKET SOVEREIGN THEMATIC BONDS ISSUED AS OF SEPTEMBER 2022

1. Benin issued a euro (EUR)500 million sustainability bond in July 2021 in the international market.
2. Chile has issued 21 thematic bonds for a total of U.S. dollar (USD)32.9 billion since 2019. Social bonds account for the largest share of Chile's thematic issuances (11 bonds that raised USD16 billion), followed by sustainability bonds (five bonds with a total amount of USD7.5 billion), green bonds (four bonds with a total amount of USD7.4 billion), and a sustainability-linked bond (one issuance of USD2 billion). Eighty-one percent of its thematic bonds were issued in the international market and 19 percent in the domestic market.
3. Colombia issued a Colombian peso 750 billion (equivalent to USD195 million) green bond in September 2021 in the domestic market. It had three reopenings since then, raising additional Colombian peso 1.72 trillion (USD423 million).
4. Ecuador issued a USD400 million social bond in January 2020 in the international market.
5. Egypt issued a USD750 million green bond in June 2020 in the international market.
6. Fiji issued its green bond with a total of Fijian dollar 40 million (USD28.9 million) in November 2017 with tranches both in the domestic and international markets. With three reopenings between December 2017 and July 2018, the green bond raised additional Fijian dollar 60 million (USD28.8 million).
7. Guatemala issued a USD500 million social bond in April 2020 in the international market.
8. Indonesia issued a USD1.25 billion green sukuk in March 2018, a USD750 million green sukuk in February 2019, USD750 million green sukuk in June 2020, a USD750 million green sukuk in June 2021, a EUR500 million sustainability bond in September 2021, and a USD1.5 billion green sukuk in May 2022, all of them in the international market.
9. Malaysia issued a USD800 million sustainability sukuk in April 2021 in the international market and a Malaysian ringgit 4.5 billion (USD 970 million) sustainability sukuk in September 2022 in the domestic market.
10. Mexico issued a EUR750 million sustainability bond in September 2020 and a EUR1.25 billion sustainability bond in July 2021, both in the international market, a Mexican peso 20 billion (USD977 million) sustainability bond in May 2022 and a Mexican peso 15 billion (USD730 million) sustainability bond in July 2022, both in the domestic market, and a USD2.2 billion sustainability bond in August 2022 and a Japanese yen 75.6 (USD549 million) sustainability bond in September 2022, both in the international market.
11. Nigeria issued a Nigerian naira 10.69 billion (USD29 million) green bond in December 2017 and a Nigerian naira 15 billion (USD41 million) green bond in June 2019, both in the domestic market.
12. Peru issued a USD3.25 billion sustainability bond in October 2021 and a EUR1 billion social bond in November 2021, both in the international market.
13. Philippines issued a USD1 billion sustainability bond in March 2022 and a Japanese yen 70.1 billion (USD559 million) sustainability bond in April 2022, both in the international market.
14. Poland issued a EUR750 million green bond in December 2016, a EUR1 billion green bond in August 2018, and a EUR2 billion green bond in March 2019, all of them in the international market.
15. Serbia issued a EUR1 billion green bond in September 2021 in the international market.
16. Seychelles issued a USD15 million blue bond in October 2018 through private placement with international investors.
17. Thailand issued a Thai baht 30 billion (USD964 million) sustainability bond in August 2020 in the domestic market. Through 12 reopenings, the bond has raised a total of USD6.6 billion. In September 2022, the country issued its second sustainability bond with an amount of Thai baht 35 billion (USD956 million) in the domestic market.
18. Uzbekistan issued a Uzbekistani som 2 trillion (USD235 million) sustainability bond in July 2021 in the international market.

Source: World Bank, based on data from Bloomberg 2022.

The Surveys

3

3.1. METHODOLOGY

Given the growth of the thematic bond market and its role in mobilizing private sector funding to promote sustainable development, the World Bank conducted two surveys in early 2022, one with sovereign DMOs and one with international investors and intermediary banks, to gauge the potential for expanding sovereign thematic bond issuances in emerging markets.

The sovereign DMO survey contained multiple-choice questions sent by electronic mail to emerging countries served by the World Bank Group around the globe. Between January and March, 32 DMOs completed the questionnaire, including countries in Africa; Europe; Latin America and the Caribbean; and East, South, and Central Asia. The DMOs provided their perspectives, arguments in favor of and against such transactions, challenges they face, and potential characteristics of future issuances.

The investor and intermediary bank survey was done in collaboration with the EBS Business School to determine investor perspectives and interest in emerging market thematic bonds. The survey contained open-ended questions sent by electronic mail to institutions that actively invest in emerging markets. Surveyed investors collectively manage USD20 trillion in assets. Investors and intermediary banks responded to questions about the main reasons investors invest in emerging market sovereign thematic bonds, concerns and challenges, financial and ESG factors they consider before investing, and bond characteristics that are of interest to them.

Both surveys capture what lies ahead for emerging market sovereign thematic bonds, challenges, and perspectives for new issuances. An important difference between the methodologies of the two surveys is that the DMO survey included closed-ended questions with pre-populated answer choices to provide quantifiable data, whereas the investor and intermediary bank survey was exploratory, consisting of open-ended questions intended to collect the full range of opinions. The surveys were meant to complement each other, providing insight into the barriers and challenges to increasing emerging market transactions in support of climate actions and sustainable development. Appendixes B and C reproduce the surveys.

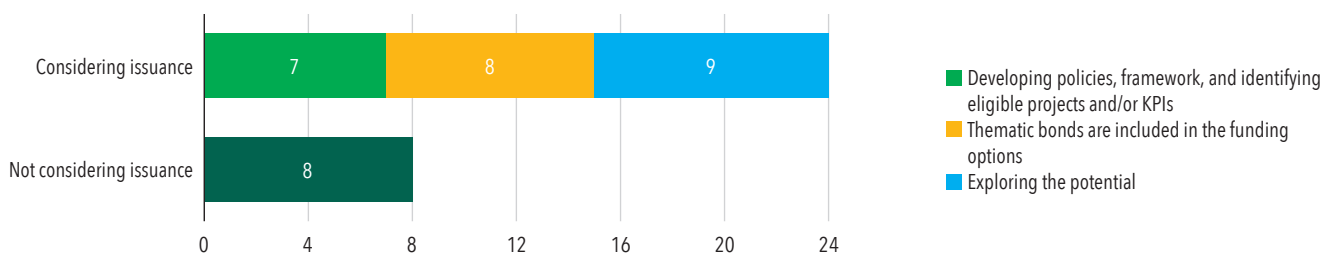
This section of the report analyzes the results of both surveys and, in the context of the technical assistance that the World Bank Treasury provides, highlights the potential of the sovereign thematic bond market. It also identifies gaps in knowledge and government capacity that must be addressed to improve the quality of thematic bond transactions and thus maximize investor interest in generating environmental, economic, and social outcomes.

3.2. SURVEY FINDINGS

Most DMOs Intend to Issue Thematic Bonds

Twenty-four of 32 surveyed countries are considering thematic bond transactions. They are establishing working groups or steering committees to make strategic decisions and undertake assigned tasks related to the transactions, developing supporting policies and bond frameworks, identifying eligible projects and expenditures, identifying performance indicators, including such bonds in government funding options, or exploring new issuances. Eight of the 24 countries have already tapped the market at some point with thematic bonds. Another eight have already established a timeline for issuance, seven of them in 2022. Eight respondents are not currently considering thematic bonds (Figures 7 and 8).

◆ **FIGURE 7. Country Perspectives on Thematic Bond Issuances**



N = 32

Source: 2022 World Bank Sovereign Debt Management Offices Survey.

◆ **FIGURE 8. Actions Being Undertaken to Support Sovereign Thematic Bond Transactions**



Task force

10 countries have established a task force to explore thematic bond issuance options. Reported arrangements vary from technical committees and working groups to more formal authorities and institutions.



Framework

11 countries have developed a framework for thematic bond issuances.



Taxonomy

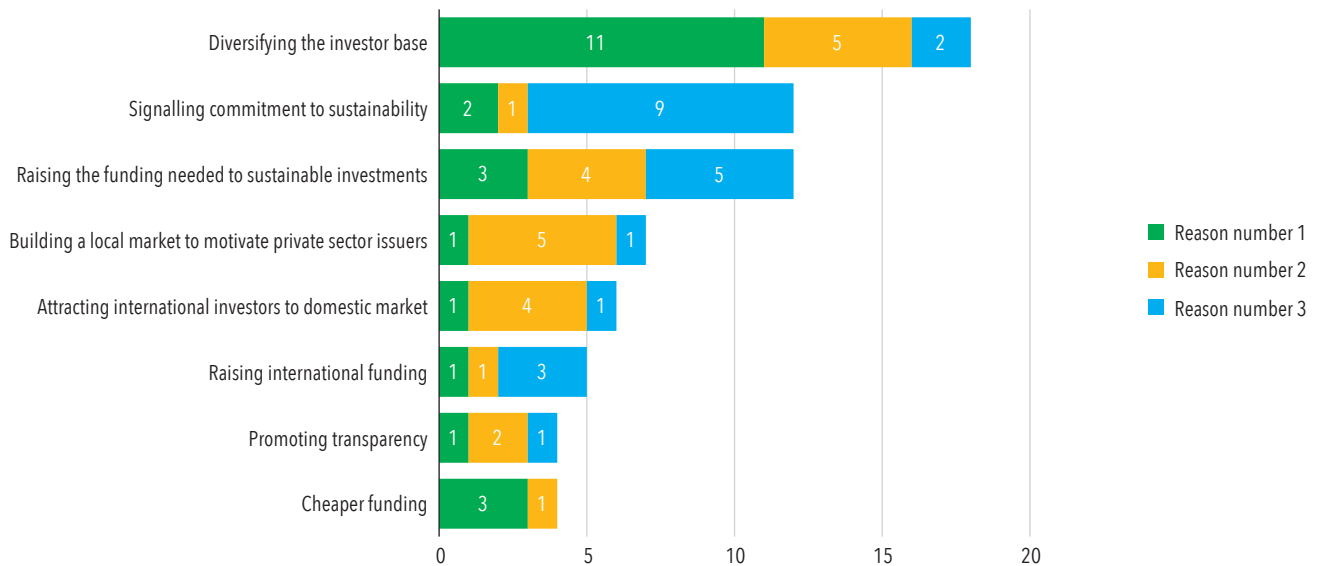
Nine countries have developed a taxonomy to identify eligible activities; another seven are considering it.

Source: 2022 World Bank Sovereign Debt Management Offices Survey.



There are many reasons why a country may consider thematic bonds as a funding option. The leading motivation in favor of such bonds for survey participants was diversification of their investor base. Eleven of 32 countries identified the potential to diversify their investor base as the most important reason for considering thematic bonds. A second motivator is that these bonds present the opportunity to signal the issuer’s commitment to sustainability and raise awareness about progress being made in achieving Paris Agreement goals and SDGs. They are also a tool to access resources needed to finance sustainable investments and mitigate the impacts of climate change. Helping build a domestic market to encourage private sector issuances and attracting international investors are also motivating factors. Surprisingly, given the amount of debate on green premium or “greenium” in the public sphere (Bachelet, Becchetti, and Manfredonia 2019; Hachenberg and Schiereck 2018) (Box 3), the possibility of raising funds with thematic bonds at lower cost than conventional bonds does not appear to be a primary focus (Figure 9).

FIGURE 9. Reasons for Considering Thematic Bond Issuances



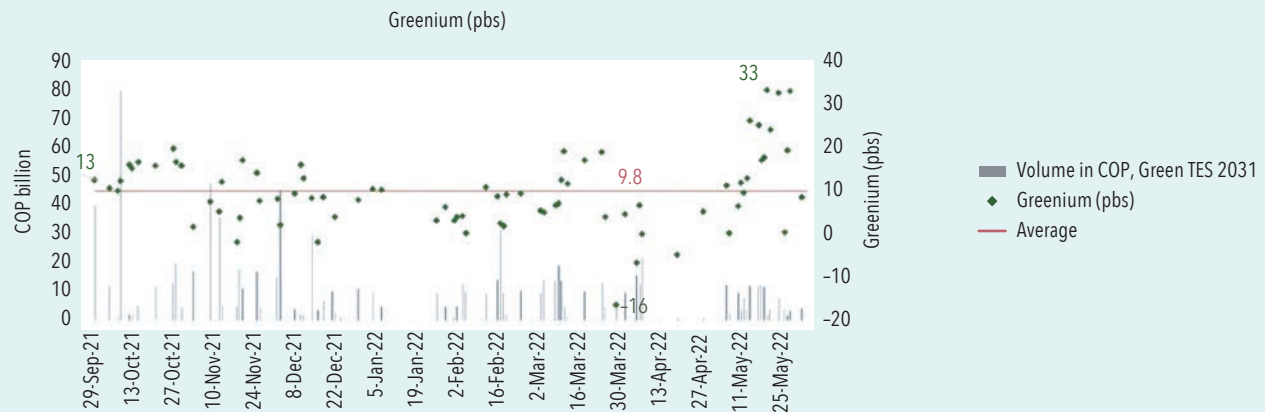
N = 24

Source: 2022 World Bank Sovereign Debt Management Offices Survey.

