



FINANCE

FINANCE

EQUITABLE GROWTH, FINANCE & INSTITUTIONS INSIGHT

Riding the Wave: Navigating the ESG Landscape for Sovereign Debt Managers

Sebastien Boitreaud, Ekaterina M.Gratcheva,
Bryan Gurhy, Cindy Paladines, and Andrius Skarnulis



WORLD BANK GROUP

Some rights reserved.

This work is a product of the staff of The World Bank with external contributions. The findings, interpretations, and conclusions expressed in this work do not necessarily reflect the views of The World Bank, its Board of Executive Directors, or the governments they represent. The World Bank does not guarantee the accuracy of the data included in this work. The boundaries, colors, denominations, and other information shown on any map in this work do not imply any judgment on the part of The World Bank concerning the legal status of any territory or the endorsement or acceptance of such boundaries.

Nothing herein shall constitute or be considered to be a limitation upon or waiver of the privileges and immunities of The World Bank, all of which are specifically reserved.

Rights and Permissions



This work is available under the Creative Commons Attribution 3.0 IGO license (CC BY 3.0 IGO), <http://creativecommons.org/licenses/by/3.0/igo>. Under the Creative Commons Attribution license, you are free to copy, distribute, transmit, and adapt this work, including for commercial purposes, under the following conditions:

Attribution—Please cite the work as follows: Sebastien Boitreaud, Ekaterina M. Gratcheva, Bryan Gurhy, Cindy Paladines, and Andrius Skarnulis. 2020. “Riding the Wave: Navigating the ESG Landscape for Sovereign Debt Managers” EFI Insight-Finance. Washington, DC: World Bank.

Translations—If you create a translation of this work, please add the following disclaimer along with the attribution: *This translation was not created by The World Bank and should not be considered an official World Bank translation. The World Bank shall not be liable for any content or error in this translation.*

Adaptations—If you create an adaptation of this work, please add the following disclaimer along with the attribution: *This is an adaptation of an original work by The World Bank. Views and opinions expressed in the adaptation are the sole responsibility of the author or authors of the adaptation and are not endorsed by The World Bank.*

Third-party content—The World Bank does not necessarily own each component of the content contained within the work. The World Bank therefore does not warrant that the use of any third-party-owned individual component or part contained in the work will not infringe on the rights of those third parties. The risk of claims resulting from such infringement rests solely with you. If you wish to reuse a component of the work, it is your responsibility to determine whether permission is needed for that reuse and to obtain permission from the copyright owner. Examples of components can include, but are not limited to, tables, figures, or images.

All queries on rights and licenses should be addressed to World Bank Publications, The World Bank Group, 1818 H Street NW, Washington, DC 20433, USA; e-mail: pubrights@worldbank.org.

Graphic Designer: Diego Catto / www.diegocatto.com



Contents

Executive Summary	5
Acknowledgments	9
Abbreviations	11
1. Introduction	13
2. A Changing Financial Sector Ecosystem	17
3. PDM ESG Activities and Related Readiness Factors	29
4. The PDM ESG Framework	39
Conclusion	53
Appendix A Issuing a Green Bond: Select Practical Considerations	55
EM ESG-Aligned Sovereign Fixed Income Indices	57
Central Banks and ESG	59
Appendix B Asset Managers and Their ESG Policies	61
Appendix C ESG and data	63
References	67





Executive Summary

The world is on an unsustainable path. While the present model of economic development has delivered prosperity to hundreds of millions of people, it has also led to persistent extreme poverty and unprecedented levels of inequality that undermine innovation, social cohesion, and sustainable economic growth. Fossil fuel and natural resource–based economic growth has also strained climate and biodiversity ecosystems as never before, bringing the natural world to the edge of its limits ([UN 2019](#)). Our societies are realizing that things cannot continue as they are, and that we must collectively change course and contribute to a more sustainable future for the benefit of generations to come.

The changing behavior is reflected in the world of finance, whereby market participants and investors are increasingly focused on more sustainable financial and nonfinancial outcomes. Investors are becoming more conscious of the effects of their economic footprint and of the benefits of integrating sustainability, mainly by adding *environmental, social, and governance* (ESG) considerations into investment decisions. Initially focused on equity and corporate bond markets, investors are increasingly integrating an ESG approach into their sovereign debt investment mandates. While the increased issuance of sovereign labeled bonds, such as green and social bonds, is a clear example of changing investor behavior, investors are also increasingly incorporating ESG factors into the fundamental country credit analysis within sovereign fixed income. For the most part, ESG investing in the emerging markets and developing economies (EMDE) space remains focused on the impact of ESG factors on a country's creditworthiness, with governance seen as the main driver. While ESG investing is hampered by many issues, such as lack of data availability and disclosure and lack of harmonization and standardization, the area is quickly evolving. There has been a rapid increase in assets under management (AUM), developments with new regulatory standards, rising investor interest (such as United Nations Principles for Responsible Investment) and intense policy and political scrutiny as well as commitments.

As an important public institution and the main financing arm of the state, a country's debt management office (DMO)¹ can play an important role in supporting the country's transition to a low-carbon, socially resilient, and sustainable economy, while also working within its core public debt management mandate.² The signaling effects and positive externalities of actions in sustainability undertaken by the DMO should not be underestimated. Indeed, many government debt managers seem open to playing such a role: in a 2019 survey by the Organisation for Economic Co-operation and Development (OECD), of the 19 responding government debt offices, 11 indicated that they had already considered ESG factors and had adopted a somewhat broader approach to ESG, highlighting sustainability strategies in their communication and investor relations strategies (OECD 2020a). The financial sector ecosystem in which the DMO operates is also changing. This paper considers (a) the different ESG areas in which the DMO can engage and (b) the key factors that may ensure successful implementation. It also formalizes a practical framework to help the DMO make these decisions. Note that the paper attempts to be thorough, but the analysis presented is non-exhaustive, given the breath of different country specificities.

The three main approaches that DMOs can take to engage in ESG activities are more or less directly related to the public debt management (PDM) core mandate: (a) introduce ESG-related borrowing instruments to fund the government, (b) use the convening power and investor-relations expertise of the DMO with market participants to channel information on ESG issues and increase the visibility of government initiatives, and (c) leverage the financial expertise of the DMO to execute ESG transactions or implement ESG policies that are linked to the capital markets. Decisions on the appropriateness of pursuing ESG activities will depend on a number of ESG market readiness factors as well as specificities in each respective sovereign debt market. The factors can be grouped into five broad categories: (a) ESG-enabling environment/stage of market development, (b) ESG market definitions and standards, (c) project pipeline, (d) investor base, and (e) cost and pricing. As with any additional responsibilities, the DMO would be wise to ensure that any new ESG activities do not interfere with the fulfillment of its core mandate.

The stage of market development is an important consideration for the DMO in deciding on ESG activities. Countries in which bond markets are at a more nascent stage of development will generally not meet all the ESG market

readiness factors. Whereas each sovereign can rightly aspire to engage on ESG issues, it is important to understand that the existence of ESG readiness factors may affect the success of various approaches. Indeed, for certain sovereigns whose weaknesses in these factors have not been addressed, it may still make sense to pursue specific ESG activities for other reasons, such as sending a clear political message. In those cases, the issuance of a labeled bond, for example, could signal the government's commitment to a sustainable future, or the DMO could highlight the country's ESG credentials in its investor relations work. In some cases, specific ESG activities could be incorporated into the wider market development plan. However, in most countries, where the local currency bond market (LCBM) is at a nascent stage of development, formal DMO ESG activities will likely play a negligible role in market development, given limited financial and human resources. In those countries, efforts to focus on cultivating the preconditions of market development, such as institutional setting and governance, would nevertheless often incorporate ESG aspects, indirectly contributing to a country's more sustainable development. Countries that are at a more advanced stage of market development could more flexibly experiment with the suite of ESG activities if all other preconditions are in place. Lastly, the current COVID-19 crisis provides both opportunities—such as issuance of social bonds whose proceeds are directed to mitigating the impact of the pandemic—as well as challenges because ESG considerations may be perceived as less urgent in the current circumstances.

The last part of the paper formalizes the previous sections into a systematic framework for the sovereign issuer to identify what combination of ESG activities could be optimal at the current stage of market development and ESG market readiness. The framework, illustrated in figure ES.1, can be used by the DMO as a road map to decide the extent and mix of ESG activities the DMO can pursue.

- **Initially, the DMO could consider completing a starting assessment of the ESG landscape in the country,** using the ESG readiness factors as guidance. This exercise is designed to identify possible bottlenecks or shortcomings that may prevent different ESG activities from being successful. This exercise would be best guided by national ESG strategies and policies. If the DMO concludes that there are shortcomings, it might decide whether it is possible to address them and highlight the various bottlenecks to the relevant authorities.

1. The institutional setup of a debt management office differs across countries for multiple reasons. For the purpose of this paper, the DMO is the entity or entities in charge of managing the sovereign debt portfolio, including the design of the issuance strategy, the execution of debt transactions, the monitoring of relevant risks, the recording of debt information, and the like.

2. The aim is to ensure that the government's financing needs and its payment obligations are met at the lowest possible cost over the medium to long run, consistent with a prudent degree of risk.

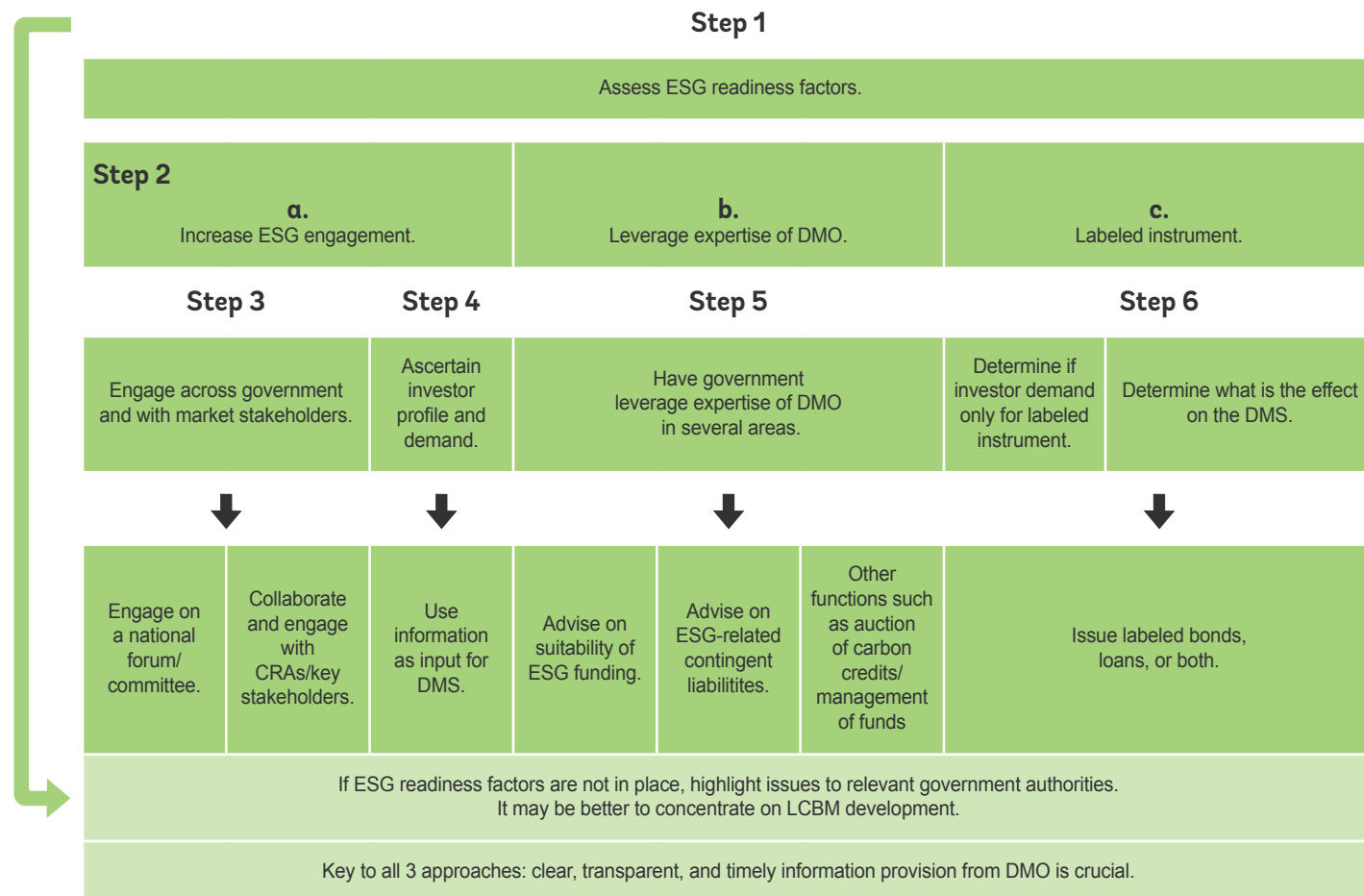
- **Pending the successful completion of this study, the DMO can begin to engage with key stakeholders on ESG issues.** This work could include engaging with other government departments, stakeholders, and investors and may also include setting up a national forum or committee. These engagements are not necessarily one-off exercises and may take place over an extended period. During this process, the DMO would begin to understand better the financial sector ecosystem and to form a consistent story on the country's ESG credentials.
- **The DMO's expertise can also be leveraged in various ways,** such as advising on (a) the suitability of ESG funding for other government departments, (b) the management of environment-related investment funds, or (c) the auction of carbon credit. The capacity of the DMO will dictate the level of extra activities that could

be assumed. It is, however, important that the DMO's expertise is recognized within government because a certain amount of DMO self-promotion may be required during this step.

- **The final step in the framework, the issuance of labeled instruments, is the most central to the public debt management mandate.** As with any issuance decision, the costs and benefits of the issuance need to be assessed. In many cases, the DMO may decide that its broad costs outweigh the immediate benefits to issue such instruments; the DMO can nevertheless continue to proactively engage on ESG issues and leverage its expertise.
- **Finally, the provision of clear, transparent, and timely information is critical, as with other aspects of the DMO's mandate.**

> > >

FIGURE 1 - ES.1 Public debt management: environmental, social, and governance framework



Source: World Bank staff illustration

Note: CRAs = credit rating agencies; DMO = debt management office; DMS = debt management strategy; ESG = environmental, social, and governance; LCBM = local currency bond market





Acknowledgments

This publication was produced by a team consisting of Sebastien Boitreaud, Ekaterina M. Gratcheva, Bryan Gurhy, Cindy Paladines, and Andrius Skarnulis under the supervision of Anderson Silva, all from the Finance, Competitiveness & Innovation (FCI) Global Practice of the World Bank Group (WBG). Rodrigo Silveira Veiga Cabral of the Macroeconomics, Trade & Investment Global Practice provided generous comments and acted as a peer reviewer. Teal Emery (Consultant, FCI) also provided helpful inputs and comments.

The authors would also like to thank the comments received from other peer reviewers including Thordur Jonasson, Deputy Division Chief, Debt Capital Markets Division, IMF; Felipe Larrain Bascuñan, Director, CLAPES-UC and former Minister of Finance, Chile; Fiona Stewart, Lead Financial Sector Specialist, EFNLT, FCI; Zsolt Bango, Senior Financial Sector Specialist, EFNLT, FCI; and Luis E. Gonzales, Head of Climate Change, Energy and Economics at CLAPES-UC. Also, a special thank you to Alfonso Garcia Mora, Global Director of the Finance, Competitiveness & Innovation Global Practice of the World Bank Group, who chaired the final peer review meeting.

External comments and feedback were received from Jonathan Maes, Dutch State Treasury Agency, the Netherlands; Mark Merrigan, National Treasury Management Agency, Ireland; Cyril Rousseau, Agence France Trésor, France; Zoltán Kurali, Hungarian Government Debt Management Agency (ÁKK), Hungary; Herman Kamil, Debt Management Unit, Ministry of Finance, Uruguay; Torsti “Toto” Silvonen, European Central Bank; Fergus McCormick, The Emerging Markets Investor Alliance; Jarrad Linzie, Luis Oganés, Jessica Murray, Katherine Marney, J. P. Morgan; Bryan Carter, HSBC; Peter Eerdmans, Ninety-One; Uta Fehm, UBS Asset Management; Esther Law, Amundi Asset Management; Jeroen Verleun, PGGM; Felipe Gordillo, BNP Paribas and Giulia Pellegrini of Allianz.

The publication has been part funded by the [Global Program on Sustainability](#).

The views expressed herein are solely the authors’ and should not be attributed to the WBG.

The report was edited by Karen Ingebretsen and Marcy Gessel, Publications Professionals LLC. Diego Catto Val led the creative design and formatting of the publication. We thank them all.





Abbreviations

ABS	Asset-Backed Security
ALM	Asset And Liability Management
AUM	Assets Under Management
BIS	Bank For International Settlements
CRA	Credit Rating Agencies
DeMPA	Debt Management Performance Assessment
DM	Developed Markets
DMO	Debt Management Office
DMS	Debt Management Strategy
DPI	Debt Management Performance Indicator
EM	Emerging Market
EMBIG	Emerging Market Bond Index Global
EMDE	Emerging Markets and Developing Economies
ESG	Environmental, Social, and Governance
GDP	Gross Domestic Product
GSIA	Global Sustainability Investment Alliance
ICMA	International Capital Market Association
IDA	International Development Association
IFC	International Finance Corporation
KPI	Key Performance Indicator
LCBM	Local Currency Bond Market
NGFS	Network for Greening the Financial System
OECD	Organisation for Economic Co-Operation and Development
PDM	Public Debt Management
WB	World Bank
WBG	World Bank Group





Introduction

Environmental, Social, and Governance Investing: A Primer for Sovereign Debt Management Offices.

Nelson Mandela once said that “some things seem impossible until they are done.” Building a more sustainable future is one of the greatest challenges facing humanity, and it is one that members of society must face together. While the present model of economic development has delivered prosperity to hundreds of millions of people, it also has led to continuing extreme poverty and other deprivations; unprecedented levels of inequality that undermine innovation, social cohesion, and sustainable economic growth; and it has brought the world close to tipping points with the global climate system and biodiversity loss ([UN 2019](#)). The world is realizing that the human species cannot continue with its current behaviors and that society collectively must change course and contribute to a more sustainable future for generations to come.

The world of finance³ is also realizing that it has an important role to play in supporting the just transition to a more sustainable economic model—*environmental, social, and governance (ESG)* investing being a key component of this. ESG *factors* refers to three central categories that can be used to assess the sustainable and societal impacts of a company or, for the purposes of this paper, a sovereign. While the increased issuance of sovereign labeled bonds, such as green and social bonds, is a clear example of changing investor behavior, investors are also increasingly incorporating ESG factors into the fundamental country credit analysis within sovereign fixed income. For the most part, ESG investing in the emerging markets and developing economies (EMDE) space remains focused on the impact of ESG factors on a country’s creditworthiness, with governance seen as the main driver. However, the effects of the COVID-19 pandemic, stronger commitment by politicians and policy makers, and an increased focus in general on environmental issues are giving a new impetus to ESG investing.

A country’s debt management office (DMO) has an important role to play in the achievement of a sustainable future. This paper is intended to provide DMOs and policy makers focused on public debt management (PDM) in EMDEs with a roadmap to navigate the changing landscape of ESG investing.⁴ It also aims to highlight to other stakeholders the important role that PDM can play in a broader economy-wide ESG strategy. The purpose of this paper is to help DMOs formalize their activities related to ESG issues and also help DMOs begin to engage with other relevant policy makers in order to build knowledge and promote knowledge sharing, since the nature of ESG activities requires input from many different stakeholders.

3. As defined by the International Capital Market Association (ICMA 2020), sustainable finance “incorporates climate, green and social finance while also adding wider considerations concerning the longer-term economic sustainability of the organizations that are being funded, as well as the role and stability of the overall financial system in which they operate.” As such, the sustainable finance concept has ESG investing as one of its building blocks. The E part of ESG mainly refers to green and climate finance.

4. Although the paper is primarily intended for EMDE DMOs and relevant policy makers, many of the considerations are also pertinent for DMOs in developed markets.

Although most of these ESG activities are closely related to the PDM mandate as per guidelines (“the PDM guidelines”) issued by the International Monetary Fund (IMF) and the World Bank (WB) (World Bank and IMF 2014), resource availability and country specifics will largely dictate the extent, intensity, and ultimate scope of action. ESG readiness factors are also presented, to ensure

that the marginal benefit of different PDM ESG activities exceeds their marginal cost; the state of market development is also an important, but not a limiting consideration. The topics covered are relevant for countries that issue government debt in both domestic and international capital markets, although the composition and nature of activities are likely to differ somewhat depending on the market involved.

ESG Activities and Links with the PDM Mandate

According to the PDM guidelines, the “main objective of PDM is to ensure that government’s financing needs and its payment obligations are met at the lowest possible cost over the medium to long run, consistent with a prudent degree of risk.”⁵ These risks tend to be related to debt interest/principal payments and to the choice of debt instruments⁶ for which the DMO is responsible. Other risks related to the use of the funds borrowed, the quality of the public expenditure, and other macroeconomic policies are generally outside the scope of the DMO, although some DMOs do conduct debt sustainability analysis modeling.

The PDM mandate definition, often included in the legal framework of countries, should be the starting point for any assessment of the role DMOs can or should play in ESG issues. This does not mean that only activities strictly aligned with this mandate can be performed by the DMO, and many DMOs in both developed markets (DMs) and EMDEs do assume other—albeit related—responsibilities. At a minimum, however, such responsibilities should support, directly or indirectly, the main PDM mandate. Once that precondition is satisfied, the trade-off between the benefits of the additional activities and the costs for the government debt manager needs to be carefully assessed.

The narrow scope of the PDM mandate has been the subject of varying levels of debate for many years. Box 1.1 provides an overview of the PDM mandate and also considers whether this approach should be broadened, with an ESG lens. However, for the purposes of this paper and to add value to the current PDM debate on ESG issues, the ESG activities identified in this note are in keeping with the traditional PDM mandate as defined by the PDM guidelines. The paper proceeds as follows: section 2 presents an overview of recent key developments in the financial sector and sovereign ESG market. Section 3 introduces three PDM ESG activities and provides an overview of PDM-related ESG readiness factors, while section 4 formalizes the DMO’s ESG interactions in a PDM ESG framework. Finally, section 5 presents the conclusion. Appendix A provides an overview of some practical considerations for DMOs regarding the issuance of labeled bonds; information on ESG-aligned sovereign fixed income indexes; and an overview of central banks and ESG investing. Appendix B provides a list of links to asset managers and details of their sovereign bond ESG integration policies, and appendix C provides an overview of current ESG data providers.

> > >

BOX 1. The DMO Mandate: What Costs and Risks to Include?

Historically, debt management was not considered a stand-alone policy; it was closely linked with fiscal and monetary policy (Togo 2007). Over the past 30 years, given the different policy objectives and trade-offs involved in the conduct of monetary, fiscal, and debt management policies, the consensus among policy makers converged to regard debt management as a stand-alone policy (Cassard and Folkerts-Landau 1997; Currie, Dethier, and Togo 2003). Hence, although the DMO’s mandate was traditionally focused on broader macroeconomic objectives, these objectives have now shifted to a microfocused mandate. Risks related to use of the funds borrowed, the quality of the public expenditure, or indeed possible financial outcomes dependent on future climate scenarios are generally seen as being outside the scope of the DMO and pertaining to the fiscal policy mandate.

> > >

5. In this context, cost is the cost of servicing the debt, usually expressed as a ratio of gross domestic product (GDP), and risk is the volatility of debt servicing costs. The basic methodology explores how different issuance strategies perform against a range of macroeconomic scenarios.
6. For example, the financial impact of a domestic currency depreciation on debt denominated in foreign currency.

The PDM guidelines emphasized this microportfolio mandate and further stressed the importance of formulating a sound debt management strategy for the optimal allocation of government debt and the need to separate debt management from other policies. Over the past 10 years, and following various financial and economic crises, the microportfolio approach has been questioned by some practitioners and academics who are in favor of a more macro mandate, including Turner (2011), Blommestein and Turner (2011), and Blommestein and Hubig (2012). However, the consensus among practitioners and academics continues to favor the microportfolio mandate for PDM, for the reasons previously detailed. It could be noted that the PDM guidelines recognized that policies to promote the development of the domestic debt market could be included in the mandate, in particular for countries that can only issue short-term debt in their domestic market.

When assessing cost and risk, debt managers normally identify the potential deviation of debt servicing flows from their expected path as a result of shocks in interest rates or exchange rates, or shortage of loanable funds in the domestic or international markets. They also assess how a change in the investor base could affect the cost and risk of the debt portfolio (such as by changing investor preferences for ESG). Different countries use somewhat different measures for cost and risk, involving different time horizons, whether to include present values, how the risk scenarios are generated, and other factors, but the cash flow projection technique is generally preferred. Using this approach, debt managers can drive an efficient frontier of possible debt portfolios.