BOX 3. THE GREEN PREMIUM OR GREENIUM

Green premium, or greenium, refers to the negative difference in spreads between green and nongreen bonds with the same financial characteristics (currency, tenor) issued by the same issuer, suggesting that green bonds have a pricing advantage to the issuer over conventional bonds. The presence of the greenium can be more clearly visualized through the “twin bond” mechanism that Germany introduced to the market in 2020 and that Colombia then used (Figure B3.1). Because the bonds are financially identical by design, except for the green commitment, and issued on the same date, the pricing differential can be attributed to supply and demand effects.

◆ **FIGURE B3.1. Colombia Green Treasury Bonds 2031 in Secondary Market, as of April 6, 2022**



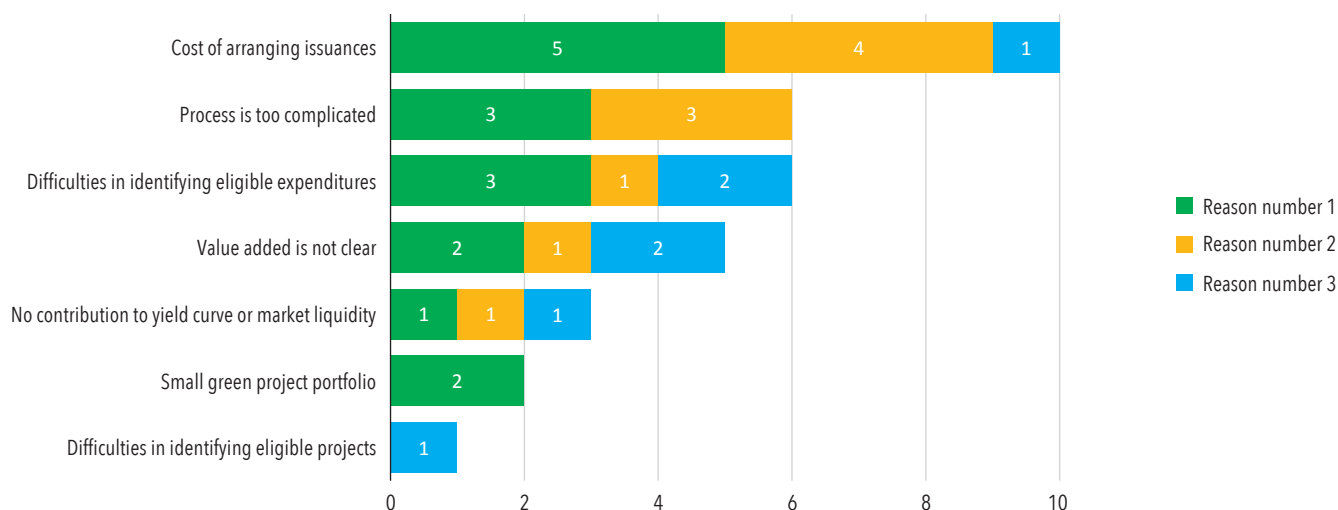
Source: Colombia Deputy Directorate of Domestic Debt; Deputy Directorate of Internal Financing calculations with data from the Electronic Trading System.

According to the Climate Bonds Initiative (2022), green bonds experience greater spread tightening during the pricing process than conventional bonds, as seen in U.S. dollar- and euro-denominated loans. Hachenberg and Schiereck (2018) matched a sample of similar green and conventional bonds and found that green bonds trade marginally more tightly than same-issuer conventional bonds. Based on secondary market data, Amundi Asset Management and International Finance Corporation (2022) found that the average greenium for emerging market issuers was about 3.4 basis points. Bachelet, Becchetti, and Manfredonia (2019) analyzed a sample of 89 matched green and conventional bonds and found that institutional green bonds issuers such as sovereigns, local government, and supranationals face a greenium. Further research is needed to provide clearer evidence of a greenium as other technical elements, such as the difference in the investor base for both bonds and the volume outstanding, could also play a role and help explain the pricing difference.

Additional Costs and Complexity Are Holding Back Sovereign Thematic Bond Transactions

Countries also pointed out the drawbacks of thematic bond issuances. Costs associated with preparing issuances are the main reason that public DMOs might not consider such transactions (Box 4). Other deterrents include the process to label the bond and identify eligible projects (Box 5). For use-of-proceeds bonds, some issuers highlighted challenges with identifying eligible expenditures and reported small eligible portfolios that are inconsistent with the size of bonds that they prefer to issue and investors prefer to buy (Figure 10).

FIGURE 10. Reasons for Not Considering Thematic Bond Issuances



N = 24

Source: 2022 World Bank Sovereign Debt Management Offices Survey.

BOX 4. COSTS OF ISSUING THEMATIC BONDS

Issuers of thematic bonds are required to set up governance processes distinct from conventional bonds. These additional steps require additional time and monetary and non-monetary resources and close collaboration between the debt management office (DMO), line ministries and other government departments. The process is unfamiliar and unusual for DMOs. Many DMOs, mainly smaller debt management offices and infrequent issuers of international bonds consider the process complicated, time consuming, and resource intensive. In the absence of a significant price difference and the governance process involved in thematic bond issuances, they do not see the value of diverging from their usual funding practices.

In response to another question about the challenges in issuing thematic bonds following internationally accepted principles, DMOs mentioned lack of knowledge of the financial instrument itself and the international standards they must comply with (Box 5).

BOX 5. STEPS FOR ISSUING A SOVEREIGN THEMATIC BOND

Issuance of thematic bonds involves steps that are not required for conventional bonds. In preparation for the issuance of a thematic bond, the issuer must adopt a framework that sets the basis for identification, selection, verification, and reporting of the expenditures or projects eligible to be financed by the bond and management of such proceeds. The framework should follow internationally accepted standards such as the International Capital Markets Association Green Bond Principles, Social Bond Principles, and Sustainability Bond Guidelines. Diligently following these steps is important to ensure that the bond can be identified as a labeled thematic bond. Although the time required from start to finish varies, a first-time issuer can expect to take at least 6 months for the entire process.

It is recommended that debt management offices establish a dedicated task force or steering committee with members from different departments in ministries of finance and relevant line ministries to develop a thorough understanding of the requirements, discuss the value proposition, conduct a detailed analysis of eligible expenditures, and design a work plan.

For example, in preparing for the issuance of its inaugural sovereign green bond, the government of Egypt formed a green finance working group consisting of the ministries of Finance; Planning and Economic Development; Environment; Transportation; Housing, Utilities, and Urban Communities; and Electricity and Renewable Energy New and Renewable Energy Authority; Egyptian Electricity Transmission Company; and Construction Authority for Potable Water and Wastewater. The Vice Minister of Finance was the chair of the working group.



Investors Are Interested in Emerging Market Sovereign Thematic Bonds

Surveyed investors provided various reasons for their interest in emerging market sovereign thematic bonds that can be classified in three main categories: ESG impact, market development, and business interest. The motivations of some investor and intermediary banks are aligned with those of DMOs. The supply and demand sides agree that sovereign thematic bonds signal a country's commitment to climate goals and that sovereign transactions help develop the ESG market by motivating other issuers. Both sides seek diversification—of their investor base in the case of sovereign issuers and of investment portfolios in the case of investors—which is mutually beneficial.

ESG Impact

Promote just transition: Investors and banks see emerging market thematic bonds as an opportunity to contribute to the transition to a low-carbon economy effectively and equitably. They help promote the economic and social changes necessary to meet climate goals and SDGs while protecting workers and communities and ensuring a more socially equitable distribution of benefits and risks. Sovereign thematic bonds contribute not only to the decarbonization efforts of these economies, but also to the social and governance challenges they face.

Sovereign thematic bond issuances signal a country's climate commitment: Investors believe that sovereign thematic bonds reflect a country's sustainability strategy.

Proceeds earmarked for green and social projects have a positive impact: The fact that proceeds are earmarked for eligible projects and expenditures with positive environmental and social impacts attracts clients. Some investors report that clients with a strong preference for thematic bonds are willing to pay a premium to hold these securities.

Just transition is key - Emerging markets need to balance decarbonization efforts, whilst mitigating the impacts on local communities.

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Emerging countries are clearly a segment where investors' investment can be very impactful, as emerging countries need to act quickly and massively to tackle not only climate change, but also social and governance issues.

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Market Development

Sovereigns are key for ESG market development: Sovereigns can be the main source of liquidity for investors and stimulate thematic bond issuances of other public and private institutions. Sovereigns are seen as leaders in the transition to a low-carbon economy and in setting standards for other issuers in a country.

Taxonomies, regulations, and standards have enhanced credibility: Some mention development of taxonomies and other improvements in regulations and standards, which increase the credibility of the thematic bond market (Box 6).

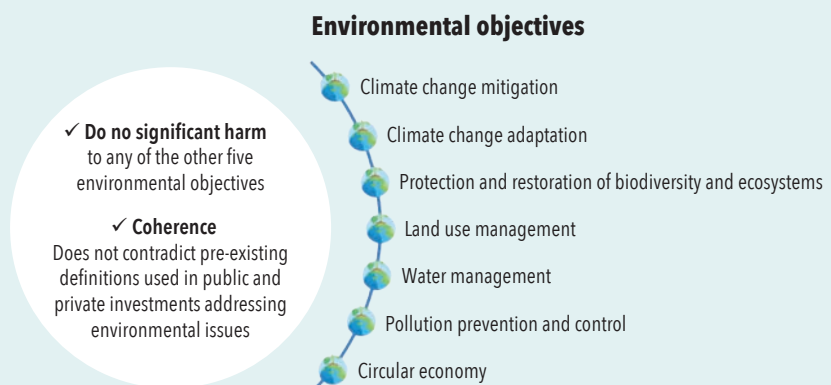
There is a huge signaling effect from a sovereign ESG bond in terms of a country's commitment to net zero. For the local capital markets, sovereign ESG bonds typically trigger positive spillover effects to the local bond market. They are the starting point for many corporate, financial, and other public sector issuers in their journey to own ESG issuance.

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BOX 6. TAXONOMIES TO AVOID GREENWASHING

The objective of a green taxonomy is to increase the flow of capital toward activities with substantial benefits for the climate and the environment (Network for Greening the Financial System 2022). A green taxonomy is a classification of economic activities considered to be environmentally sustainable in a certain context. It provides standardized definitions of green investments that will help a country or jurisdiction achieve priority environmental or sustainability goals. By funding eligible projects aligned with the relevant green taxonomy, green bond issuers can avoid the risk of mislabeling nongreen activities as green (often called greenwashing) and help investors identify investment opportunities in line with their mandate. It is recommended that taxonomies follow internationally accepted design principles to enhance comparability and interoperability across jurisdictions and reduce investors' transaction costs. Various emerging markets (and jurisdictions), including Bangladesh, China, Colombia, Costa Rica, Chile, Indonesia, Malaysia, Mexico, Russia, Singapore, and South Africa, are developing or have developed green taxonomies (Figure B6.1)

◆ **FIGURE B6.1. Colombia Green Taxonomy**



Business Interest

Provide portfolio diversification and better returns: Investors and intermediary banks believe that sovereign thematic bonds allow investors to diversify their portfolios. For investors exploring emerging markets, thematic bonds may be a more attractive holding than conventional bonds. Thematic bonds also complement investors’ conventional bond underwriting business.

Address client interest in supporting environmentally sustainable investments: Some institutions view thematic bond investments as critical to serving their clients because of the growing awareness of environmental challenges and interest in such instruments.

Support environmental sustainability as part of the institution’s strategy: Some investors and intermediary banks have broad environmental concerns and have included sustainability as part of their strategy and agenda. They are committed to supporting the Paris Agreement and intend to make their investments a driving force for change. Some cite high internal sustainable finance targets.

Complement previous experience in issuing or assisting with thematic bond issuances: The fact that some institutions have experience issuing or assisting with sovereign thematic bond issuances is also a reason for investing in such bonds. Some have issued thematic bonds as part of a financial strategy for their own company. Others have provided services for the private sector and sovereigns to structure thematic issuances around the globe, including framework development and engagement with second-party opinion providers. This exposure provides them with greater knowledge about regulations and standards in emerging markets and give them more confidence in the credibility of sovereign thematic bonds.

[We are] committed to the goals of the Paris Agreement, and we are focused on supporting our clients in pursuing more green and sustainable financing.

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Investors Consider Financial and ESG Factors When Investing in Emerging Markets

Investors cite usual credit fundamentals and risks as prime considerations because thematic bonds are fixed-income securities with risks and returns similar to those of conventional bonds (Figure 11).

In the ESG spectrum, investors want to ensure that their resources are contributing to the environmental or social agenda. “Greenwashing” is one of the major concerns that investors and intermediary banks reported in the survey. Greenwashing refers to channeling, intentionally or unintentionally, proceeds from thematic bonds to projects or other activities that have insignificant or even negative environmental or social impacts. To be able to allocate a larger portion of their portfolios in such

FIGURE 11. Financial Factors Investors Consider When Evaluating Sovereign Thematic Bonds

FINANCIAL
<i>Credit profile and macroeconomic outlook</i>
<i>Political risks</i>
<i>Currency</i>
<i>Volume</i>
<i>Liquidity</i>
<i>Risk and return of the investment</i>
<i>Pricing characteristics and comparison with existing bonds of the issuer and peers</i>

Source: 2022 World Bank Investors Survey.