From the ESG perspective, one may question whether the micro approach is indeed too restrictive and whether the analysis of the costs and risks should be broadened to include the potential impact of climate change on the fiscal position of the issuer, among other things. Under adverse climate or social scenarios, the costs and risks associated with government debt would indeed be affected, and it may therefore be argued that the DMO should also take these factors into account when formulating the debt management strategy and making funding decisions. Such considerations could also lead the DMO to contribute to a more formal position on ESG issues at the national level. Because sovereign debt can be considered an intergenerational resource transfer—and given that future generations will bear the ultimate responsibility for this “transfer”—it may be argued that the future cost and risks of adapting and mitigating climate change, for example, should be incorporated into today’s analysis of decisions. From this perspective, the efficient frontier of the DMO’s optimal debt portfolio may be changing. One may argue, however, that the effect of ESG scenarios and policies on the costs and risks of government debt is no different in nature from any other consideration related to the proper use of the funds raised by the DMO for the sovereign, and that ESG criteria should not be given special treatment.

It is important that all costs and risks are properly understood because the government’s debt portfolio is generally the largest financial portfolio in the country and contains complex exposures that affect the country’s financial stability. The issue is more about which public institution should be in charge of assessing fiscal risks and whether this could jeopardize the DMO’s ability to implement its traditional mandate. Some DMOs do conduct debt sustainability analysis, although this role is normally conducted by fiscal authorities. In such a case, debt managers could include adverse ESG-related scenarios. Moody’s (2020) estimates that since 1997, ESG risks have contributed to 36 percent of sovereign defaults.

Notwithstanding those risks, the consensus among practitioners is still against changing the traditional DMO mandate, even in DMs, because the current framework for debt management has served economies well. Some countries are taking more of an asset and liability management (ALM) approach to managing their debt portfolios, particularly with respect to the identification of implicit and explicit contingent liabilities, but given its complexity, this approach is fraught with implementation challenges. In conclusion, while the current PDM mandate is micro in nature, it does not stop other government departments or the fiscal authority from taking a more proactive approach to ESG issues. Moreover, positive ESG activity emanating from the DMO can also set a benchmark, facilitate a better understanding of changes in investor behavior, allow for more reactive adjustments in strategy and communication, or send a positive signal to the wider financial sector. These effects should certainly not be underestimated.





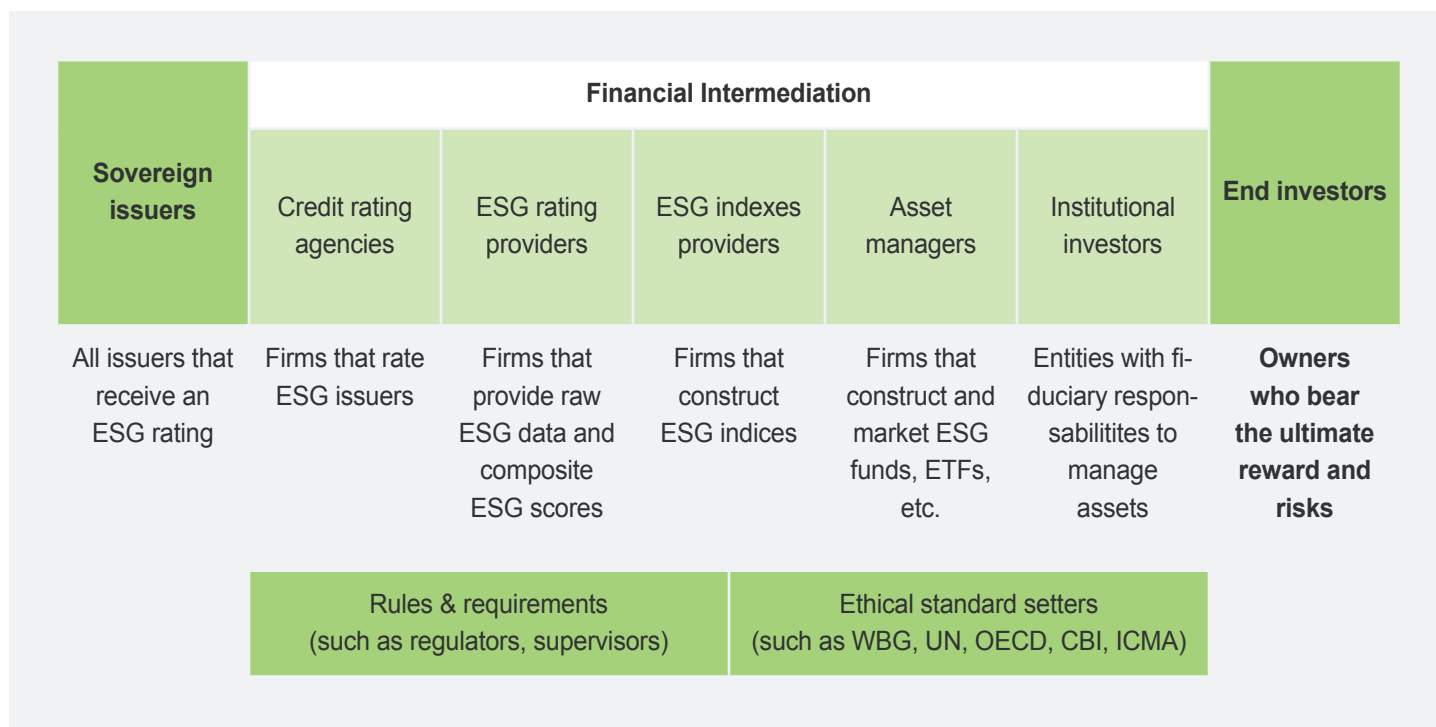
A Changing Financial Sector Ecosphere

ESG investors are increasingly focused on the sovereign bond market, after initially focusing on asset classes such as equities and corporate bonds. Global bond markets have evolved in response to demand for sustainable instruments, and the World Bank Group has played a key role. Since the introduction of the first green bonds issued by multilateral development banks (the Climate Awareness Bond by the European Investment Bank in 2007 and the Green Bond by the International Bank for Reconstruction and Development in 2008), the green bond market has grown from a market dominated by multilaterals to one that encompasses a broad range of issuers, including sovereigns, corporates, banks, and other issuers. The introduction of green bonds reflected a fundamental shift in the bond market that allowed investors to reduce perceived ESG risks in their investment portfolios and channel investment to sustainable projects. It also demonstrated that bond investors could move beyond only exclusions as their sustainability strategy to also invest in activities that contribute positively to projects and society overall. The green bond template has expanded to other labeled bonds, among them so-called thematic bonds, including social bonds, blue bonds, and sustainability linked bonds.⁷

The ESG investing framework for sovereign bonds has lagged the corporate fixed income segment and equities, despite the importance of the sovereign debt asset class.⁸ This is mainly due to a lack of consistency in defining and measuring material ESG factors at the sovereign level, limits to data availability, and generally less-developed sovereign debt ESG integration tools and techniques. Furthermore, investors need to consider various ways sovereigns are fundamentally different from companies, including (a) time horizons and materiality in light of policy and institutional stability; (b) the level of financial flexibility that sovereigns have to withstand owing to environmental, social, or external shocks; and (c) the interdependency between many ESG factors and the sovereign's ability to repay debt (UNPRI 2019). In response to growing demand from asset owners and market participants, investment management ESG practices are quickly evolving and, while varied, at least some integration of ESG factors, as part of the investment process, is becoming mainstream. Exclusion lists have also been used by some asset managers, particularly for EMDEs, as a way to mitigate ESG risks, though these practices have varied. Appendix B presents an overview of asset managers and their ESG approaches. This investment backdrop illustrates the point that the current ESG financial sector ecosphere remains complex as illustrated by figure 2 (OECD 2020b). This is also apparent for issuers when dealing with bank's syndicate desks, with advice and feedback often episodic and dependent on the bank concerned as well as the bank personnel. In some incidences, sovereign issuers may hear very different advice and "color" from various syndicate desks, and this can add to the general confusion around ESG investing for DMOs.

7. See box 4.5

8. At an estimated US\$66 trillion at the end of 2018, sovereign debt accounts for a large share of global assets under management (AUM). By extension, sovereign debt is among the most important asset classes for Principles for Responsible Investment (PRI) signatories—in 2019, sovereign, sub-sovereign, and agencies fixed-income investment amounted to more than US\$18 trillion, or 21 percent of the total US\$86 trillion in signatories' AUM. Source: UNPRI 2019.

FIGURE 1.1 - The structure of the ESG financial ecosystem

Source: World Bank staff illustration, adapted from OECD 2020, 23.

Note: CBI = Climate Bonds Initiative; ESG = environmental, social, and governance; ICMA = International Capital Market Association; OECD = Organisation for Economic Co-operation and Development; UN = United Nations; WBG = World Bank Group.

The volume of assets under management (AUMs) that incorporate elements of sustainable investing is large and growing rapidly. According to the Global Sustainable Investment Alliance (GSIA 2018), at the beginning of 2018, US\$30.7 trillion in assets (US\$11 trillion in fixed income) incorporated some form of sustainability investing, a rise of 34 percent from two years earlier.⁹ New ESG-titled sovereign debt indexes have emerged, and they have also helped stimulate an increasing demand among investors for ESG instruments. In 2018, J. P. Morgan, the dominant emerging markets sovereign fixed-income benchmark provider, introduced ESG-titled versions of both its local currency and hard currency emerging market sovereign debt indexes (Kim et al. 2018), and FTSE Russell introduced a Climate Risk-Adjusted Global Government Bond Index, both incorporating sovereign ESG methodologies from ESG ratings providers (see appendix A). Inclusion in such indexes generates strong and sustained investor demand,¹⁰ highlighted by the US\$18 billion of AUM as of October 2020 for all JPM fixed-income emerging market EM ESG indexes. (J. P. Morgan Global Index Research Group 2020).

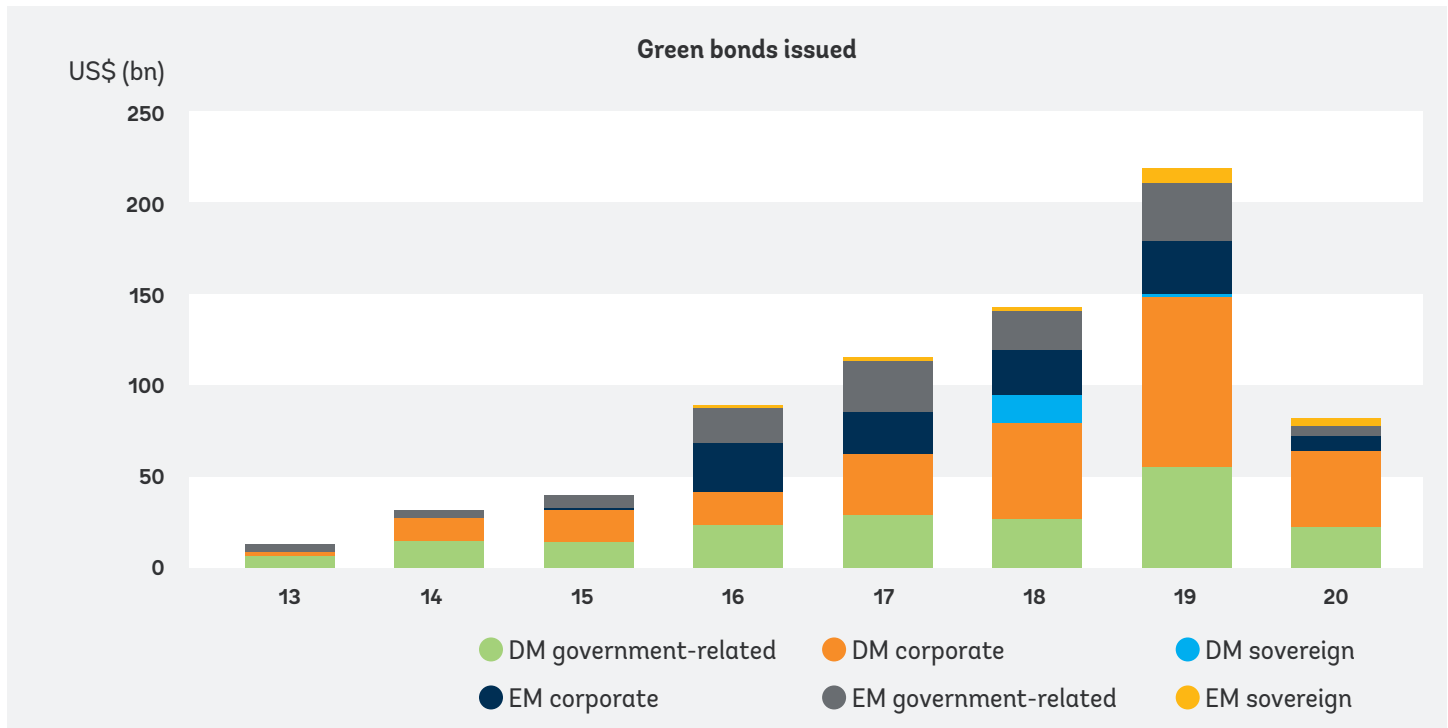
Despite this volume and growth, sustainable finance in EMDEs significantly lags that in DMs, as shown in figures 2.1 and 2.2. However, figure 2.3 illustrates the steady increase, in recent years, of EM fixed income AUM, where ESG criteria are a driver of investment allocations. Figure 2.4 illustrates the difference in country benchmark allocations in the JPMorgan EMBIG (Emerging Market Bond Index Global) index based on ESG criteria and the conventional allocation, implying that investors who track the ESG index would need to increase or decrease their country allocations to respective countries relative to the conventional index (for example, Uruguay +2.4 percent, China -3.2 percent). While the increased availability of sovereign EM ESG indexes is welcomed, given the scale of benchmarked AUMs, ESG methodologies tend to favor wealthier countries because ESG scores are highly correlated with national wealth and those with more developed capital markets. Unless sovereign ESG methodologies are adjusted for national income, direct application of current sovereign ESG methodologies create perverse incentives for the global sustainable finance community, particularly given the fact that sustainable financing needs are concentrated in EMDEs. Investors are mindful of the current shortcomings of ESG indexes, and the index community is exploring approaches to refine the methodology for ESG index calculation.

9. Given recent trends, this figure has undoubtedly risen.

10. For example, Raddatz and others (2017) find that 70 percent of country allocations of investment mutual funds are influenced by benchmark indices. See also Arslanalp and others 2020.

> > >

FIGURE 2.1 - Issuance of green bonds has been on the rise, but low for emerging market sovereigns



Sources: Bloomberg, Goldman Sachs.

Note: DM = developed market; EM = emerging market.

> > >

FIGURE 2.2 - EMDE sustainable finance lags developed markets across the various ESG product types

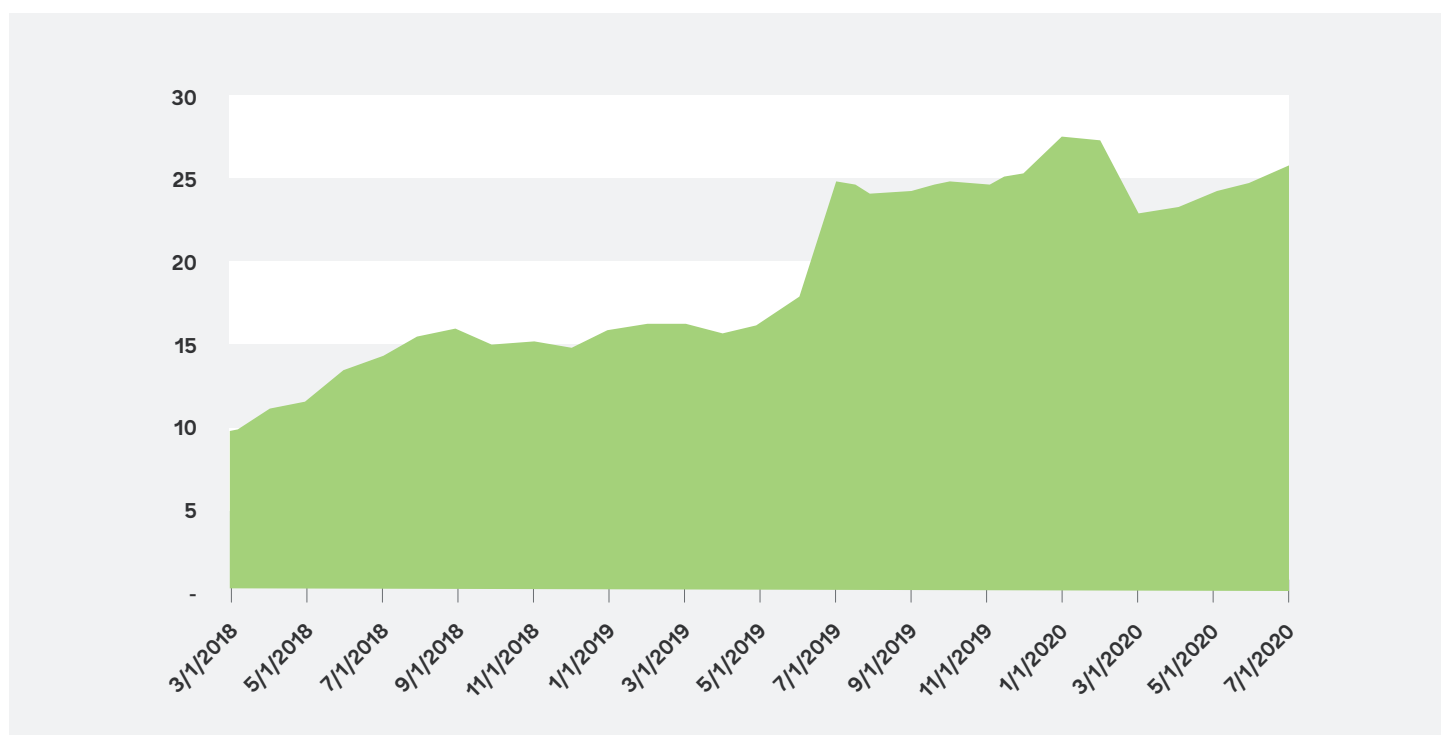


Source: Bloomberg.

Note: ABS = asset-backed security; EMDE = emerging market and developing economies; ESG = environmental, social, and governance.

> > >

FIGURE 2.3 - Emerging-market ESG fixed-income assets under management, US\$, billions

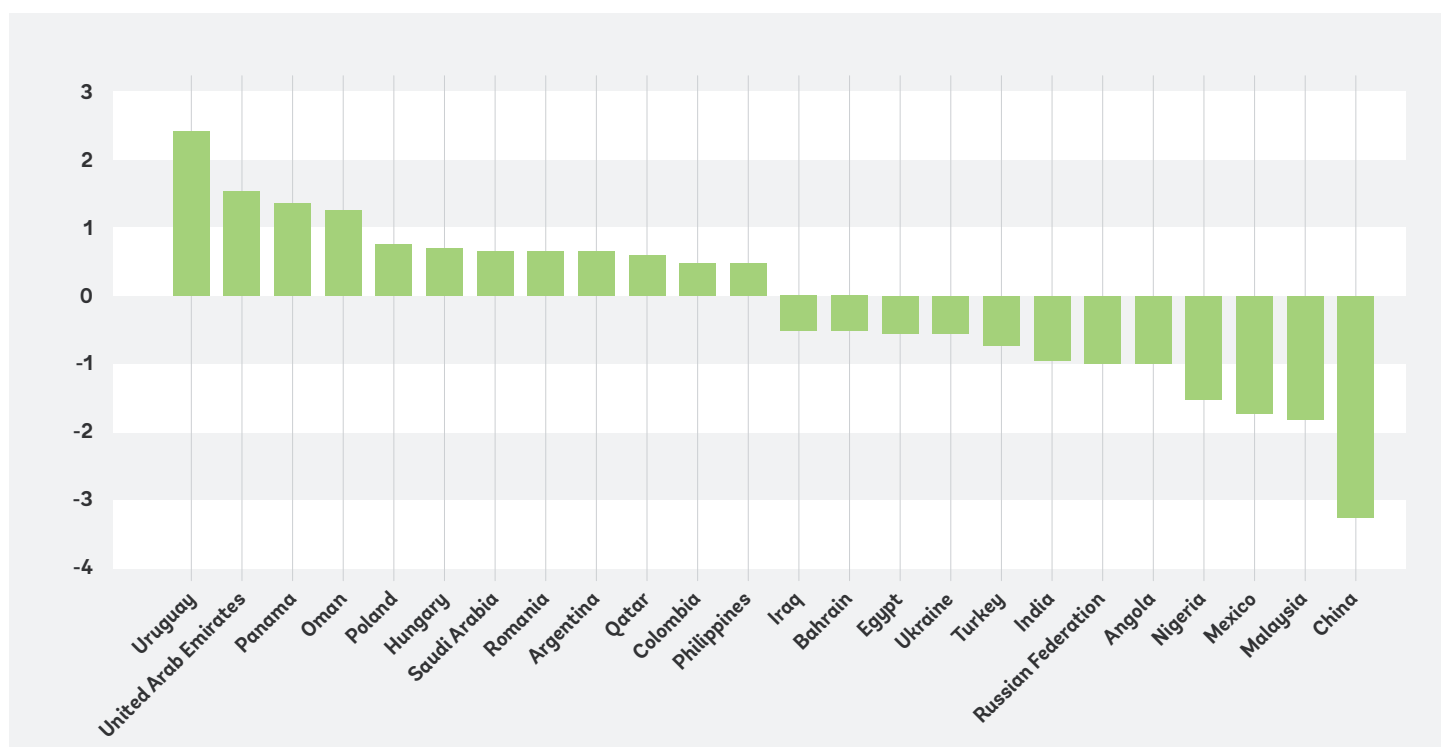


Sources: Bloomberg; World Bank staff calculations.

Note: Data are based on 41 emerging market-focused ESG fixed-income funds.

> > >

FIGURE 2.4 - JPMorgan EMBIG index: Different ESG-adjusted weightings versus standard weightings



Source: J.P. Morgan (weighting difference greater or less than 0.5 percent included).

Note: EMBIG = Emerging Market Bond Index Global; ESG = environmental, social, and governance.

Credit Rating Agencies and ESG Data Sources

Credit rating agencies (CRAs) have become increasingly vocal on ESG-related issues. In contrast to ESG data providers, CRAs are regulated entities whose main role is to assess creditworthiness and ability to repay. Currently, ESG criteria are typically not integrated in a structured data-driven way in credit rating methodologies (for example, as ESG metrics or scorecards with transparent risk thresholds, or some similar form) (Gratcheva, Skarnulis, and Stewart, forthcoming). The exception concerns issues related to governance, which have historically had a strong direct impact on sovereign credit ratings. In terms of non-governance factors, environmental and social elements are either more reliant on qualitative assessments by CRAs, which leads to higher uncertainty on a factual incorporation of such risk factors, or are assumed to strongly underpin—and are hard to disentangle from—other traditional indicators present in rating methodologies. Moreover, CRAs claim that ESG factors, if assessed to be material, have always been integrated into sovereign credit ratings.

The high level of complexity and uncertainty regarding the magnitude and timing of the credit risk impacts of ESG factors, especially related to the environmental dimensions, is the primary challenge. Other reasons include a less developed understanding of the constituents of ESG sovereign credit risk factors and a lack of standard ESG integration frameworks. Risk factors have a tangible effect on final credit ratings only if they are visible, clear, and material in terms of their timing and impact—which, especially in the case of environmental, social, or climate change issues, may simply be too late. Among the key drivers of increasing CRAs' attention to ESG issues are growing market demand related to ESG integration and higher transparency and growing regulatory attention (for example, European Securities and Markets Authority 2019 guidelines for CRAs that, among other things, refer to ESG disclosure). CRAs are increasing their stakes in the ESG sector by acquiring specialized ESG providers, establishing in-house ESG teams, and providing ESG-related research, which eventually may lead to a more

formalized and quantitative integration of ESG factors into credit ratings. In addition, Moody's, Standard and Poor's (S&P), and Fitch have all signed the United Nations–supported Principles for Responsible Investment.

The moves toward sustainable investing have also been aided by the proliferation of ESG data and service providers¹¹ (see appendix C for overview). Sovereign credit ratings and sovereign ESG scores are conceptually different, and their role and purpose should not be conflated. However, because measuring a sovereign's ESG performance is outside the core purpose of credit ratings, ESG scores can provide investors with useful information that is complementary to conventional credit ratings.