First and foremost, investors care about seeing framework and second-party opinion confirming alignment with ICMA [International Capital Markets Association] principles. Second, they focus on governance — robustness of process for eligible project evaluation and selection, management of proceeds and allocation to eligible projects, as well as ability for there to be transparency in annual allocation and impact report. Then each investor has their own ESG integration criteria where they may screen out issuers with exposure to certain industries or with negative media (e.g., human rights abuses or lack of Paris Agreement commitment).

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markets, investors and banks need a structure that ensures the credibility of the commitments and the use of proceeds.

In evaluating ESG aspects of thematic bonds, surveyed investors pay attention to the issuer's overall environmental strategy, bond framework, transparency, and controversies related to human rights and environmental and governance risks (Figure 12).

Sustainability-Linked Bonds (SLBs) Receive Greater Scrutiny from Investors

Key performance indicators (KPIs), level of disclosure, the ambition of sustainability performance targets, and impact reporting are even more relevant in the evaluation of investing in SLBs than use-of-proceeds bonds. Investors consider the following additional factors when considering SLBs:

- An independent, external review of baseline data for sustainability performance targets (SPTs) and performance
- A dedicated assessment framework for SLB
- Standardized KPIs.

 **FIGURE 12. ESG Factors Investors Consider When Evaluating Sovereign Thematic Bonds**

ESG
<i>Issuer's overall sustainability strategy, roadmap, and commitments</i>
<i>Type of bond</i>
<i>Bond framework</i>
Overall quality, alignment with international principles, quality of second-party opinion
Criteria and definition of eligible expenditures categories
Level of ambition, credibility, and relevance of selected key performance indicators and sustainability performance targets, their alignment with international goals, and their effective measurements
Strength in the use-of-proceeds governance process, eligible project selection and evaluation
<i>Transparency in allocation of proceeds and impact report</i>
<i>Controversies related to human rights and environmental and governance risks</i>

Source: 2022 World Bank Investors Survey.

The usual SLB factors: Are KPIs relevant, core and framework material in the context of the ESG issues facing a country and its Paris Agreement contributions; are Sustainability Performance Targets ambitious and go beyond 'business as usual' for the country and will doing the bond facilitate achievement of those SBTs; does testing timing make sense in the context of the bond structure so there is the meaningful penalty if SBTs aren't met; is coupon step-up material. They would also look at what external verification an issuer has undertaken to evaluate its SPTs in the context of its Paris commitments.

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Credit Fundamentals Remain Essential to Investment Decisions

Some investors and intermediary banks note growing demand for thematic bonds, especially for those with use of proceeds, and investor preference for labeled products over traditional bonds. Nevertheless, credit fundamentals remain essential to investment decisions. Investors and intermediary banks perceive that thematic bonds in general need more than just the label to maintain their value in times of market volatility and to be considered a safer investment than other bonds or stocks. Although some mention the outperformance of such bonds when markets are volatile, others argue that overall performance seems to be aligned with market direction.

It's clear that demand is greater than supply in the ESG bond markets. However, investors will still look at the credit metrics and pricing of the bonds when making an investment decision. They do prefer to buy ESG bonds over conventional transactions, however [they] will not compromise on their risk/return metrics. [...] It is not clear however that ESG bonds are necessarily a safe haven investment, the spreads may be more stable due to being less liquid, but their overall performance tends to be aligned with market direction.

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There Is Some Market Appetite for Subnational Emerging Market Thematic Bonds

Investors and intermediary banks perceive an interest in thematic bonds that emerging market subnational and subsovereign entities issue. Subsovereigns who already issue conventional bonds and are well known to investors are more able to attract investors for thematic bonds issuances, especially because of the important role they play in countries' energy transitions.

Nonetheless, some investors and intermediary banks are less interested. Similar to sovereign thematic bonds, investor interest depends on the quality of the bond framework and transparency. Investors cited challenges associated with expanding projects to reach benchmark size to access markets.

These subnational actors often play a key role in implementing the nationally determined contributions to reduce greenhouse gas emissions, building resilience to climate change, and meeting SDGs. Some emerging market cities and municipalities, state-owned enterprises, and national banks have successfully issued thematic bonds (Box 7).

There is interest, but it depends on global location, regulation, framework and transparency. Some countries will not have the necessary transparency infrastructure for an investor to feel information will be reliable.

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BOX 7. EMERGING MARKET SUBNATIONAL THEMATIC BONDS

Although most subnational borrowers in emerging markets do not have the autonomy or authority necessary to make decisions about accessing financing or the capacity or the credit strength to borrow from capital markets, some regularly issue bonds in the domestic market, and others have issued in international capital markets. Despite restrictions, many have the capacity to increase borrowing and thus finance much-needed infrastructure development (S&P Global Ratings 2022). In July 2017, City of Cape Town issued its first green bond (South African rand (ZAR)1 billion). The response from the market was overwhelmingly positive, with 29 investors making offers totaling ZAR4.3 billion for the ZAR1 billion bond. The bond was eventually sold at 133 basis points above the ZAR186 government bond.

Emerging market state-owned enterprises and national companies also play important roles in implementing government policy objectives. These state-owned enterprises are often among the world's leading emitters of greenhouse gases. Energy and water utilities and national banks and nonbank financial institutions that finance infrastructure projects can help governments reach climate targets and achieve the Sustainable Development Goals related to affordable and clean energy (Goal 7) and sustainable cities and communities (Goal 11). The government of the Republic of Indonesia, along with the World Bank Group, Asian Development Bank, and other multilateral institutions, established PT Indonesia Infrastructure Finance in 2010 to help close the country's large infrastructure gap by financing commercially viable infrastructure projects and reallocating resources from carbon-intensive to low-carbon and climate-resilient infrastructure. In January 2021, PT Indonesia Infrastructure Finance issued a USD150 million sustainability bond, listed on the Singapore Stock Exchange, which investors oversubscribed by 2.6 times and was priced at a yield of 1.75 percent and a coupon of 1.5 percent.

Evaluating Sovereign Thematic Bonds Is Challenging for Investors

Investors also reported challenges in investing in emerging market sovereign thematic bonds. The challenges cited can be divided into two broad categories: related to ESG aspects and related to financial factors (Figure 13). The challenges related to ESG factors that investors emphasized are similar to the difficulties that DMOs faced. Investors perceive that many emerging market sovereign issuers lack the institutional capacity to structure credible labeled bonds.

ESG-Related Challenges

Weak frameworks: Investors and banks perceive a need for stronger frameworks that support sovereign thematic bond issuances in emerging markets to increase credibility regarding the use of proceeds. Frameworks following international standards (International Capital Markets Association principles) and allowing comparability across countries would facilitate such investments.

Lack of institutional capacity: Some financial institutions express concerns related to the governance process of the thematic bonds. There are many steps involved in sovereign thematic bond issuances: establishing the framework; identifying eligible projects; implementing, monitoring, and evaluating projects and expenditures; reporting the use of proceeds and respective impacts. All these activities require coordination between multiple agents and institutions within a government, as well as technical expertise, which is often lacking in emerging markets.

Limited data availability: Some emphasize that, despite improvements in recent years, emerging economies must disclose more reliable climate- and project-related data in post-issuance impact reports to enable tracking of performance indicators.

Financial Challenges

Macroeconomic and market conditions: General macroeconomic and market conditions of emerging economies, such as high risk of default and market volatility, make investments riskier and may prevent transactions.

Transaction costs with local currency issuances: Some argue that issuances in local currency have higher transaction costs, which decreases returns of international investors.

Low liquidity: The small number of sovereign issuers limits the liquidity of the bonds when investors need to make portfolio changes. A wider range of countries issuing thematic bonds would provide greater diversity and more investment options.

 **FIGURE 13. ESG and Financial Challenges Investors Face**

ESG	FINANCIAL
<i>Weak frameworks</i>	<i>Macroeconomic and market conditions</i>
<i>Lack of institutional capacity</i>	<i>Transaction costs in local currency issuances</i>
<i>Poor data availability</i>	<i>Low liquidity</i>

Source: 2022 World Bank Investors Survey.

Some caveat advanced by investors is around the robustness of issuance frameworks and the higher risk of greenwashing seen in countries where the governance is seen as poor.

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Intended Characteristics of Thematic Bond Issuances

Sovereign Issuers Prefer Use-of-Proceeds Bonds

Sovereigns are prioritizing use-of-proceeds bonds. Green, social, and sustainability bonds are the most preferred types of thematic bonds under consideration (Figure 14).

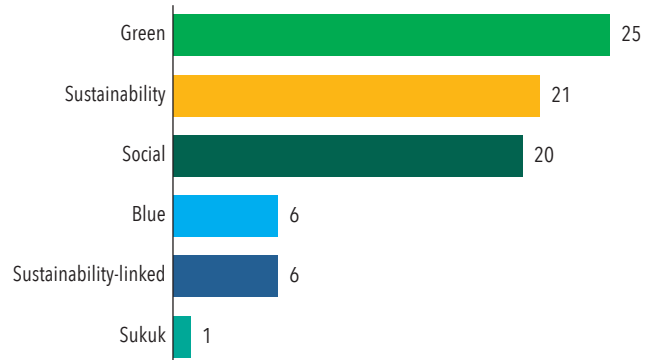
The types of thematic bonds sovereigns are considering correspond to their perceptions of investor appetite. According to public DMOs, investors express more interest in green, social, and sustainability bonds than in blue bonds or SLBs (Figure 15).

Investors and intermediary banks reported interest in the same types of bonds as sovereigns. According to the investor survey, investors prefer use-of-proceeds bonds rather than SLBs because there is greater transparency on allocation of resources (Box 8). Prevalence of use-of-proceeds bonds in the market also influences their decision.

One investor suggested a level of discomfort with SLBs because of the double burden—environmental and financial—that may be imposed on society if the issuer fails to meet its environmental performance-related targets and must pay a higher interest rate to bondholders. Another one questioned the suitability of a structure that may result in a coupon increase for a sovereign when a public DMO is mandated to minimize cost of funding for the government.

Nonetheless, a few investors are optimistic about sovereign SLBs and see such bonds as complementing use-of-proceeds bonds in meeting a country's environmental and social commitments. The instrument is also seen as an intermediary step for

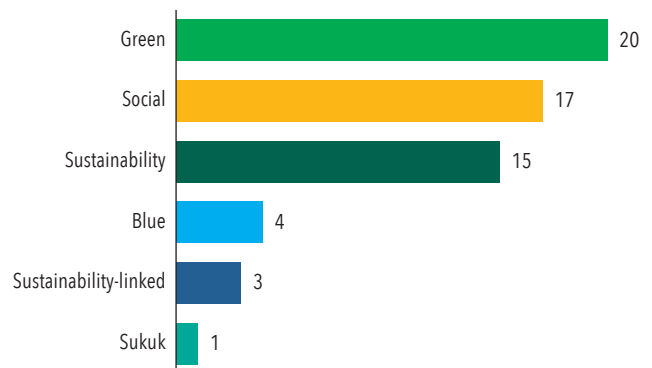
◆ **FIGURE 14. Types of Thematic Bonds Being Considered**



N = 28

Source: 2022 World Bank Sovereign Debt Management Offices Survey.

◆ **FIGURE 15. Debt Management Offices' Perceptions of Investors' Bond Preferences**



N = 24

Source: 2022 World Bank Sovereign Debt Management Offices Survey.

SLBs are a really important way for countries that are either: (a) fiscally constrained or (b) lack a sufficient project pipeline to justify green bond to tap into sustainable funding sources. Obviously, it is critical that the structure is good, targets are ambitious, plans well-articulated and the government has the ex-ante capacity to execute on environmental/SDG objectives. If those boxes are checked, SLBs are a very useful tool.

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countries that do not have enough projects in the pipeline to justify a standalone use-of-proceeds bond. As a forward-looking instrument, SLBs can complement the more backward-looking use-of-proceeds issuances, although investors emphasized that the level of ambition of sustainability performance targets and a good issuance structure are key.

When asked about SLBs with a step-down coupon, investors' views diverged. Some had no preference for a step-down or a step-up. Others said that this type of mechanism would be difficult to price for investors and therefore have limited attraction.

Investors and intermediary banks report a general interest in all types of projects, including projects that support climate change mitigation versus adaptation, biodiversity conservation, dark green⁵ and transition projects, social projects, etc., as long as the governance structure is robust.

Some investors highlighted that mitigation projects will grow in relevance given their increasing importance as the impact of climate change worsens. Interest in investing in biodiversity conservation is also expected to grow, especially when connected to the protection of oceans. Some see demand for ocean related SLBs with clear targets and action plans. For transition projects, some feel that there is a movement toward re-evaluating positions on nuclear energy and natural gas, with the former playing an important role in the energy transition and the latter being considered more negatively.

For social and biodiversity bonds, some investors perceive the need for further improvements in standards to stimulate demand: solid KPI measurements and a clearer explanation of how supported expenditures can be distinguished from the business-as-usual expenditures in the sovereign budget.

The investor would need to assume that the issuer would meet its SPT (otherwise the investor would be betting against the sovereign's ESG strategy), in which case they would need to price in the coupon step-down when thinking about yield to maturity, meaning to meet any yield hurdle they'd have to start with a higher coupon or deeper discount than they would have if there had not been a step-down. This isn't positive for the issuer.