Similar to traditional sovereign credit ratings, each ESG data provider develops an analytical framework with which to assess countries' ESG performance (and/or ESG risks) that relies on different techniques depending on the provider. World Bank analysis data used by ESG providers indicate that much of those data are from public sources such as the World Bank ESG data portal, UN agencies, and nongovernmental organizations, comprising 30–90 percent of all data used for sovereign ESG scores depending on a provider. Data used for sovereign ESG that has most comprehensive country coverage, reliable and comparable across countries is lagged: average lag for S and G is about two years, while for E it is about five years, presenting fundamental challenges to the sovereign ESG methodologies (Gratcheva and Emery, forthcoming). These ratings are used by many sovereign fixed income asset managers as well as ESG index providers as an independent source of information for country analysis and as a way to document and quantify ESG performance. Also, as noted earlier, in contrast to CRAs, the industry of ESG providers is currently unregulated, which has been actively discussed in the industry and is likely to evolve, as has been the case with CRAs' evolution since their inception.

11. In October 2019, in response to growing demand for sovereign-level ESG data from the investment community, the World Bank launched its Sovereign ESG portal <https://datatopics.worldbank.org/esg/>, aggregating many of the underlying data sources used by asset managers.

ESG Investor Motivation

Investors' ESG considerations have been driven by both financial and nonfinancial motives. According to a 2019 survey by State Street Global Advisors, financial reasons have surpassed ethical considerations for ESG from the sovereign asset owners' perspective (Hentov and Petrov 2019). Another survey by CFA Society New York¹² also shows that risk/return opportunities are driving growing ESG adoption by asset owners, with around one-quarter of all respondents mentioning "opportunities to generate alpha" and more than one-third referring to "evidence of the materiality of ESG issues." Many of these considerations have been less apparent in the EMDE context—and they may explain the slower adoption of ESG in EMDE sovereign fixed income.

Beyond focusing on labeled instruments such as green bonds, many investment managers are integrating ESG factors into their sovereign bond investment decisions, although there remains a wide disparity in methodologies.¹³ Although asset managers deploy a variety of approaches to ESG integration, several common themes across asset managers are relevant for the EMDE DMO:

- **Many investors are using ESG criteria as part of their usual investment approach to EMDEs.** Here, governance and concerns around credit quality are the key drivers of allocations.
- **There are growing regulatory pressures and demands from clients to ensure greater transparency and accountability across the investment value chain.**

- **A country's overall strategic ESG framework matters for asset managers, leading to DMs and EMDEs being treated quite differently.** As noted previously, this leads to potential reallocation of capital from poorer countries, where this capital is needed most (Gratcheva and Emery, forthcoming). However, increasingly, investors are integrating ESG criteria into investment decisions by considering not only the levels of ESG performance, but also the progress that the country is making on various ESG dimensions.
- **There is growing expectation across leading investors that debt markets will increasingly price in ESG risks and the influence of ESG analysis will rise further for EM credit** as regulatory pressures and broader risk management lead issuers to pay greater attention to sustainability over time.
- **Up to now, E has played an insignificant role in EM allocations, and these considerations have largely not been priced,** both because of data constraints and the fact that such risks are normally manifested past the credit and investment horizon. However, there has been growing focus on E-related factors in EMDEs because of their disproportionate exposure to climate change risks affecting their physical and natural capital that constitute a much larger component of EMDE national wealth.
- **Most asset managers do not rely solely on a country's self-reported statistical data** and instead engage with multiple stakeholders to better understand the overall context and forward-looking policies.

12. A survey of 89 asset owners attending ESG Summit in 2019, as a part of Climate Week NYC, CFA Society New York, <https://www.cfany.org/2nd-esg-summit-press-release/>.

13. Since 2017, leading asset managers have released white papers explaining their approach to ESG integration into their sovereign bond portfolios. Appendix B provides a list of publicly available sovereign bonds. ESG integration policy paper by asset managers.

Regulation, Standards, and Global Policy Coordination

The increasing focus on sustainable finance has been facilitated by a proliferation of ESG finance associations, standards, and codes (figure 2.5), reflective of the growing acceptance of and demand for incorporating sustainability factors by financial sector actors. Despite this proliferation, however, the lack of standardization of ESG frameworks in terms of sovereign ESG measures and their impact and the lack of a common sustainable finance taxonomy make it difficult for investors to meaningfully evaluate and compare sovereign ESG practices and risks. Many investors identify a lack of acceptable policy frameworks as a major challenge in ESG integration, and this backdrop makes the global sustainable finance canvas unclear at times. A true single set of global rules or standards is unlikely to emerge in the near term.

The framework and taxonomy that are applicable in DMs may not be a realistic option in many EMDEs, and it is still unclear how investors should take these considerations into account. The World Bank has developed a guide for countries that are developing a national green taxonomy,¹⁴ while the International Capital Market Association (ICMA) has worked with multilateral development banks, such as the World Bank Group, as well as banks, investors and issuers to develop various principles such as Green Bond Principles (GBP),¹⁵ ICMA's SBG guidelines,¹⁶ and ICMA's SBP principles.¹⁷ Furthermore, the EU Green Bond Standard¹⁸ is a useful template for green bond issuance. The Climate Bonds Initiative (CBI) has also developed a taxonomy,¹⁹ which outlines criteria for certification of bonds under its Climate Bonds Standards scheme.

Public authorities of different jurisdictions have started to coordinate efforts on regulatory policy tools for capital markets from the sustainable finance perspective. One of the most notable initiatives is the Network for Greening the Financial System (NGFS), launched in December 2017. The creation of the network arose from a shared belief that climate and environmental risks pose serious risks to the financial system and as such must be addressed directly as part of fulfilling the financial stability mandates of network members. Its membership is composed of central banks and supervisors whose goal is to address the greening of the financial system as well as the environmental financial risks in the financial system. More than 70 central banks, supervisors, and other authorities have joined the network since its inception. Among the newest members are EMDEs such as Brazil, Costa Rica, Indonesia, the Republic of Korea, Malaysia, the Russian Federation, and South Africa. Networks such as this one, among others,²⁰ are an important step forward in addressing the lack of ESG standards (such as methodologies, reporting, and other standards), which has been seen as an impediment to mainstreaming sustainability integration in financial decisions.

Progress is being made in the development of best practices and standards that could help create a robust internationally recognized sovereign ESG frameworks. For example, in 2019, the UN PRI Sovereign Working Group released *A Practical Guide to ESG Integration in Sovereign Debt* (UNPRI 2019), which could be characterized as industry best practices for sovereign debt ESG integration. These developments are expected to increasingly change the investor landscape and investment management industry dynamics over the medium term. For the effect of COVID-19, see box 2.1.

14. For the news release announcing the guide, see <https://www.worldbank.org/en/news/press-release/2020/07/12/how-to-develop-a-national-green-taxonomy-for-emerging-markets-a-new-world-bank-guide>.

15. The Green Bond Principles (GBP), updated as of June 2018, are voluntary process guidelines that recommend transparency and disclosure and that promote integrity in the development of the green bond market by clarifying the approach for issuance of a green bond.

16. See <https://www.icmagroup.org/green-social-and-sustainability-bonds/sustainability-bond-guidelines-sbg/>.

17. See <https://www.icmagroup.org/green-social-and-sustainability-bonds/social-bond-principles-sbp/>.

18. See https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/eu-green-bond-standard_en.

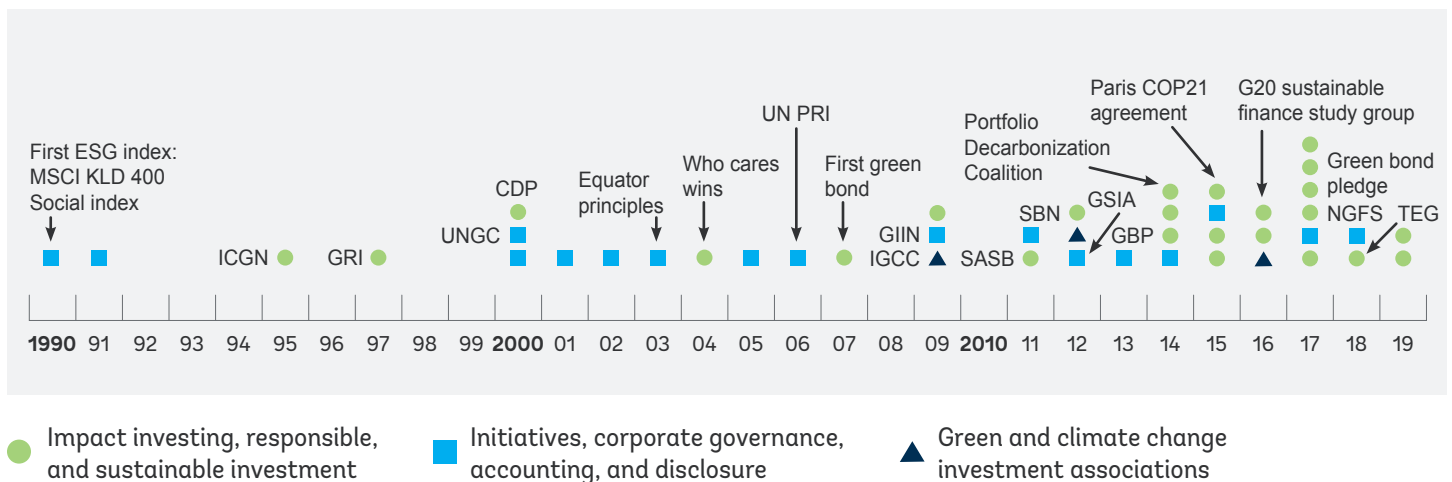
19. See <https://www.climatebonds.net/standard/taxonomy>.

20. Other notable initiatives are the Asset Owners Disclosure Project of Share Action, Climate Bonds Initiative, Carbon Disclosure Project, Carbon Disclosure Standards Board, Ceres/Investor Network on Climate Risk, Coalition of Finance Managers for Climate Action, Focusing Capital on the Long Term, Climate Action 100+, Aiming for A, Institutional Investors Group for Climate Change, Portfolio Decarbonization Coalition, Sustainability Accounting Standards Board, Task Force on Climate-related Financial Disclosures, Transition Pathway Initiative, and United Nations Environment Programme Finance Initiative.



> > >

FIGURE 2.5 - Evolution of selected ESG finance associations, standards, and codes



Source: IMF 2019, based on MSCI; Sustainability Accounting Standards Board; Refinitiv Datastream; WhoCaresWins; World Bank; and International Monetary Fund staff.

Note: CDP = Carbon Disclosure Project; COP21 = 21st Conference of the Parties; ESG = environmental, social, and governance; GIIN = Global Impact Investing Network; GBP = Green Bond Principles; GRI = Global Reporting Initiative; GSIA = Global Sustainable Investment Alliance; ICGN = International Corporate Governance Network; IGCC = Investor Group on Climate Change; NGFS = Network for Greening the Financial System; SASB = Sustainability Accounting Standards Board; SBN = Sustainable Banking Network; TEG = EU Technical Experts Group on Sustainable Finance; UNGC = UN Global Compact; UN PRI = UN Principles for Responsible Investment.

> > >

BOX 2.1. How has COVID-19 Affected Sustainable Finance? A Sovereign Debt Perspective

COVID-19 is likely to have a significant effect on sovereign debt risk profiles, and debt management is a key policy tool to mitigate associated risks. The pandemic is likely to affect DM and EMDE economies in different ways, with EMDE economies generally more constrained in their menu of debt management options, given the composition of existing debt burdens, investor bases, and macroeconomic fundamentals. The effect of the pandemic on the sustainable finance agenda is mixed; the initial experience in DMs points to a continued ESG focus among investors, although the ultimate impact on the sustainable finance agenda in EMDE countries is less apparent. While the COVID-19 challenge is a social issue and the funding of relief agendas could tap into the new sustainable investor demand, in those EMDE countries with various macroeconomic challenges arising from the pandemic, the implementation and development of a country-level sustainable finance agenda may become less urgent.

Since the onset of COVID-19, there has been greater focus on the “S” strand of ESG, with some EMDE sovereigns issuing social bonds. Ecuador issued the first sovereign social bond in January 2020 before the full extent of the COVID-19 pandemic became apparent, and Guatemala also issued a social bond in late March, with both issuances seeing strong demand. These issuances were tied to the International Capital Markets Association’s (ICMA) Social Bond Principles. Many issuers also issued thematic bonds during the course of April 2020 (essentially conventional bonds for which the issuer highlights to investors that the proceeds of the bond sale will be used to fund the sovereign’s response to the COVID-19 pandemic, without a strict legal commitment). This decision not to issue labeled bonds is likely due to (a) constraints on the use of proceeds, (b) administrative costs associated with tracking the use of proceeds, and (c) the scale of the crisis and need for a timely response. Notable issuances included conventional bond issuances from Fiji, Paraguay, and five countries from the West African Economic and Monetary Union (Benin, Burkina Faso, Côte d’Ivoire, Mali, and Senegal). In all cases, the issuer highlighted that the proceeds of the bonds would be used to tackle the social impact of the pandemic.