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As long as the issuer is suitable and the framework is aligned with market standards and principles, we would have appetite for the formats listed ... Social bonds are a smaller part of the market and are well supported. There is also increasing focus around biodiversity and conservation, while there few bonds to date, we see this as an interesting development/growth for the market.

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⁵ Dark green refers to projects and solutions that are in line with the long-term vision of a low-carbon, climate-resilient future (Cicero Shades of Green 2022).

BOX 8. GREEN AND SUSTAINABILITY-LINKED BONDS: A COMPARISON

Sustainability-linked bonds (SLBs), for which the coupon paid to investors depends on the issuer's performance against measurable targets, are a newer type of debt instrument than use-of-proceeds bonds like green and social bonds. Despite the strong interest in the corporate market, only one sovereign (Chile) has attempted an SLB.

In the case of use-of-proceeds bonds (green, social, and sustainability bonds), the issuer commits to using the funds exclusively to finance environmentally sustainable projects or activities. As such, the size of eligible green projects constrains green bond transactions, although green bonds are well recognized and well accepted. The use of proceeds is easy to track, and the annual reporting of expected environmental impact is relatively simple.

SLB proceeds, on the other hand, can be used for general purposes. This flexibility allows issuers that may not have enough green or social capital expenditure to access sustainability focused investors. Labeling a bond as an SLB can be more complex than labeling it as a use-of-proceeds bond. The issuer must select key performance indicators (KPIs) and one or more sustainability performance targets (SPTs) according to key performance indicators. The KPIs should be material to the issuer's core sustainability strategy, measurable or quantifiable, and externally verifiable. Moreover, the level of the SPT's ambition is assessed by benchmarking to the issuer's own performance or its peers' performance over a minimum of 3 years or systematic reference to science-based scenarios. Third-party auditors are appointed to assess the relevance, robustness, and reliability of KPIs, the rationale and the level of ambition of the proposed SPTs, and the credibility of the strategy. Identifying KPIs and SPTs that are ambitious but realistic is challenging for sovereigns.

Moreover, sovereign SLBs face two major challenges. First, debt management offices (DMOs) are mandated to raise the required funding at the lowest possible cost and at a prudent degree of risk. The potential step up in the coupon is therefore not acceptable to some DMOs. Second, many investors are unwilling to accept coupon step downs. Investors do not like the optics of profiting from a country's failure to achieve sustainability related targets.

Nevertheless, on March 2022, the Republic of Chile issued a 20-year USD2 billion SLB that was welcomed by the market. The bond was supported by a robust framework. Chile's SPTs aim to:

- achieve annual greenhouse gas emissions of 95 metric tons of carbon dioxide equivalent by 2030 (SPT1a)
- achieve a maximum greenhouse gas budget of 1,100 metric tons of carbon dioxide equivalent between 2020 and 2030 (SPT1b)
- derive 60 percent of electricity generation from nonconventional renewable sources by 2032 (SPT2)

If both SPTs are not satisfied, Chile will increase the coupon by 25 basis points (8 years fully accrued payment; equivalent to potential total penalty of 200 basis points).

Issuers and Investors Are Willing to Consider a Range of Bond Sizes

DMOs expressed interest in a variety of bond sizes ranging from USD200 million to USD500 million. Issuances in an index-eligible benchmark size of USD500 million or more would benefit issuers because they would attract funds and portfolio managers who focus on index-eligible securities for liquidity benefits.

Smaller private placements, from smaller economies and island states, for instance, are an option that some investors consider for such reasons as liquidity or exposure needs; mandates; and interest in ESG topics related to island states, such as clean oceans and biodiversity. Sizes vary greatly because of the tailored nature of such transactions; amounts from USD5 million to USD10 million are cited for niche currencies and USD50 million to USD250 million for hard currencies. A liquidity premium would be charged for such issuances. Other investors and intermediary banks are less inclined to participate in such smaller private placements because of liquidity constraints and constraints on their research capacity.

Potential Issuers Are Looking at International and Domestic Markets

Fourteen sovereign issuers said that the international market is the target of sovereign thematic bond issuances, seven preferred to issue in the domestic market, and 10 reported being interested in both markets (Figure 16).

Of the 16 countries that intend to issue thematic bonds domestically, nine expect international investors to buy the bonds, and seven see domestic demand for such assets (Figure 17).

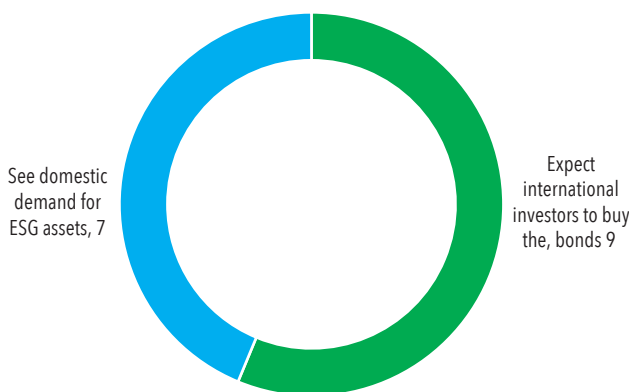
A variety of listing locations are under consideration for sovereign thematic bond issuances (Figure 18). The top choice is the local exchange, followed by London.

FIGURE 16. Markets of Interest



Source: 2022 World Bank Sovereign Debt Management Offices Survey.

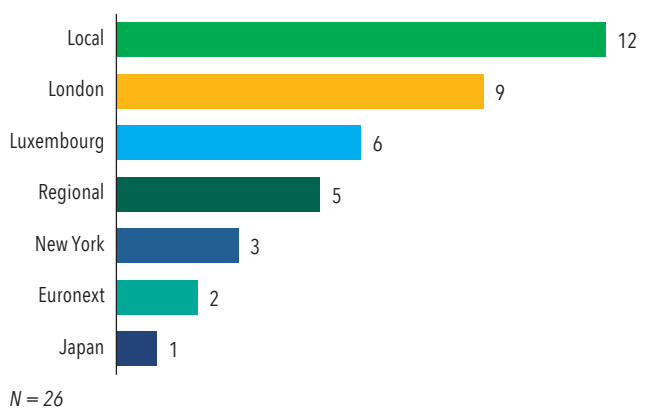
FIGURE 17. Expectations of Demand for Domestic Issuances



N = 16

Source: 2022 World Bank Sovereign Debt Management Offices Survey.

FIGURE 18. Exchanges Under Consideration



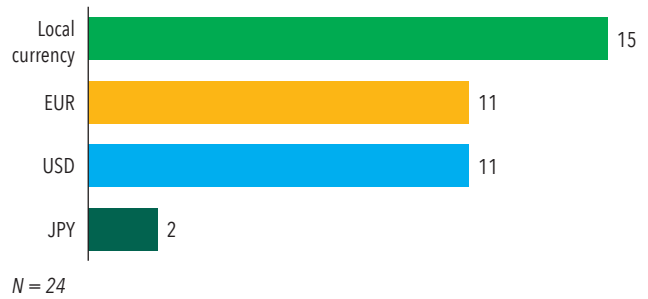
Source: 2022 World Bank Sovereign Debt Management Offices Survey.

Currency

Countries prefer to issue thematic bonds in local currency, followed by the U.S. dollar and euro (Figure 19). Many DMOs view thematic bond issuances in order to build a local market to motivate private sector issuers and attract international investors (Figure 9).

Investors and intermediary banks surveyed report a general perception that hard and local currencies are acceptable. Nonetheless, some indicated their preference for hard currencies for liquidity reasons or according to mandate.

◆ **FIGURE 19. Intended Currencies of Thematic Bond Issuances**

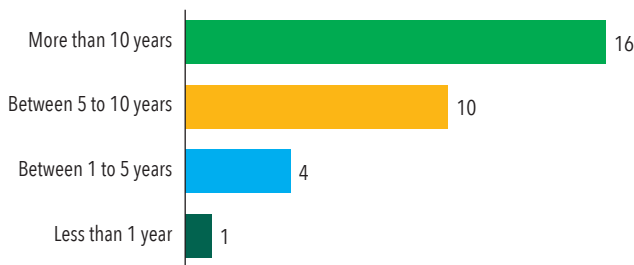


Source: 2022 World Bank Sovereign Debt Management Offices Survey.

Maturity

Most DMOs are considering a maturity profile of longer than 10 years for their thematic bond issuances. Maturities of 5 to 10 years are the second most preferred option (Figure 20).

◆ **FIGURE 20. Intended Maturities of Thematic Bonds**



N = 23

Source: 2022 World Bank Sovereign Debt Management Offices Survey.

We focus on large benchmark transactions which tend to be hard currency, but we have seen opportunities for smaller local currency deals for some investors who are active in the local currency market.

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Lessons Learned from Sovereign Thematic Bond Issuances

4

This section of the report highlights lessons learned from the experience of emerging market sovereign thematic bond issuers. Although experiences differ from one jurisdiction to the other, the following observations are relevant and useful for other potential issuers.

Price

Whether thematic bonds offer funding cost advantages over conventional bonds has been the topic of considerable discussion among potential issuers, investors, and researchers (Bachelet, Becchetti, and Manfredonia 2019; Hachenberg and Schiereck 2018). Since thematic bonds, like their conventional counterparts, are based on the issuer's credit rating, any price difference between thematic and conventional bonds is likely driven by the scarcity of thematic bonds. The Egypt sovereign green bond priced 12.5 basis points lower than the benchmark price of the conventional bond of the same tenor, resulting in a negative new issue concession. Mexico's first SDG bond also realized a negative new issue premium of approximately 7 basis points (the initial price of mid spread +235 basis points and guidance of mid spread +215 basis points tightened eventually to mid spread +195 basis points). The Serbian green bond priced 10 basis points inside fair value. Hungary reported "greenium" in primary and secondary markets. Despite these before-and-after evaluations, a true price comparison can only be made when two bonds—green and non-green—are issued at the same time and have the same financial characteristics (tenor, currency, size). Colombia adopted the German twin-bond approach, with a thematic bond and a conventional bond with the same features issued at the same time. Colombia's 9.5-year sovereign green bond priced 7 basis points lower than conventional bonds with the same financial terms in its launching and 15 basis points in its reopening one month later, suggesting a pricing advantage.

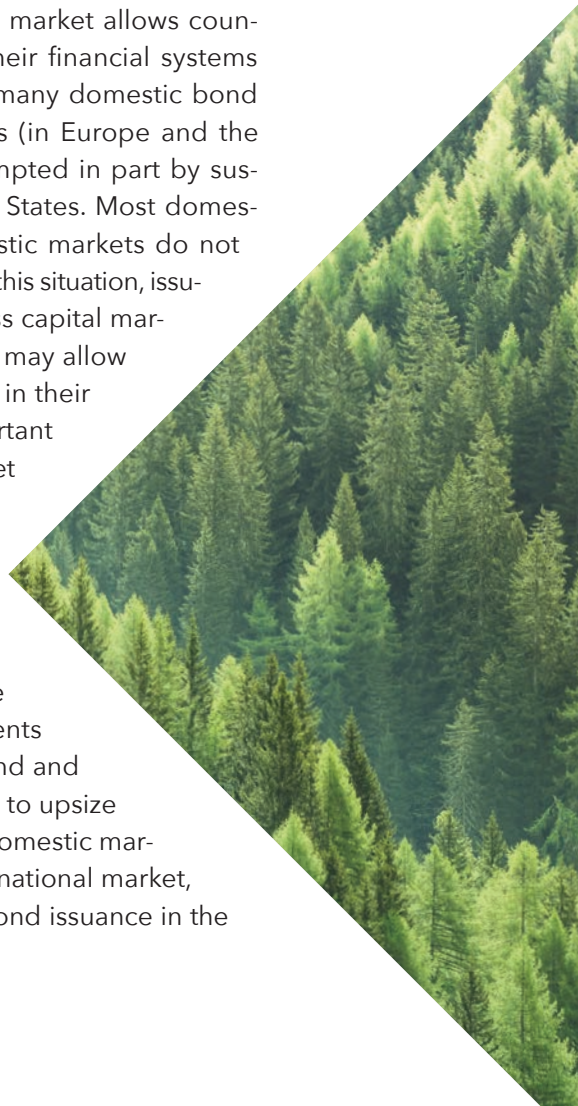


Investor Demand

Thematic bonds allow DMOs to target different investor segments to match issuances to potential demand and reduce refinancing risk and cost of funding (Jonasson and Papaioannou 2018). All sovereign issuers reported overwhelming demand from investors, providing them the opportunity to diversify and expand their investor base. Mexico's first SDG-aligned bond was oversubscribed 6.5 times, reaching euro 5 billion of demand at its peak. Seventy-eight new investors participated for the first time in a debt issuance from Mexico thanks to the SDG-aligned characteristic. Two hundred twenty international investors, including 16 new investors to USD-denominated Egyptian bonds participated in the final order book for its debut sovereign green bond. Orders came from 40 green and ESG investors, 19 being pure green investors. The five Indonesian green sukuk issued between 2018 and 2022 saw higher investor demand than conventional bonds. The 5-year maturity green sukuk issued in 2020 was 7.3 times oversubscribed. International investors from the Middle East, Asia, Europe, and the United States have underwritten more than 90 percent of Indonesia's green sukuk. 100 percent of the Benin's SDG bond investors were international, with 21 percent of them being first time buyers of a Benin bond.

Domestic Versus International Market

A domestic bond market provides a durable source of financing to issuers, allows smaller sizes and more frequent issuances, and protects against foreign exchange risk (Adrian et al. 2021). Issuance of sovereign green and other types of thematic bonds in the local market allows countries to develop domestic sustainable bond markets and help green their financial systems by encouraging local banks and corporates to issue green bonds, but many domestic bond markets are not deep enough. In contrast, many international investors (in Europe and the United States) are integrating ESG into their investment decisions, prompted in part by sustainable finance regulations in Europe and client demand in the United States. Most domestic investors in emerging markets are lagging behind and many domestic markets do not have the necessary financial infrastructure to attract international investors. In this situation, issuers with large financing needs (eligible expenditures) and ability to access capital markets may want to issue thematic bonds in the international market, which may allow issuances with longer maturities than issuers generally are able to secure in their domestic markets in similar volumes, although currency risk is an important concern and should be considered. Current experience of emerging market sovereign thematic bond issuers shows that most issuers tap the international market before issuing in the domestic market, with notable exceptions. Egypt's experience is noteworthy. Seventy-eight percent of its debt is short-term domestic debt owed to commercial banks. Its medium-term debt strategy called for diversifying its investor base. The Ministry of Finance considered a variety of funding alternatives before settling on the green bond because of its potential to attract new segments of investors. Because of overwhelming demand for their debut green bond and a large (USD1.9 billion) pipeline of eligible green projects, they were able to upsize from USD500 million to USD750 million. Malaysia has a deep and liquid domestic market but decided to issue its first sovereign sustainability sukuk in the international market, increasing the size from USD1 billion to USD1.3 billion. The Benin SDG bond issuance in the





international markets largely attracted investors with ESG mandates, who comprised 91 percent of the final allocation, whereas Colombia took full advantage of nonresident investor interest in peso-denominated treasury bonds and issued the first sovereign green bond in the domestic market in Latin America and the Caribbean. Most of Chile's thematic bonds were issued in the international markets, where the country raised funds with long maturities of up to 50 years (USD1 billion social bond issued in September 2021 with maturity of September 2071). In the domestic market, Chile's thematic bonds have shorter maturity (up to 13 years).

Secondary Market Performance

Secondary market performance has varied. Colombia reported that yields traded in the secondary market have been similar to their conventional bonds. Hungary's green bonds have low secondary market turnover, similar to their conventional bond. Fiji reports no secondary market trading for its green bond, with only one transaction in the past. Alternatively, Mexico's SDG bonds have had liquidity performance superior to other benchmarks. Thailand's sustainability bond has had sufficient liquidity in the secondary market. For the Philippines' 25-year maturity U.S. dollar-denominated sustainability bond, secondary rates have been increasing since issuance, ending at 5.15 percent or 96 basis points above the original coupon, as of June 2022. Lowest bid yield to maturity of the security was 3.92 percent (~28 basis points below issuance rate) on March 31, 2022, after which it increased to 5.15 percent in mid-May. The observed differences in liquidity are not necessarily intrinsic to the instrument (green or conventional). For example, if more institutional investors with buy-and-hold strategies are buying green bonds than conventional bonds, we should expect the green bonds to be less traded and therefore have lower liquidity. Imbalances in the supply and demand for certain bonds would also affect liquidity. For example, if green bonds were scarce, holders would be more reluctant to sell them. Again, Colombia's experience is interesting because the twin bond mechanism is designed to ensure liquidity of green bonds for investors.

Conclusions

5

Interest in sovereign thematic bonds from countries and investors is growing. Considering the potential of this market, the World Bank surveyed emerging market DMOs and international investors to understand the prospects for such transactions. The DMO survey sought to explore the potential of thematic bond issuances, constraints and challenges faced, and bond characteristics being considered. The brief investor survey complemented the DMO survey, providing insights into how the demand side sees such issuances, what investors seek, and how emerging market sovereign issuances can be improved. Based on the DMO survey, emerging market sovereign thematic issuances are set to rise, subject to market conditions.⁶ Most surveyed countries are considering sovereign thematic bond transactions and preparing for such issuances. DMOs' reasons for considering thematic bond issuances are similar to the motivations that lead investors to seek emerging market sovereign thematic bonds. Both sides see such bonds as a diversification tool for their investor base in the case of countries and their portfolios in the case of investors. Both also view sovereign thematic bond issuances as signaling a country's commitment to sustainability. Better pricing (the greenium) appears not to be a motivating factor. DMOs focus instead on additional investor demand in a sustainability conscious and ESG risk averse landscape.

Challenges related to establishing governance arrangements to manage and track proceeds, knowledge of international standards and investor expectations, and the limited pool of eligible projects constrain the supply of emerging market sovereign thematic bonds. The limited pool of sustainable projects is motivating emerging market sovereigns to issue social and sustainability bonds, which fund green and social projects. Other factors hindering issuances are the additional cost of preparing such transactions, the complexity of the process, and difficulty identifying eligible expenditures.

Investors face similar challenges when underwriting sovereign thematic bonds in emerging markets. According to some investors, frameworks are not robust enough, governments lack institutional capacity, and quality and availability of data need improvement.

The investor survey reveals a concern about greenwashing. Investors want to be sure that their resources are being allocated to projects that make a difference and have positive impacts. In addition, financial factors such as macroeconomic outlook, credit profile, and political risks are relevant for investors when evaluating thematic bonds. Sovereigns should take these factors into account when planning such issuances.

Investors also report an interest in subnational and sub-sovereign thematic bonds, which might

⁶ At the time of writing of this report, tightening global financial conditions, slowing growth in the U.S. and China, and geopolitical tensions/risks are impacting investor appetite for emerging market debt. Furthermore, soaring energy price and inflation are affecting oil-importing emerging markets.

be an option worth exploring in countries where the responsibility for urban infrastructure investments and operations is decentralized to subnational governments, including states, provinces, municipalities, cities, or districts.

Finally, the results of both surveys reveal that there is a convergence between the supply and demand sides with regards to the characteristics of thematic bonds. Most sovereigns are interested in issuing green, social, and sustainability bonds, which meets the reported preference of investors when comparing use-of-proceeds bonds with SLBs. Sovereigns are open to issuing in hard and local currencies, aligning with investor interests. The preference of some countries for issuances in the domestic market and in local currency indicates that countries view such issuances as a way of developing their domestic capital markets.

The need for sovereigns to issue thematic bonds remains because of significant funding needs to implement actions related to climate, environment, and SDGs, yet challenges must be addressed. First of all, DMOs must carefully assess the appropriateness of including thematic bonds in their overall debt management strategy and the feasibility of issuing bonds (thematic or not) based on market conditions and their ability to service debt. It is important to have a good understanding of government priorities, evaluate the financing gap, and consider all sources of financing available (including concessional and non-concessional) before embarking on any transaction. Investors are interested in both the quality of eligible projects and the governance practices established to ensure proceeds are being used as committed. Better understanding of the thematic bond market and its requirements will help DMOs make informed decisions. Issuers and investors should engage with each other to ensure they meet each other's expectations and increase the ability and willingness of emerging market sovereigns to issue thematic bonds. International financial institutions and multilateral development banks such as the World Bank can play a critical role in helping DMOs develop capacity building and integrate thematic bonds into their overall debt management strategy (Box 9). The main message is that unlocking the potential for sovereign thematic bonds in emerging and developing markets can only be achieved by clarifying market expectation and overcoming the knowledge gap.



BOX 9. WORLD BANK TECHNICAL ASSISTANCE FOR EMERGING MARKET SOVEREIGNS

The World Bank provides technical assistance to emerging market public sector issuers to develop sustainable capital markets, facilitate market-based solutions, promote sustainable investment, and engage in dialogue with investors on environmental, social, and governance (ESG) issues. The World Bank Treasury, which shares with issuers its own knowledge and experience as a pioneer of thematic bonds and expertise in sustainability issues, delivers the technical assistance. Treasury's Sustainable Finance and ESG Advisory Services program is part of the World Bank's broader work to promote sustainable development, drive resources toward national environmental and social priorities, and contribute to the global agenda.

Select Sovereign Experiences with Thematic Bonds

BENIN

Type of thematic bond	Sustainability-linked, SDG bond
Main motivation	Funding of various social and environmental projects contributing to Benin's commitments to achieve the United Nations SDGs
Standard adopted	International Capital Markets Association Green Bonds Principles, Social Bonds Principles, and Sustainability Bond Guidelines, 2021 edition
Bond framework	https://odd.finances.bj/wp-content/uploads/2022/07/Document-cadre-obligations-ODD_Republique-du-Benin_FR-2-1-1-2.pdf
External review	https://assets.website-files.com/5df9172583d7eec04960799a/624ff65582d9c971a67b214d_20210709_V.E_SPO_Republic%20of%20Benin.pdf
Impact report	Not published yet
Transactions to date	<ul style="list-style-type: none"> ▪ Date: July 2021 ▪ Size: 500 million ▪ Currency: euro ▪ Market: International
Investors	100% international investors. 30% of investors who placed an order were participating for the first time in a bond issued by Benin. Twenty one percent of the investors that received the final allocation were new to Benin. Sixty nine percent of investors had specific ESG mandates and 22% integrate ESG criteria into investment decisions.
Greenium	0.20%
Secondary market performance	Benin's SDG Eurobond is performing well on the secondary market, with good liquidity and demand.
Other comments	<p>In July 2021, Benin distinguished itself in the international financial markets by becoming the first country in Africa to issue an SDG bond, with an issue of 500 million euros (approximately 328 billion Central African francs). The bond is unique because proceeds finance projects that have strong impacts on the achievement of SDGs. The issuance had a strong investor turnout (more than 100 top-tier investors globally), achieving a 300% subscription rate (approximately). The transaction's coupon rate stood at 4.95%, with a negative new issue premium of 0.20%, reflecting investors' appetite for this innovative instrument.</p> <p>Three major challenges Benin faced are convincing investors of Benin's macroeconomic fundamentals and the relevance of the development plan that the government has initiated, convincing investors of the innovative nature and particularities of the security, and reassuring investors of the planned effective use of resources and of the communication strategy on the progress that Benin has made. Benin addressed these challenges by taking the following major steps:</p> <ol style="list-style-type: none"> a. Drafting an SDG bond framework that presents its Benin's climate commitments and the strategy for achieving the SDGs b. Signing an agreement with Vigeo Eiris (Moody's group) to conduct an independent study of the Benin issuance project c. Reassuring investors about the soundness of the country's macroeconomic fundamentals d. Establishing a steering, monitoring, and reporting committee for SDG obligations with the following main missions: <ul style="list-style-type: none"> ▪ Validation of compliance and eligibility of projects for SDG funding ▪ Evaluation and selection of eligible expenses and allocation of associated funds (analytical allocation of funds raised) throughout the obligation period ▪ Production of an annual report on allocation and impact of funds that Benin has allocated to SDG projects ▪ Supervision of any revision of the master issuance document ▪ Review of audit reports and taking corrective action e. Establishing a dedicated website (odd.gouv.bj) to disseminate information on Benin's progress in achieving the SDGs

Source Ministry of Economy and Finance, Benin

CHILE

Types of thematic bonds	Green, social, sustainable ⁷ , and sustainability-linked
Main motivation	The Ministry of Finance expanded the issuance of green bonds to social and sustainability bonds, moving from a purely environmental criterion to a sustainable one in line with the broader nature of sustainable development, incorporating a more complex vision of vulnerability, and aligning emissions targets with the UN SDGs. These bonds have the main objective of strengthening efforts related to climate change mitigation and environmental protection, as well as promoting growth with equity, through policies aimed at the origin of inequality, such as those aimed at improving the education of those groups in vulnerability, and others aimed at improving the pensions of the elderly in a situation of vulnerability.
Standard adopted	International Capital Markets Association Green Bonds Principles, Social Bonds Principles, and Sustainability-Linked Bond Principles
Bond framework	Sustainable Bond Framework: https://hacienda.cl/index.php/english/work-areas/international-finance/public-debt-office/sustainable-bonds/chile-s-sustainable-bond-framework Sustainability-Linked Bond Framework: https://hacienda.cl/index.php/english/work-areas/international-finance/public-debt-office/esg-bonds/sustainability-linked-bonds/chile-s-sustainability-linked-bond-framework
External review	Sustainable Bond Framework: https://hacienda.cl/index.php/english/work-areas/international-finance/public-debt-office/sustainable-bonds/sustainable-bonds-framework-second-party-opinion Sustainability-Linked Bond Framework: https://hacienda.cl/index.php/english/work-areas/international-finance/public-debt-office/esg-bonds/sustainability-linked-bonds/second-party-opinion-sustainalytics
Impact report	Sustainable Bonds: https://hacienda.cl/index.php/english/work-areas/international-finance/public-debt-office/sustainable-bonds/reports/allocation-eligibility-environmental-impact-2020-report

Transactions to date

Type of bond	Bond	Currency	Amount, Billion	Negotiation date	Maturity	Coupon/Yield	Spread	Secondary market spread, April 30, 2022
Green	USD-2050	U.S. dollar	1.42	6/17/2019	1/25/2050	3.50%/3.53%	T + 95	T + 180
Green	EUR-2031	Euro	0.86	6/25/2019	7/2/2031	0.83%/0.83%	MS + 50	MS + 97
Green	USD-2032	U.S. dollar	0.75	1/22/2020	1/27/2032	2.55%/2.57%	T + 80	T + 124
Green	USD-2050 (R)	U.S. dollar	0.9	1/22/2020	1/25/2050	3.50%/3.28%	T + 105	T + 180
Green	EUR-2031 (R)	Euro	0.69	1/23/2020	7/2/2031	0.83%/0.70%	MS + 50	MS + 97
Green	EUR-2040	Euro	1.27	1/23/2020	1/29/2040	1.25%/1.30%	MS + 80	MS + 123
Social	CLP-2028	Chilean pesos	1,040	11/19/2020	10/1/2028	2.30%/2.50%	–	
Social	CLP-2033	Chilean pesos	560	11/19/2020	10/1/2033	2.8%/3.4%	–	
Social	EUR-2051	Euro	1.25	1/19/2021	1/22/2051	1.25%/1.30%	MS + 125	MS + 156
Social	USD-2061	U.S. dollar	1.50	1/19/2021	1/22/2061	3.10%/3.12%	T + 127	T + 183
Green	EUR-2031 (R)	Euro	0.40	1/19/2021	7/2/2031	0.83%/0.40%	MS + 60	MS + 97

⁷ Chile uses the term “sustainable bonds” for those that finance both green and social projects.