Although the issuance of these thematic bonds is attractive from the sovereign viewpoint, given the lack of constraints on the use of proceeds, ESG investors have expressed their concern to accept the sovereign’s removal of the direct link with respect to the use of proceeds on a more consistent basis. Market participants have highlighted concerns about “social washing” and governments issuing misleading statements or overstating the impact. As the market develops, it is likely that investors will begin to look at new ways to measure this impact—the issuance of both labeled and thematic bonds could benefit from such metrics. In EMDEs, the labeled bond framework and oversight on use of proceeds are also attractive for investors.

COVID-19 and Market Dynamics

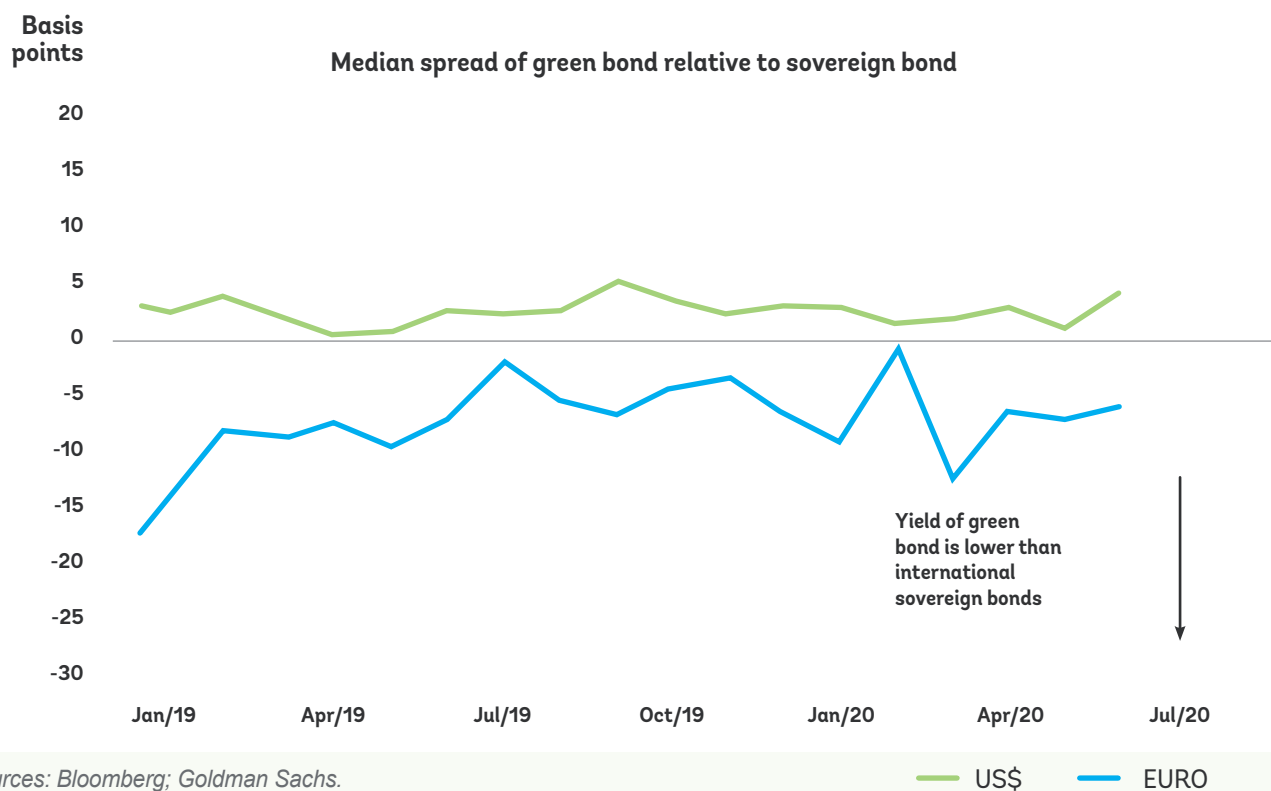
During the recent COVID-19 volatility episode, some investors emphasized the fact that green bonds outperformed other investments. To assess this for the EM sovereigns, we look at the sovereign green bonds issued by EMs in recent years (in both euros and US\$) and compare them with their non-green counterparts (that is, matching bonds with similar maturities), noting that this analysis’s sample size and period is small. The results are shown in figure B.2.1.1, where we find that for the relatively small universe of green bonds so far in the EM sovereign universe, US\$ green bonds have tended to trade at a premium compared with their nongreen counterparts, whereas the euro green bonds have traded roughly in line with their benchmark. Moreover, we do not find any evidence that these bonds traded at a greater premium in the sell-off in March.

However, some evidence suggests that the bid-ask spread increased slightly more for green bonds than for sovereign EM US\$ and euro bonds of similar maturities. (Goldman Sachs research 2020) (See figure B2.1.2.) This difference may indicate that dealers were less willing to sell the green bonds, as these bonds are typically held by buy-and-hold investors and hence dealers show less attractive pricing during periods of market volatility. It may also reflect the smaller outstanding amounts of green bonds compared with comparable benchmark bonds. In addition, it indicates that the cost to trade the green bond from a market participant’s viewpoint was higher because of fewer investors trading the relevant green bonds and lack of dealer inventory.

> > >

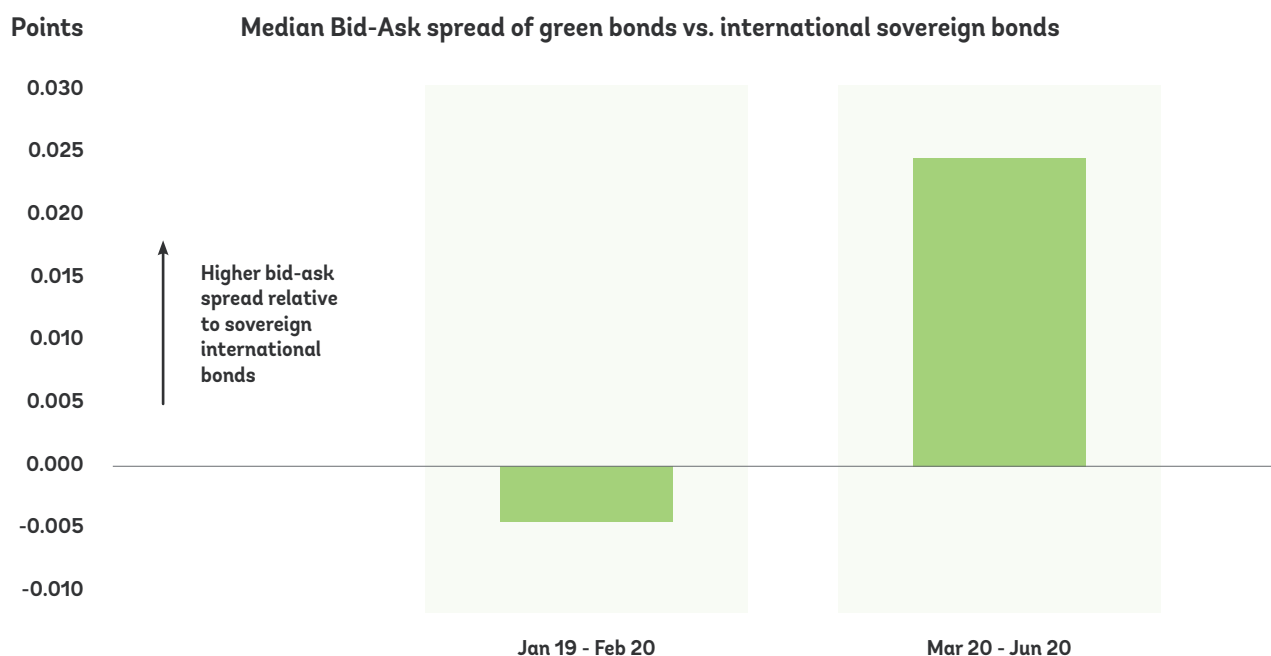
> > >

FIGURE B 2.1.1. - No evidence of emerging market sovereign green bonds outperforming in sell-off



> > >

FIGURE B 2.1.1. - Median bid-offer spread increased for green bonds



Considerations for the EM Debt Manager

As the financial sector ecosphere changes, the DMO needs to understand how these changes affect the core PDM mandate and possible areas in which ESG synergies may arise. DMO actions can have an important signaling effect to the wider financial sector. While there is no direct onus on DMOs to consider such positive externalities, the effect of such externalities on broader market trends and development should not be underestimated. Box 2.2 considers some of the ways that DMO actions can also serve as an important signal to the wider financial sector.

> > >

BOX 2.2. Integrating ESG into DMO Activities: A Signal for the Financial Sector

As a public institution, the debt management office (DMO) can play an important role in supporting a country's transition to a sustainable economy. Failure by the DMO to act appropriately in performing its functions could lead to financial losses and damage to its reputation. As a result, the DMO should be conscious of the impact of its actions, and of the positive impact that its actions can have on the country's move toward a sustainable economy. Accordingly, all the DMO's environmental, social, and governance (ESG) activities should be aligned with a broader national-level ESG strategy or framework, if a country has one. The DMO should take every opportunity to highlight its commitment to a more sustainable future—including in day-to-day business activity—and this “ESG mindset” can be identified in annual reports and other public documents.

DMO ESG activities, such as the issuance of labeled debt, can send a strong signal to the market that a country is serious about implementing needed actions to transition to a more sustainable economy. It is, however, important that such an issuance is part of a larger public framework on ESG implementation and not a smoke screen to try to hide the lack of effective action by the sovereign. It is also worth mentioning that in many economies, such as Colombia and Mexico, the proliferation of corporate labeled issuances has preceded the issuance of sovereign labeled debt, so the signaling impact of certain ESG activities has been limited to date.

The DMO could also consider incorporating ESG considerations into its risk management credit framework. Doing so would have an impact on the DMO's internal credit limits for dealings with other financial intermediates (for example, for management of cash balances or derivative transactions). This, while largely symbolic, could act as a powerful signal to the wider financial sector and also highlights the ESG credentials of the DMO.

Another area that a DMO could consider integrating ESG criteria into the selection/ranking is in the process for its primary dealers and the selection process for syndications. Although ESG criteria should not be the main focus here, even a small weighting in the selection criteria can send a strong signal for market participants and investors. For instance, the International Financial Corporation (IFC), a member of the World Bank Group, has developed a new method of selecting its lead underwriters for its syndications through an ESG-sensitive lens (Global Capital 2020). The roughly 40 banks that underwrite IFC's US\$14 billion annual funding program will receive an annual questionnaire asking them to reflect on their corporate governance, thematic investing, and ESG reporting practices. Prospective bookrunners will have 10 days to respond. With the information in hand, IFC hopes to prepare an ESG “dealer scorecard” and rank the banks accordingly. Some corporations have also dabbled in similar efforts to combine sustainability principles with their Treasury practices. Unilever, for instance, has asked relationship banks to give presentations on their sustainability practices. The organization is considering selecting bookrunners using sustainability as one of its selection criteria.

DMOs could also consider rewarding investors who show the best “Green and sustainable credentials.” When the Dutch State Treasury Agency (DSTA) issued the first Dutch green bond, the DSTA requested that all ESG investors submit investor representation letters indicating their preference for allocation on a green principle basis in accordance with the DSTA green bond rules. The form of investor representation letter required investors to make representations as to their sustainability initiatives. This approach could also be extended to syndications of conventional bonds, whereby DMOs could weigh allocations to known investors with green credentials.

3





PDM ESG Activities and Related Readiness Factors

This section introduces three PDM ESG-related activities and outlines certain ESG readiness factors that should ideally be in place before a DMO considers focusing efforts on those areas. Although every DMO can rightly aspire to engage on ESG issues, we argue that it would first be important to understand that the existence of ESG readiness factors may contribute to the success of various approaches. Sovereigns in which these factors have not been addressed may choose to pursue specific ESG activities for other reasons, such as signaling the government's commitment to sustainability policies, improving collaboration across ministries, or developing new processes for increased transparency. However, the DMO should assess the cost and benefits of such decisions. Most importantly from the PDM viewpoint, the ESG activities pursued should ideally be complementary to the overall PDM mandate. The various ESG activities can also affect market development in a variety of ways, and those factors are also considered.