CHILE (continued)

Transactions to date (continued)									Secondary market
	Type of bond	Bond	Currency	Amount, Billion	Negotiation date	Maturity	Coupon/ Yield	Spread	spread, April 30, 2022
	Green	USD-2032 (R)	U.S. dollar	0.75	1/19/2021	1/27/2032	2.55%/ 1.96%	T + 87	T + 124
	Sustainable	USD-2053	U.S. dollar	1.50	3/30/2021	4/15/2053	3.50%/ 3.50%	T + 111.9	T + 191
	Social	USD-2041	U.S. dollar	1.70	5/4/2021	5/7/2041	3.10%/ 3.30%	T + 115	T + 166
	Social	CLP-2028	Chilean pesos	1,500	6/30/2021	10/1/2028	5.00%/ 4.60%	–	
	Social	EUR-2027	Euro	1.00	7/21/2021	7/26/2027	0.10%/ 0.30%	MS + 60	MS + 59
	Social	EUR-2036	Euro	0.75	7/21/2021	7/26/2036	1.30%/ 1.31%	MS + 110	MS + 110
	Social	USD-2033	U.S. dollar	2.25	7/22/2021	7/27/2033	2.55%/ 2.58%	T + 130	T + 143
	Social	USD-2041 (R)	U.S. dollar	1.00	7/22/2021	5/7/2041	3.10%/ 3.14%	T + 130	T + 166
	Social	USD-2061 (R)	U.S. dollar	0.50	7/22/2021	1/22/2061	3.10%/ 3.33%	T + 140	T + 183
	Social	EUR-2029	Euro	0.92	9/14/2021	1/21/2029	0.55%/ 0.55%	MS + 70	MS + 77
	Social	USD-2071	U.S. dollar	1.00	9/14/2021	9/21/2071	3.25%/ 3.42%	T + 158	T + 196
	Social	CLP-2024	Chilean pesos	1,061	12/9/2021	6/1/2024	5.80%/ 5.70%	–	
	Sustainable	USD-2027	U.S. dollar	1.50	1/27/2022	1/31/2027	2.75%/ 2.76%	T + 110	T + 103
	Sustainable	USD-2034	U.S. dollar	1.50	1/27/2022	1/31/2034	3.50%/ 3.51%	T + 170	T + 150
	Sustainable	USD-2052	U.S. dollar	1.00	1/27/2022	1/31/2052	4.00%/ 4.06%	T + 195	T + 191
	Sustainability- linked	USD-2042	U.S. dollar	2.00	3/2/2022	3/7/2042	4.34%/ 4.35%	T + 200	T + 179
Greenium	Historically we observed a greenium of between 5–15 basis points in green bonds, which are the thematic bonds that the market most favors. The comparison is made based on the estimated fair value prior to issuance (there is no other formal measure).								
Secondary market performance	Chile's sovereign thematic bonds stand out for having significant transaction levels in the secondary market, reflected in the lower volatility of interest rates they present. A moderate greenium is also observed in some cases (5 basis points).								
Source	Ministry of Finance, Chile								

COLOMBIA

Type of thematic bond	Green bond
Main motivation	Sovereign green bonds are a way to channel resources to green initiatives aligned with Colombia's environmental goals to promote sustainable economic growth, encourage participation of other Colombian issuers in the green bond market, and diversify the investor base in local capital markets, attracting even more socially and environmentally responsible investors to the country.
Standard adopted	International Capital Markets Association Green Bonds Principles 2021
Bond framework	Spanish: https://www.irc.gov.co/webcenter/ShowProperty?nodeId=%2FConexionContent%2FWCC_CLUSTER-169891%2F%2FidcPrimaryFile&revision=latestreleased English: https://www.irc.gov.co/webcenter/ShowProperty?nodeId=%2FConexionContent%2FWCC_CLUSTER-170719%2F%2FidcPrimaryFile&revision=latestreleased
External review	Spanish: https://www.irc.gov.co/webcenter/ShowProperty?nodeId=%2FConexionContent%2FWCC_CLUSTER-169892 English: https://www.irc.gov.co/webcenter/ShowProperty?nodeId=%2FConexionContent%2FWCC_CLUSTER-169898
Impact report	Not published yet

Transactions to date

	First Auction	Second Auction (reopening)
Date	September 29, 2021	October 27, 2021
Net proceeds (billion Colombian pesos)	750	650
Currency	Colombian pesos	Colombian pesos
Coupon	7.00%	7.00%
Maturity	March 26, 2031	March 26, 2031
Price	99.851	98.379
Yield	7.556%	7.877%
Bid to cover	4.6	1.5
Greenium	7 basis points	15 basis points

Investors The auction results demonstrated the appetite of investors, including banks, foreign investors, pension funds, fiduciaries, insurance companies, and others. About 40% of Colombia's debut green sale went to foreign investors, higher than the participation of foreign holders in the market of 25%, expanding and diversifying its investor base. With the second auction, foreign holders accumulated approximately 49% of green bonds issued, and currently they hold approximately 60%.

Secondary market performance

Conventional Treasury Bonds Colombian pesos 2031 vs. Green Treasury Bonds 2031 in secondary market, as of May 6, 2022

Yield (%)



Source: Deputy Directorate of Domestic Debt; SFIN calculations with data from the Electronic Trading System SEN

Other comments

Colombia issued twin green bonds for Colombian pesos 1.49 trillion in the local market using the Dutch Auction mechanism, with the aim of developing the green capital market in the country, increasing market liquidity, and diversifying the investor base. With these issuances, Colombia became the second country in the region, after Chile, to issue sovereign green bonds and the first to do so in the domestic market. Likewise, as an emerging country, Colombia was a pioneer in adopting the concept of twin green bonds, following the example of Germany.

Source Ministry of Finance and Public Credit, Colombia

EGYPT

Type of thematic bond	Green bond
Main motivation	The sovereign green bond program will help Egypt raise capital from investors who care for environmental and financial returns. Issuance of international government green bonds in the global markets will increase Egypt's environmental rating and confidence of foreign investors in the Egyptian economy and support its current and future growth.
Standard adopted	International Capital Markets Association Green Bonds Principles
Bond framework	https://assets.mof.gov.eg/files/27682660-663c-11eb-a70b-29b6f5bc96c7.pdf
External review	https://www.mof.gov.eg/files/4f6c4770-574c-11ec-9145-6f33c8bd6a26.pdf
Impact report	https://www.mof.gov.eg/files/a3362b50-574c-11ec-9145-6f33c8bd6a26.pdf
Transactions to date	<ul style="list-style-type: none"> ▪ Date: 6/10/2020 ▪ Size: 750 million ▪ Currency: USD
Investors	100% international investors with 220 accounts participating in the final order book, including 16 first-time investors in U.S. dollar-denominated Egyptian bonds and 40 investors with green or ESG mandates.
Greenium	12.5 basis point below conventional bond curve at time of pricing.
Secondary market performance	Because of market conditions as of May 2022, the trading level is higher than its coupon level.
Source	Ministry of Finance, Egypt

FIJI

Type of thematic bond	Green bond																							
Main motivation	Fiji must raise climate capital not only to achieve its national emissions-reduction target, but also to build resilience to increasingly threatening climate conditions. As part of its 2017/18 national budget, the Fijian government announced its plans to issue a Fijian dollar 100 million green bond to finance sustainable projects that respect the environment and address the impacts of climate change.																							
Bond framework	https://www.rbf.gov.fj/wp-content/uploads/2020/03/Fijis-Green-Bond-Framework-October-2017.pdf																							
External review	https://mstar-sustops-cdn-mainwebsite-s3.s3.amazonaws.com/docs/default-source/spos/republic-of-fiji-green-bond-opinion_final.pdf?sfvrsn=6c9a896b_3																							
Impact report	https://www.rbf.gov.fj/wp-content/uploads/2021/06/Fiji_Sovereign_Green_Bond_2020_Impact_Report-1.pdf https://www.rbf.gov.fj/wp-content/uploads/2020/03/Fiji-Sovereign-Green-Bond-Impact-Report-2019.pdf https://fijiclimatchangeportal.gov.fj/wp-content/uploads/2021/12/Fiji-Sovereign-Green-Bond-Impact-Report-2018-FINAL.pdf																							
Transactions to date	<table border="1"> <thead> <tr> <th>Nominal Value (Fijian dollar)</th> <th>Coupon rate</th> <th>Issue date</th> <th>Maturity date</th> <th>Yield to maturity</th> <th>Price per 100</th> </tr> </thead> <tbody> <tr> <td>20,000,000</td> <td>4.00%</td> <td>1/11/2017</td> <td>1-Nov-22</td> <td>0.07%</td> <td>101.9743</td> </tr> <tr> <td>80,000,000</td> <td>6.30%</td> <td>1/11/2017</td> <td>1-Nov-30</td> <td>3.32%</td> <td>121.9162</td> </tr> </tbody> </table>						Nominal Value (Fijian dollar)	Coupon rate	Issue date	Maturity date	Yield to maturity	Price per 100	20,000,000	4.00%	1/11/2017	1-Nov-22	0.07%	101.9743	80,000,000	6.30%	1/11/2017	1-Nov-30	3.32%	121.9162
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Investors	<p><i>Fiji Green Bonds</i></p> <table border="1"> <thead> <tr> <th>Holder</th> <th>Outstanding as of 30-04-2022</th> </tr> </thead> <tbody> <tr> <td>Reserve Bank of Fiji</td> <td>400,000</td> </tr> <tr> <td>Commercial Banks</td> <td>16,442,000</td> </tr> <tr> <td>Insurance Companies</td> <td>9,247,000</td> </tr> <tr> <td>Sinking Fund</td> <td></td> </tr> <tr> <td>FNPF (Includes Special Death & Retirement Inc. Fund)</td> <td>69,238,000</td> </tr> <tr> <td>Others</td> <td>4,673,000</td> </tr> <tr> <td>TOTAL</td> <td>100,000,000</td> </tr> </tbody> </table> <p>99.99% of green bonds are held domestically, and 0.01% are held by international investors.</p>						Holder	Outstanding as of 30-04-2022	Reserve Bank of Fiji	400,000	Commercial Banks	16,442,000	Insurance Companies	9,247,000	Sinking Fund		FNPF (Includes Special Death & Retirement Inc. Fund)	69,238,000	Others	4,673,000	TOTAL	100,000,000		
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TOTAL	100,000,000																							
Greenium	Fiji's green bonds are issued on fixed rate and currently not traded in the secondary market (aside from other government instruments). The coupon rate for the Fiji's green bond at the time of issue was 4 percent for the 5-year tenor and 6.31% for the 13-year tenor. These are not the usual tenors in which the government benchmarks bonds.																							
Secondary market performance	There was not much secondary market trading for green bonds from the initial public offering, with only one registered so far as of May 15, 2020.																							
Other	Fiji is expected to issue approximately USD50 million through a blue bond issuance in 2022, which will enable more financing for the protection of reefs and building resilient coastal ecosystems. This is subject to completion of internal frameworks and identification of relevant projects.																							
Source	Ministry of Economy, Fiji																							