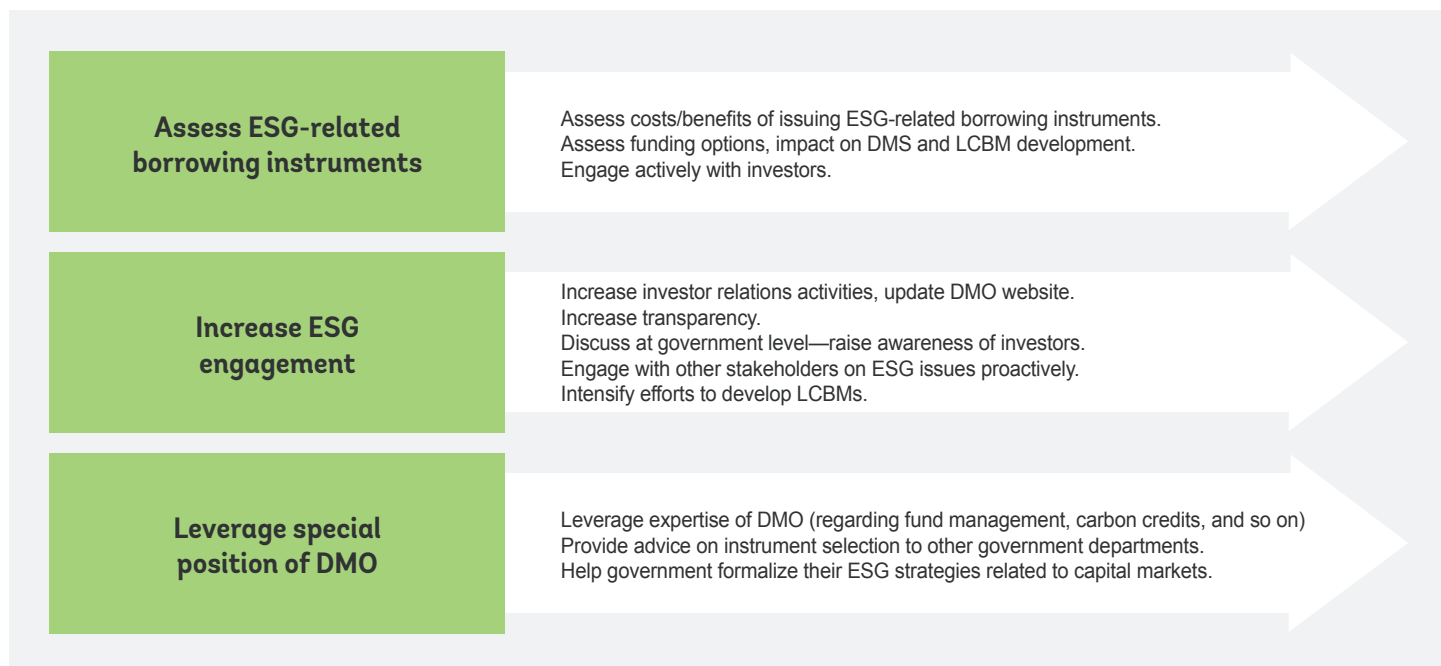
PDM ESG-Related Activities

DMOs can engage on ESG activities in three primary ways: (a) by using ESG-related borrowing instruments, (b) by increasing focus on ESG engagement, and (c) by leveraging the special position of the DMO within the country's financial sector (figure 3.1). These activities are not exclusive, and they overlap in many areas; as a result, different synergies may arise. For example, a DMO that decides to issue a labeled instrument will also likely increase engagement on all relevant ESG issues. Moreover, DMOs that choose to engage on ESG issues will increase efforts in the area of investor relations and in the provision of information on ESG issues to investors. Indeed, over time these activities may induce demand for a labeled bond issuance. ESG activities in public debt management require a coordinated approach across relevant areas of government. DMOs would be wise to note any institutional weaknesses before they engage in such activities. Indeed, these activities will likely require new relationship building across relevant government departments.



> > >

FIGURE 3.1. - Key PDM ESG activities and specific focus points



Source: World Bank illustration.

Note: DMO = debt management office; DMS = debt management strategy; ESG = environmental, social, and governance; LCBM = local currency bond market; PDM = public debt management.

PDM ESG Activities: “Readiness Factors”

The DMO decision on whether to engage in certain ESG activities and to what extent will depend on several factors associated with each respective sovereign debt market. The concept of a sovereign debt market’s stage of development encompasses some of these factors, but not all. A sovereign debt market’s stage of development is traditionally conceptualized as ranging from a nascent stage, with limited functionality, to developing, emerging, and advanced stages, with each stage depending on several factors.²¹

Certain factors can be associated with the area of ESG market “readiness,” and they can be grouped into five areas: (a) ESG-enabling environment and stage of market development, (b) ESG market definitions and standards, (c) project pipeline, (d) investor base, and (e) cost and pricing. Ideally, these factors would be considered before a sovereign issuer decided to integrate specific ESG activities into a DMO work program.

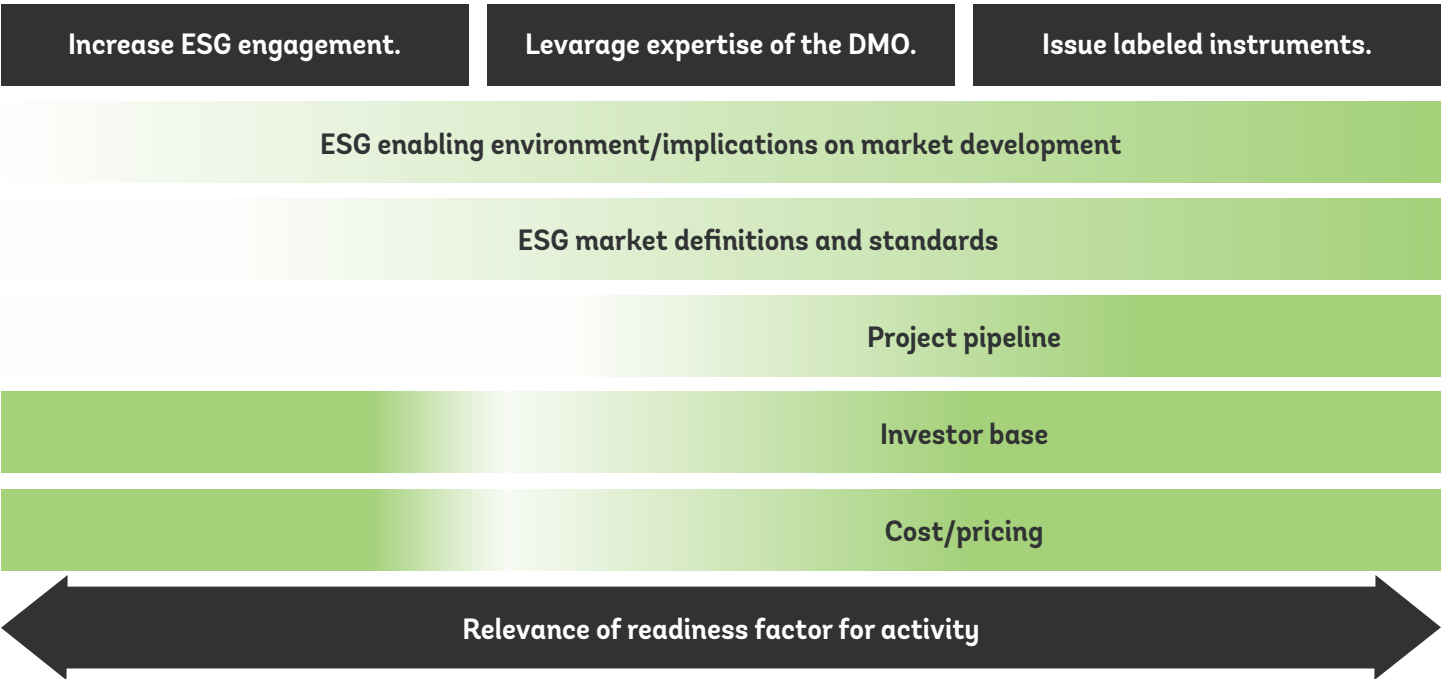
Figure 3.2 illustrates the ESG market readiness factors and the relevant importance of these factors for each of the three ESG activities identified. For example, ESG market definitions and standards are of fundamental importance for the issuance of labeled instruments, whereas this readiness

factor is much less important for an ESG engagement strategy. Conversely, the investor base is highly important for both an ESG engagement strategy and the issuance of labeled instruments. The investor base is also important for a strategy of leveraging the expertise of the DMO, but less so. In cases where these factors have not been considered or general sovereign debt market development is in its infancy, it may be more prudent for policy makers to focus on local currency bond market (LCBM) and capital market development more generally, as this facilitates the provision of long-term finance to the sustainable economy in the medium to long run.

DMOs that are cognizant of the weaknesses in the ESG market readiness factors can concentrate market development efforts on resolving identified shortcomings and bottlenecks. These could include lack of institutional readiness across key government departments or lack of investor base. Because many of these issues are outside the mandate of the DMO, this work will require cross-government support and is normally led by a market development committee (as, for example, in Fiji and Nigeria).

> > >

FIGURE 3.2. - ESG market readiness factors and their relative importance for different ESG activities



Source: World Bank staff illustration.

Note: DMO = debt management organization; ESG = environmental, social, and governance. Darker color indicates increased importance.

21. The IMF and World Bank categorize the stage of market development of a sovereign debt market on the basis of performance of that market along six key factors, or “building blocks.” The building blocks represent the most salient features of market development that debt managers use to measure the performance and functioning of the market. The building blocks are (a) Money Market, (b) Primary Market, (c) Secondary Market, (d) Investor Base, (e) Financial Market Infrastructure, and (f) the legal and regulatory framework underpinning the market. World Bank and IMF, forthcoming.

ESG Market Readiness Factors

Enabling Environment

The enabling environment is fundamental to the decision on whether and how the DMO should integrate ESG activities in its operations. Many enabling conditions are also of fundamental importance for development of the general bond market, such as general macroeconomic conditions, financing needs of the government, debt management capacity, and financial sector soundness. Some enabling conditions may, however, be specifically important for developing various PDM ESG activities.

Political commitment is extremely important for PDM ESG activities. The issuance of labeled instruments, as well as the decision to increase engagement on ESG issues, requires unrestrictive and supportive political positions, policies, good governance, regulation, and tax regimes. As many investors are demanding increased engagement, lack of transparency or information may affect the risk perception about the sovereign. Consistent policy positions and support for green growth and environmental objectives also give investors confidence. These may include the following: (a) environmental standards and enforcement, (b) environmental licenses and permits, (c) environmental taxes (such as carbon, landfill, emissions, and resource-use taxes), (d) annual reporting by companies and public sector entities on key environmental indicators, and (e) inclusion of environmental risk in fiduciary duty. International investors will generally shy away from investing in countries where there is a precedent of policy and political failings. These aspects are also importance from a governance viewpoint, which is a focus for EM investors.

New ESG responsibilities should not undermine the capacity of the DMO to fulfill its main mandate. This caution is especially important for countries where (a) the DMO has limited staff and resources available or (b) debt management functions are spread over several different departments or institutions with weak coordination processes. Trade-offs are idiosyncratic to country history and circumstance and need to be examined on a case-by-case basis.

- In the first case, the priority should be to ensure that key functions—such as of front, middle, and back office—are properly staffed and that the principle of segregation of duties is respected. On the one hand, ESG responsibilities would be additional to the PDM main mandate and should be assessed as such. On the other hand, introducing “visible” ESG responsibilities as a direct response to a changing financial system and investor ecosphere (as discussed in section 1) may provide the public debt manager with an opportunity to reach out to government authorities and make the case for the needed increase in staffing and resources.
- In the second case, improving coordination among entities tasked with PDM responsibilities is the priority. Introducing new ESG responsibilities may be an opportunity to set up coordination mechanisms (such as a memorandum of understanding or a formal committee) as ministerial decision makers are involved in the process. Or it could generate additional conflicts about deciding which entity should be in charge of the new ESG tasks.