HUNGARY

Type of thematic bond	Green bond					
Main motivation	In line with international efforts, Hungary is strongly committed to fighting climate change and biodiversity loss, thus aligning financing to policy. Hungary's green bond framework is intended to raise some of the necessary funding from capital markets, contribute to development of sustainable finance internationally and in Hungary's domestic capital markets, respond to international investors' demand for green bonds, and help diversify Hungary's investor base.					
Standard adopted	International Capital Markets Association Green Bonds Principles					
Bond framework	https://www.akk.hu/download?path=2f0f8982-980b-42f0-9030-0556da1222c7.pdf					
External review	https://www.akk.hu/download?path=740f16c7-d9dd-4be7-8f3c-de41debb82bc.pdf					
Impact report	https://www.akk.hu/download?path=21dcb526-74eb-40c9-914a-9119b8e1d8e1.pdf					
Transactions to date	Date	Size	Currency	Market	Investors	Greenium
	05.06.2020	1.5 billion	Euro	International	International: 100% ESG investors: 65-68%	NA
	18.09.2020	15.5 billion	Japanese yen	International	International: 100% ESG investors: 55%	NA
	18.09.2020	4.5 billion	Japanese yen	International	International: 100% ESG investors: 55%	NA
	*28.04.2021	**94.4 billion	Hungarian forint	Domestic	International: 53.7%**	NA
	16.12.2021	1 billion	Chinese yuan	International	International: 100%	NA
	*26.01.2022	**83.5 billion	Hungarian forint	Domestic	International: 56.7%**	At issuance (est.): 26.01.2022-6.5 bps 23.02.2022 2 bps 23.03.2022 21 bps 20.04.2022 24 bps On secondary market: Jan 6.43 bps Feb 1.56 bps Mar -0.94 bps Apr 0.15 bps May -1.06 bps
	25.02.2022	46.8 billion	Japanese yen	International	International: 100%	NA
	25.02.2022	7.8 billion	Japanese yen	International	International: 100%	NA
	25.02.2022	4.7 billion	Japanese yen	International	International: 100%	NA
	* Multiple issuances. ** As of May 5, 2022.					
Secondary market performance	Secondary market turnover is low for conventional and green bonds of all maturities.					
Other	The debt management office is considering issuing social and sustainability-linked bonds. No decision had been made as of the publication of this report.					
Source	Ministry of Finance, Hungary					

INDONESIA

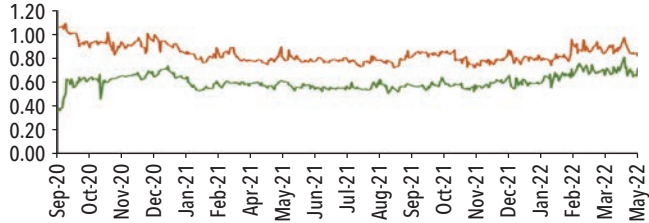
Type of thematic bond	Green sukuk					
Main motivation	Financing new green projects, diversifying the source of financing, and proving the government's dedication and long-term commitment to green and sustainable finance, as part of its efforts to fight climate change					
Standard adopted	International Capital Markets Association Green Bonds Principles, June 2021 edition					
Bond framework	https://www.djppr.kemenkeu.go.id/page/loadViewer?idViewer=7625&action=download					
External review	https://www.djppr.kemenkeu.go.id/page/loadViewer?idViewer=7627&action=download					
Impact report	https://www.djppr.kemenkeu.go.id/page/load/2357					
Transactions to date	Year	2018 (SNI-0323)	2019 (SNI-0824)	2020 (SNI-0625)	2021 SNI-0651)	2022 (SNI-0632)
	Format	Islamic GMTN Prog, Reg S/144 A				
	Tenor	5 years	5.5 years	5 years	30 years	10 years
	Issue date	Mar 1, 2018	Feb 20, 2019	Jun 23, 2020	Jun 9, 2021	Jun 6, 2022
	Maturity date	Mar 1, 2023	Aug 20, 2024	Jun 23, 2025	Jun 9, 2051	Jun 6, 2032
	Coupon	3.75%	3.90%	2.30%	3.55%	4.70%
	Structure	Wakalah				
	Order book (USD billion)	3.0	2.10	5.53	3.0	5.1
	Issue size (USD billion)	1.25	0.75	0.75	0.75	1.5
	Geographic distribution	<ul style="list-style-type: none"> ▪ Middle East (32%) ▪ Asia (25%) ▪ Europe (15%) ▪ United States (18%) ▪ Indonesia (10%) 	<ul style="list-style-type: none"> ▪ Middle East (29%) ▪ Asia (16%) ▪ Europe (22%) ▪ United States (23%) ▪ Indonesia (10%) 	<ul style="list-style-type: none"> ▪ Middle East (32%) ▪ Asia (40%) ▪ Europe (11%) ▪ United States (12%) ▪ Indonesia (5%) 	<ul style="list-style-type: none"> ▪ Middle East (8%) ▪ Asia (34%) ▪ Europe (25%) ▪ United States (27%) ▪ Indonesia (6%) 	<ul style="list-style-type: none"> ▪ Middle East (27%) ▪ Asia (38%) ▪ Europe (15%) ▪ United States (20%)
	Distribution according to investor type	<ul style="list-style-type: none"> ▪ Bank (40%) ▪ Funds (29%) ▪ Sovereign wealth funds (20%) ▪ Private banks (1%) ▪ Insurance, pension funds (10%) 	<ul style="list-style-type: none"> ▪ Bank (23%) ▪ Funds (31%) ▪ Sovereign wealth funds (21%) ▪ Insurance, pension funds (17%) ▪ Others (8%) 	<ul style="list-style-type: none"> ▪ Bank (27%) ▪ Funds (54%) ▪ Central bank and sovereign wealth funds (15%) ▪ Insurance, pension funds (3%) ▪ Others (1%) 	<ul style="list-style-type: none"> ▪ Bank (20%) ▪ Funds (63%) ▪ Central bank and sovereign wealth funds (5%) ▪ Insurance, pension funds (12%) ▪ Others (2%) 	<ul style="list-style-type: none"> ▪ Bank (30%) ▪ Funds (49%) ▪ Central bank and sovereign wealth funds (7%) ▪ Insurance, pension fund (13%) ▪ Others (1%)

Source Ministry of Finance, Indonesia

MALAYSIA

Type of thematic bond	Sustainability sukuk																																							
Main motivation	Signaling the government of Malaysia's commitment to advancing sustainable development in line with Malaysia's adoption of the 2030 Agenda for Sustainable Development at the United Nations General Assembly in New York on September 25, 2015																																							
Standard adopted	International Capital Markets Association Sustainability Bond Guidelines 2018, Green Bonds Principles 2018, Social Bonds Principles 2020, and Association of Southeast Asian Nations Sustainability Bond Standards 2018																																							
Bond framework	https://www.mof.gov.my/portal/pdf/economy/sustainability/																																							
External review	https://www.mof.gov.my/portal/pdf/economy/sustainability/																																							
Impact report	https://www.mof.gov.my/portal/pdf/economy/sustainability/																																							
Transactions to date	<ul style="list-style-type: none"> ▪ Date: 28 April 2021 ▪ Size: 800 million ▪ Currency: USD ▪ Market: International 																																							
Investors	The 10-year sustainability sukuk was distributed globally to investors in Asia (45%); the United States (12%); and Europe, Middle East, and Africa (33%). Domestic investors subscribed 10% of the total. Fund managers and insurance companies were the largest investors (67%), followed by banks (18%) and central banks and governments (14%).																																							
Greenium	This USD sustainability sukuk has recorded the lowest yield and spread of any previous government of Malaysia's 10-year USD sukuk issuances.																																							
Secondary market performance	<p>Upon post-pricing date, the secondary market trading levels are as follows:</p> <p>ASIA CLOSE: 22 APRIL 2021 (THURSDAY)</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr style="background-color: #e0f2f1;"> <th rowspan="2">Malaysia</th> <th colspan="3">At Primary</th> <th colspan="3">Current Bid</th> <th colspan="3">Movement</th> </tr> <tr style="background-color: #e0f2f1;"> <th>UST</th> <th>Spread</th> <th>Yield</th> <th>UST</th> <th>Spread</th> <th>Yield</th> <th>UST</th> <th>Spread</th> <th>Yield</th> </tr> </thead> <tbody> <tr> <td>2.07% 04/31</td> <td>1.57%</td> <td>0.50%</td> <td>2.070%</td> <td>1.56%</td> <td>0.52%</td> <td>2.08%</td> <td>-0.010%</td> <td>0.020%</td> <td>0.010%</td> </tr> <tr> <td>3.075% 04/51</td> <td>2.275%</td> <td>0.80%</td> <td>3.075%</td> <td>2.26%</td> <td>0.75%</td> <td>3.01%</td> <td>-0.015%</td> <td>-0.050%</td> <td>-0.065%</td> </tr> </tbody> </table>	Malaysia	At Primary			Current Bid			Movement			UST	Spread	Yield	UST	Spread	Yield	UST	Spread	Yield	2.07% 04/31	1.57%	0.50%	2.070%	1.56%	0.52%	2.08%	-0.010%	0.020%	0.010%	3.075% 04/51	2.275%	0.80%	3.075%	2.26%	0.75%	3.01%	-0.015%	-0.050%	-0.065%
Malaysia	At Primary			Current Bid			Movement																																	
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3.075% 04/51	2.275%	0.80%	3.075%	2.26%	0.75%	3.01%	-0.015%	-0.050%	-0.065%																															
Other	Despite the COVID-19 pandemic, which was still affecting the global economy, the government's resilient credit profile enabled maximization of price compression, resulting in the lowest yield and lowest spread achieved to date. This issuance also sets a new record as the world's first U.S. dollar-denominated sustainability Sukuk by a sovereign. See: https://budget.mof.gov.my/pdf/2022/revenue/section4.pdf (page 166-171)																																							
Source	Ministry of Finance, Malaysia																																							

MEXICO

Type of thematic bond	SDG-aligned
Main motivation	The Mexican government has recognized that ESG financing is here to stay, and the Ministry of Finance helped set this trend in motion by issuing the world's first sovereign bond aligned to the SDGs. Some other goals that Mexico achieved were to expand its investor base; improve the price discovery process for other public and private sector issuers when they seek access to this market; establish a firm commitment with public policies to enhance social development in the country, especially in underdeveloped areas, and reaffirm its pledge to achieve the objectives established in the 2030 agenda for sustainable development; offer investors greater transparency in public spending and better monitoring for the fulfillment of its SDG goals; and confirm Mexico's leading role as a Latin American and emerging market sovereign issuer, placing the country at the forefront in the innovation of sustainable financing instruments.
Standard adopted	<p>International Capital Markets Association Green Bonds Principles and Social Bonds Principles 2021 edition and designed to be in line with the spirit of the EU Green Bond Standard.</p> <p>The framework details the four core components of the International Capital Markets Association's Green Bonds Principles and Social Bonds Principles, 2021 edition:</p> <ol style="list-style-type: none"> Use of proceeds Process for expenditure evaluation and selection Management of proceeds Reporting <p>The framework also includes external review features such as the second-party opinions that Vigeo Eiris, a brand from Moody's, provides. In this second-party opinion, Vigeo Eiris has highlighted the robustness of the Mexican framework. Technical cooperation with the United Nations Development Programme for monitoring alignment with best practices is also included in the framework. The United Nations Development Programme has provided a nonbinding opinion regarding use of proceeds and the impact report.</p>
Bond framework	https://www.finanzaspublicas.hacienda.gob.mx/work/models/Finanzas_Publicas/docs/ori/Espanol/SDG/UMS_MarcoReferenciaBonosSoberanos_ODS.pdf
External review	<p>https://www.finanzaspublicas.hacienda.gob.mx/work/models/Finanzas_Publicas/docs/ori/Espanol/SDG/2020_0218_VigeoEiris_SPO_SHCP_Final.pdf</p> <p>https://www.finanzaspublicas.hacienda.gob.mx/work/models/Finanzas_Publicas/docs/ori/Espanol/SDG/UNDPs_Opinion_on_Mexicos_SDG_Sovereign_Bond-February_2020.pdf</p> <p>https://www.finanzaspublicas.hacienda.gob.mx/work/models/Finanzas_Publicas/docs/ori/Espanol/SDG/2021_VigeoEiris_SPO_SHCP.pdf</p>
Impact report	<p>https://www.finanzaspublicas.hacienda.gob.mx/work/models/Finanzas_Publicas/docs/ori/Espanol/SDG/Mexico_SDG_Bond_Allocation_and_Impact_Report_2021_Executive_Summary.pdf</p> <p>https://www.finanzaspublicas.hacienda.gob.mx/work/models/Finanzas_Publicas/docs/ori/Espanol/SDG/Mexico_SDG_Bond_Allocation-Impact_Report_2021.pdf</p> <p>https://www.finanzaspublicas.hacienda.gob.mx/work/models/Finanzas_Publicas/docs/ori/Espanol/SDG/Mexico_SDG_Bond_Allocation_and_Impact_Report_2021_Annexes.pdf</p>
Transactions to date	<ul style="list-style-type: none"> ▪ Date: September 2020, July 2021 ▪ Size: 750 million (September 2020), 1.25 billion (July 2021) ▪ Currency: both in euros ▪ Market: both were under an international format
Investors	Seventy-eight investors with ESG mandates and commitment to sustainable economic development policies participated for the first time in debt issuance from Mexico thanks to the SDG-aligned characteristic.
Greenium	The book-building process for the first SDG-aligned bond attracted high-quality, investors reaching around 5 billion of demand at its peak (around 6.5 times oversubscription). Thus, Mexico was able to tighten initial price of MS+235 basis points and guidance of MS+215 basis points to a final spread of MS+195 basis points, representing a negative new-issue premium of approximately 7 basis points.
Secondary market performance	<p>Since Mexico began having two SDG-aligned bonds trading in the secondary market, its liquidity performance (measured according to average bid/ask spread) has been better than other benchmarks, as the graph here shows.</p> <p><i>Average BID/ASK Spread (Sept 2020–May 2022)</i></p>  <p>The graph displays two data series over time from September 2020 to May 2022. The Y-axis represents the average bid/ask spread, ranging from 0.00 to 1.20. The X-axis shows monthly intervals. The green line represents SDG Bonds (EUR 2027, EUR 2036), and the orange line represents Non-SDG Bonds (EUR 2025, EUR 2030, EUR 2039, EUR 2045, EUR 2051, EUR 2115). The SDG Bonds spread starts at approximately 0.40 in September 2020 and remains relatively stable, ending at about 0.70 in May 2022. The Non-SDG Bonds spread starts at approximately 1.00 in September 2020 and fluctuates between 0.80 and 1.00 throughout the period, ending at about 0.90 in May 2022.</p>
Other	Mexico has repeatedly expressed its commitment to sustainability by promoting issuance of SDG-aligned bonds in the entire Mexican public sector. The government recently introduced the SDG format in the local market and is planning to aim the Samurai market (Japan); both transactions are expected to materialize before the end of the first half of 2022.
Source	Ministry of Finance and Public Credit, Mexico

PHILIPPINES

Type of thematic bond	Sustainability																																																																	
Main motivation	<ul style="list-style-type: none"> ▪ Highlight green and social initiatives of government, including massive expenditures incurred to combat impact of COVID-19 pandemic ▪ Expand investor base to include ESG-conscious investors ▪ Benefit from better pricing terms or larger issue sizes than plain vanilla bonds because of expected increase in investor demand and participation 																																																																	
Standard adopted	<ul style="list-style-type: none"> ▪ International Capital Markets Association Green Bonds Principles 2021 and Social Bonds Principles 2021 ▪ Loan Market Association Green Loan Principles 2021 and Social Loan Principles 2021 ▪ Association of Southeast Asian Nations 																																																																	
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Investors	Final allocation of the 25-year bond: United States (41.95%), Asia except Philippines (33.5%), Europe (24.47%), Philippines (0.08%).																																																																	
Greenium	Although the greenium is difficult to estimate, the sustainability label brought in additional investor demand, which allowed us to upsize the transaction while significantly reducing the pricing guidance.																																																																	
Secondary market performance	<p>For the Japanese yen bonds, yields have stayed fairly stable, even decreasing since its issuance, but markets that were bracing for a potential policy hike led Japanese government bonds and in turn Republic of the Philippines Samurai bonds to rise from 11 to 19 basis points across tenors.</p> <p>For the 25-year USD bond, secondary rates have been increasing since issuance, ending at 5.15% or 96 basis points above original coupon as of June 2022. Lowest bid yield to maturity of the security was 3.92% (~28 basis points below issuance rate) on March 31, 2022, after which it increased to 5.15% in mid-May. June saw an increase from 4.687% to 5.15%.</p>																																																																	
Other comments	Of the three offered tenors, the strongest demand was for the 25-year USD bond (>USD6.8 billion of orders at its peak), which enabled the Philippines to upsize this tranche (from the initial target of USD500 million) while maintaining the largest compression in pricing guidance (50 basis points). The ESG label helped spur investor interest, notwithstanding the 25-year bond being the more challenging tenor in this environment.																																																																	
Source	Department of Finance, Philippines																																																																	

REPUBLIC OF SERBIA

Type of thematic bond	Green bond
Main motivation	Promoting Serbia's transition to a low-carbon, climate-resilient, ecological economy and contributing to the United Nations SDGs. To be eligible, expenditures must fall in at least one green category: renewable energy, energy efficiency, transport, sustainable water and wastewater management, pollution prevention and control and circular economy, protection of the environment and biodiversity, and sustainable agriculture. In addition, the intention was to increase awareness of the importance of sustainable financing and promote it internationally and locally, in the Serbian financial and capital markets sectors.
Standard adopted	International Capital Markets Association's Green Bonds Principles June 2021
Bond framework	http://javnidug.gov.rs/static/uploads/1438_Serbia%20Green%20Bond%20Framework_vf.pdf
External review	http://javnidug.gov.rs/static/uploads/1439_Serbia_SPO_final.pdf
Impact report	To be available in the last quarter of 2022
Transactions to date	<ul style="list-style-type: none"> ▪ Date: 23 September 2021 ▪ Size: 1 billion ▪ Currency: euro ▪ Market: International
Investors	Allocation in September 2021: asset management (76%), others (12%), banks (8%), institutional (4%).
Greenium	Green tranche achieved 10 basis points inside fair value.
Secondary market performance	<p><i>Price/YTM Graph - Serbia Eurobond 2028</i></p> <p>The graph displays two metrics over time from 30.09.21 to 04.05.22. The left y-axis represents the closing price in Euros (€), ranging from 70.0 to 100.0. The right y-axis represents the yield to maturity (YTM) in percentage, ranging from 1.0 to 6.0. The closing price (blue area) starts at approximately 94.5€ and shows a general downward trend, ending at 73.0€. The YTM (red line) starts at 1.5% and shows a significant upward trend, peaking at 5.5% in early May 2022.</p>
Other comments	The inaugural green transaction benefitted from strong support from green investors, who received approximately two-thirds of the allocation.
Source	Ministry of Finance, Republic of Serbia

THAILAND

Type of thematic bond	Sustainability bond
Main motivation	Address the importance of environmental and social issues and support a national agenda of meeting the United Nations SDGs and achieving the zero-carbon target
Standard adopted	International Capital Markets Association Sustainability Bond Guidelines, Association of Southeast Asian Nations Capital Market Forum standards
Bond framework	https://www.pdmo.go.th/pdmomedia/documents/2020/Jul/KOT%20Sustainable%20Financing%20Framework.pdf
External review	https://www.pdmo.go.th/pdmomedia/documents/2020/Jul/KOT%20Sustainable%20Financing%20Framework%20Second%20Party%20Opinion.pdf
Impact report	https://www.pdmo.go.th/pdmomedia/documents/2021/Dec/Sustainability%20Bond%20Annual%20Report%202021.pdf
Transactions to date	<ul style="list-style-type: none"> ▪ Date: March 18, 2022 (latest auction date) ▪ Size: 197,000 mil ▪ Currency: Thai baht ▪ Market: International and domestic
Investors	The sustainability bond issuance was well received by all investor types. The first tranche was 3.05 times oversubscribed. Most of the investors are domestic (primary dealer bank, 42%). About 12% are nonresident investors.
Greenium	There are no empirical data to exhibit a greenium because the Thai government does not have a conventional bond with the same maturity, but the sustainability bond auctions have always received higher participation rates than conventional bonds.
Secondary market performance	The bond has sufficient liquidity in the secondary market and has been included in several bond indices.
Source	Ministry of Finance, Thailand



2022 World Bank Sovereign Debt Management Offices Survey

APPENDIX

B

1. Which option best describes your approach to the sovereign and/or sub-sovereign GSS bond issuance(s)?
 - a. Not considering issuance [if this is the answer, please answer question 5]
 - b. Exploring the potential for issuance
 - c. Early-stage planning for issuance
 - d. Developing the policies, issuance framework, and identification of eligible projects and/or key performance indicators
 - e. Late-stage planning for issuance, near formal announcement
 - f. Option to issue GSS bonds is included in funding options

2. If you are planning to issue GSS bonds, when do you plan to issue by?
 - a. Fill in estimated date _____
 - b. Unknown

3. If you are planning to issue GSS bonds, is the rationale (*mark top three reasons*):
 - a. Cheaper funding
 - b. Diversifying the investor base
 - c. Raising international funding
 - d. Building a local GSS bond market/motivating private sector issuers
 - e. Attracting international investors to domestic market
 - f. Funding needed sustainable development investments and/or Meeting Paris Agreement goals to mitigate impacts of climate change
 - g. Promoting transparency in general
 - h. Signalling commitment to sustainability
 - i. Others (please specify)

4. If you are not planning to issue, why not (*mark top three reasons*):
 - a. The value added is not clear
 - b. Too complicated
 - c. Cost of arranging issuance
 - d. Cost of post-issuance reporting
 - e. Does not contribute to yield curve formation or debt market liquidity
 - f. Small green project portfolio
 - g. Difficulty in identifying eligible expenditures
 - h. Other please, specify

5. What are the challenges that need to be resolved to issue a GSS sustainable bond in accordance with the Principles established by ICMA (*mark top three reasons*)?
 - a. Better understanding of the financial instrument, including structure, demand, pricing
 - b. Setting up governance arrangements to manage and track proceeds
 - c. Availability of eligible projects
 - d. Evaluating projects
 - e. Appointing an external reviewer
 - f. Reporting on the use of proceeds (e.g., lack of data, coordination with different ministries)
 - g. Lack of knowledge about the ICMA principles
 - h. Other, please specify

6. Has your jurisdiction established a GSS sustainable Bond Steering Committee, or some other group of cross-organisation policy makers to direct and explore GSS bond issuance options?
 - a. Yes (please specify)
 - b. No

7. Have you developed a framework for issuing GSS bonds?
 - a. Yes (please specify and share the framework)
 - b. No

8. Have you developed a taxonomy⁸ for the eligible use of proceeds for GSS bonds?
 - a. Yes (please specify and share the taxonomy)
 - b. No
 - c. Considering

9. What type of GSS bond issuance are you considering? Please select all that apply.
 - a. Green
 - b. Blue
 - c. Social
 - d. Sustainable
 - e. A performance-linked bond (e.g., a general use bond with the principal or interest linked to meeting overall indicators of sustainable development goals), aka sustainability-linked bond
 - f. Other (please specify)

10. If you are planning to issue GSS bonds, where would you be targeting:
 - a. International
 - b. Domestic
 - c. Both

11. If issuing domestically, do you:
 - a. Expect international investors to buy the bonds?
 - b. See domestic demand for ESG assets?

⁸ A green taxonomy is a classification of activities that specifies which activities are eligible to be categorized as "green".

12. Are you considering a specific bond size minimum?
- a. Yes (what minimum size issuance in USD?)
 - b. No
 - c. Not applicable
13. What currency are you considering issuing in (Please select all that apply)?
- a. USD
 - b. EUR
 - c. Domestic currency
 - d. Other (please specify)
 - e. Not applicable
14. What maturity profile are you considering?
- a. <1
 - b. ≥ 1 and <5
 - c. ≥ 5 and <10
 - d. ≥ 10
 - e. Not applicable
15. Which exchange are you considering issuing in (Please select all that apply)?
- a. Local
 - b. Regional
 - c. London
 - d. New York
 - e. Luxembourg
 - f. Other (please specify)
16. Have investors expressed interest in a GSS bond type (Please select all that apply)?
- a. Green bond
 - b. Blue bond
 - c. Social bond
 - d. Sustainable bond
 - e. Performance-linked bonds
 - f. Other, please specify
17. Have investors expressed interest in a specific bond size minimum?
- a. Yes (what minimum size issuance?)
 - b. No
18. Have investors expressed interest in a specific issue currency (Please select all that apply)?
- a. USD
 - b. EUR
 - c. Local currency
 - d. Other, please specify

19. Have investors expressed interest in a specific maturity profile?
- a. <1
 - b. ≥ 1 and <5
 - c. ≥ 5 and <10
 - d. ≥ 10
 - e. Not applicable
20. Have investors expressed interest in an issuance location?
- a. Yes (please specify)
 - b. No
21. Would you be interested in World Bank technical assistance on GSS issuance?
- a. Yes
 - b. No



2022 World Bank Investors Survey

APPENDIX

C

1. Why are you (investor or intermediary bank) interested in ESG bonds in general and sovereign ESG bonds in particular?
2. Do you consider ESG Bonds to be the new safe haven?
3. What is your major argument for investing or not investing in emerging market sovereign ESG bonds?
4. What specific emerging and frontier markets (countries/ regions) are you (investors) interested in for sovereign ESG bonds? In which currency (hard currency or local currency)?
5. Are you interested in domestic issuances (in local currency)? If yes, which ones?
6. Would you (investors) consider smaller-sized private placements (for instance for smaller economies and island states)?
7. What factors (financial and ESG) would investors consider before investing in emerging market sovereign ESG bonds?
8. Are there any specific types of projects that you (investors) prefer to support with sovereign ESG bonds (mitigation vs adaptation, biodiversity conservation, dark green vs transition projects, social projects in general vs projects supporting specific beneficiaries)?
9. Which type of sovereign ESG bond do you (investors) prefer: Green/Social bonds or sustainability-linked bonds (SLB), and why?
 - a. What factors (financial and ESG) would you (investors) consider before investing in sovereign SLBs?
 - b. What would prevent you (investors) from investing in sovereign SLBs?
 - c. Would you (investor) consider a step down in the SLB coupon?
10. What is the minimum size you are interested in?
11. Do you see any interest in subnational emerging market ESG bonds?
12. What role do investors and financial intermediaries expect the World Bank to play to attract investors to emerging and frontier market ESG bond transactions?
13. What role do you see the World Bank playing to facilitate GSS bonds by emerging and frontier market issuers?



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