The World Bank’s Debt Management Performance Assessment (DeMPA) offers valuable information to evaluate whether government debt managers in International Development Association (IDA) countries²² have the capacity and resources to take on additional responsibilities.²³ From 2007 to 2018, the World Bank assessed 80 sovereigns—mostly low-income or lower-income countries—with a total of 130 DeMPAs, besides 19 subnational assessments. On aggregate, more than 70 percent of the countries do not comply with minimum requirements (debt management performance indicators; DPis) related to segregation of duties, staff capacity, and business continuity plans (DPI 13). In addition, around 57 percent of countries also do not meet minimum requirements related to the existence and quality of a debt management strategy (DPI 3). Finally, 40 percent of countries do not comply with minimum requirements regarding the managerial structure (DPI 2), which aims to ensure that the managerial structure for debt transactions is effective and that it includes a clear division

22. The World Bank country assessment under the DeMPA methodology is mainly financed by the Debt Management Facility, a multilateral trust fund that focuses on IDA countries. Non-IDA countries have used the methodology for a self-assessment of their practices. Such work may benefit from World Bank support, but it is not conducted under the due diligence and responsibility of the Bank. For more information, see Debt & Fiscal Risks Toolkit, <https://www.worldbank.org/en/programs/debt-toolkit/dempa>.

23. The DeMPA is a methodology for assessing public debt management performance through a comprehensive set of performance indicators spanning the full range of government debt management functions. It benchmarks countries’ current practices against international sound practice and assigns a score to each dimension. Scores range from D (absence of minimum requirements) to A (best practices). A score of C represents a situation in which the minimum requirements for effective public debt management are met.



between the political and the execution levels.²⁴ These facts should be taken into account in any decision to add ESG responsibilities to a DMO in EMDEs.

The presence of an established, supportive financial sector that has knowledge of and experience with fixed income instruments is also important. The local stock exchange, regulator, and a country's financial markets/Treasury association(s) can help create an enabling environment for the sustainable finance agenda. It is important that these bodies facilitate investor decisions and raise awareness of ESG investment opportunities by providing guidance, training, and support tools. Interaction with international banks and commitment from local banks are important. Banks are fundamental to the issuance process because they help structure the labeled bond issuance, advise on the issuance process, advise on the transparency and project choice, and organize road shows, as well as gauge investor demand. In most EMDEs, international banks will likely be the first to plant the seed regarding potential labeled bond instruments. This action may be driven by investor interest and indeed could be a sign that the market is starting to look attractive to ESG investors. While the specificities of each proposal should be studied, the PDM function should carefully assess the advantages and disadvantages of each bank proposal. In addition, the processes followed during a sovereign labeled bond issuance may set an important template for future issuances from the private sector.

The stage of market development is an important consideration for DMOs considering ESG activities. Countries in which sovereign bond markets are at a more nascent stage of development will generally not meet all the ESG market readiness factors. This does not necessarily

preclude the conduct of ESG activities. However, in countries where the LCBM is at a nascent stage of development, formal DMO ESG activities will likely play a negligible role in market development, given limited financial and human resources. In these countries, focusing on developing the preconditions of market development such as institutional setting and governance would nevertheless often incorporate ESG aspects, mainly via the "G" strand (and "S" to a lesser extent), indirectly contributing to a more sustainable future. Indeed, a recent WBG paper (Brown and Sienaert 2019) found that governance factors have a major impact on a country's cost of funding.²⁵ Countries at a more advanced stage of market development could more flexibly experiment along a suite of ESG activities explored in this note, if the other preconditions are in place.

PDM ESG activities will have an impact on bond market development. While ESG instruments can play a role in a country's market development strategy, the benefits and costs of each ESG approach should be carefully weighed, as should the impact on the DMO's ability to fulfill its core mandate. For example, increasing investor engagement on ESG issues or issuing a labeled bond could contribute to the diversification of the investor base. A developing market with a deficient domestic secondary market but an active investor relationship management office or function may see opportunities to explore a targeted issuance strategy in another currency. Moreover, ESG trends that were discussed in section 1 provide a good opportunity for DMOs to become more transparent and improve investor relations. In addition, the signaling effect of DMO activity in this area can be important (box 2.2). Box 3.1 illustrates some of the opportunities and challenges of developing green finance in more nascent markets, taking the Sub-Saharan Africa region as an example.

24. These numbers refer to the aggregate of 130 assessments in 80 countries. While comparison of assessments within the same country show progress over time, the aggregate results are powerful in pointing out the main weaknesses.

25. The paper examines how making improvements in the quality of governance can help lower governments' financing costs. The paper found that countries that improved their World Bank's Country Policy and Institutional Assessment (CPIA) score by 1 point are associated with interest costs that are lower by about 170 basis points. Estimated cost savings are the largest for countries with weaker initial ratings and commensurately high external debt issuance costs, consistent with the notion that governance concerns contribute significantly to the large risk premia faced by weaker borrowers.

> > >

BOX 3.1. The Potential for Sustainable Finance in Sub-Saharan Africa

In Sub-Saharan Africa, most sovereign issuers have not issued labeled instruments or engaged with investors on environmental, social, and governance (ESG) issues. Notwithstanding this situation, there have been issuances by corporates in a number of countries in Sub-Saharan Africa (figure B3.1.1) as well as by municipalities in Nigeria and South Africa. The continent's financial requirements to adapt to climate change are projected to be between US\$20 billion and US\$30 billion annually until 2030, and a heavy investment in infrastructure and a managed transition to a low-carbon economy are needed. These steps can only be achieved through diversification of finance mechanisms and sources of funding. Many governments and domestic institutions in Sub-Saharan Africa are now beginning to recognize the importance and benefits of sustainable finance.

Issuers and investors obtain many benefits in promoting sustainable finance; thus many countries in Sub-Saharan African place a strong emphasis on making the necessary reforms to establish this market. However, there is still much to be done in Africa to increase market education so that the wider financial community understands the potential opportunity. Some of the challenges include (a) a lack of enabling environment, (b) the fact that many capital markets in Sub-Saharan Africa are at an early stage of development, (c) a lack of clear definitions and standards, (d) a limited project pipeline, (e) a lack of investor demand, and (f) the cost and pricing of issuance.

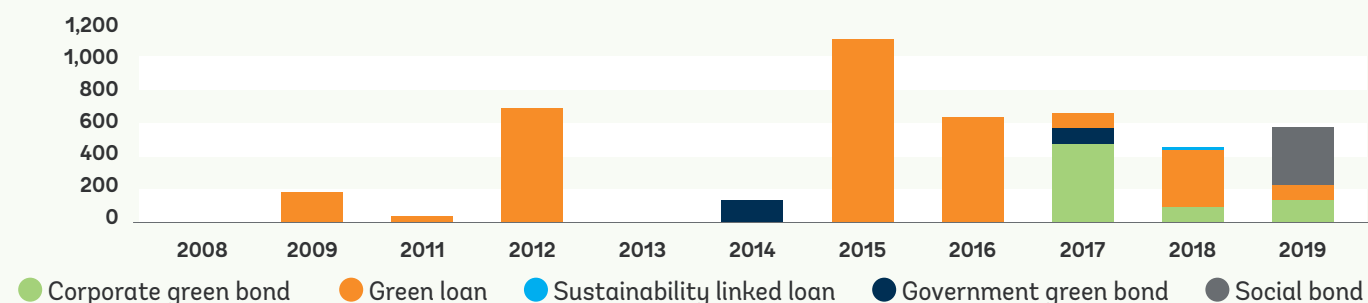
For investors, a clear distinction must be made between domestic and international markets. Most local bond markets across the region are dominated by local banks and one or two large institutional investors, with ESG considerations not a feature of investment mandates. For international investors, countries in Sub-Saharan Africa remain frontier markets and only of interest to a niche investor base. Recent market movements following the onset of COVID-19 and current market pricing on bonds issued in the international capital market indicate the perceived high risk associated with these markets.

Despite this, some countries in Sub-Saharan Africa have issued green bonds in the local markets. However, these issuances have been small and not eligible for index inclusion in the various local currency sovereign bond indexes, which has resulted in little foreign investor interest. Countries such as Kenya and South Africa have made a concerted effort to establish standards, harmonize the public and private sector efforts, and build capacity within the green economy. Although Nigeria and the Seychelles are the only governments to have issued labeled bonds, there have been corporate issuances in Kenya, Mauritius, Namibia, and South Africa. Corporates in South Africa have also made use of instruments such as green loans, while the region of Lagos in Nigeria signed a sustainability-linked loan in 2018. Although these developments are positive, the challenge for the region to tap into new private sector funding sources remains high.

Debt management offices (DMOs) across Sub-Saharan Africa are often institutionally weak and do not have the capacity to support the issuance of a labeled bond. In many cases, outside technical assistance has offered much-needed support. In addition, local banks lack the experience to work on these transactions, which can be a real problem in countries without larger international banks present. Before considering issuing a labeled instrument, the DMO should consider the impact on the debt management strategy as well as the contribution to investor diversification. In many cases, financing may be available through a project bond or an ESG-linked loan, options that are operationally less burdensome. Finally, most DMOs do not engage with investors on ESG issues.

> > >

FIGURE B3.1.1. - ESG instruments as a source of funding in Sub-Saharan Africa, US\$, millions



Source: Authored by Abdelrahim Abdalla Khalifa, participant in the Capital Markets Scholars program of the Milken Institute, IFC, and George Washington University, 2020.

Definitions and Standards

Clear market definitions and standards are important for ESG investing because there is a lack of international standards. Consistent and transparent standards and definitions increase investor confidence and contribute to ESG market development. It is not the responsibility of an EMDE DMO to solve this problem, but the DMO should be aware of it and be very careful in the choice of standards. This decision will also likely depend on whether any labeled bond issuance is planned to take place in the domestic or international market. As green and sustainable finance becomes more mainstream, harmonized guidance and standards regarding taxonomies, reporting, and measurement are critical to ensure investor confidence. To some degree, policies would need to reflect unique national circumstances; however, a certain level of harmonization is desirable so that policy fragmentation does not undercut market growth.²⁶

The establishment of national definitions and standards is not an easy feat, although there are many excellent country templates around the world that can be adapted for local circumstances. Credible and widely supported guidelines, standards, and independent reviews help investors make informed decisions. Confidence in the credentials of ESG definitions and standards is essential. Whether driven by the public or private sectors, market development committees have a key role in driving and directing the market to support the implementation of Nationally Determined Contributions under the Paris Agreement, as well as other environmental sustainability goals and related investment plans.

Project Pipeline

The management of the use of proceeds of labeled instruments is an important aspect of bond issuance and requires rigorous planning. Most governments must first adopt or adapt an existing green taxonomy to identify eligible sectors and activities. Then “Eligible Projects” for which the proceeds of labeled bond issuances can be used by government ministries are identified, each falling into an “Eligible Sector,” including renewable energy, clean transportation, national parks, landfill rehabilitation, and afforestation. Countries should have a clear assessment of the project pipeline because ESG investors are focused on the use of proceeds. In addition, the issuer should consider the size of issuance since small bonds are less attractive to investors than larger bonds. Small bonds are also likely to incur relatively high administrative costs as a proportion of proceeds. Currency of issuance and related project pipeline should also be considered.

26. The 2019 report of the Sustainable Banking Network (SBN) assessed that notable progress had been made to address gaps in terms of green finance definitions, data, reporting, and incentives. According to the review, national green bond guidelines had been established in 14 SBN EMDE countries.

27. In many countries, there is already a capital market forum that could be used to discuss the ESG agenda.





Investor Base

EMDEs DMOs should pay close attention to respective investor profiles and the focus of such investors.

International investors are traditionally interested in hard currency issuance from EMDEs, even though an increasing number of local currency bond markets, usually included in the main sovereign local currency bonds indexes, have active foreign participation. As a result, issuing labeled bonds in local currency may be difficult for many countries, which are excluded from the main indexes because of both the outstanding amount of their debt and the stage of market development. In some cases, some more specialized international funds with higher risk profiles can step in to take local currency issuance, but they may not have any focus on ESG issues. Nevertheless, in some markets, a labeled local currency bond issued via domestic syndication (for example, in the same way as a eurobond) could be an attractive proposition for foreign investors.

For now, the greatest potential for the issuance of labeled bonds is in hard currency.

The issuer should carefully assess whether the issuance of the labeled bond in the international market helps bring new investors into the market or whether these investors would be attracted to invest in the country in any case. This assessment can be made through regular interaction with banks as well as through irregular investor engagements, during which the debt management officials have an opportunity to be more candid with investors and understand investor commitment and motivation. The domestic investor base in most EMDE countries is not currently focused on ESG investing, although this may be changing. As sustainable finance develops more as an investment management approach in EMDEs, there are signs that domestic institutional investors will also begin to focus more on ESG issues. The sovereign green bond issuances in Fiji, Nigeria, and, most recently, Thailand highlight that the local domestic investor bases in EMDEs are starting to be interested in ESG issues.



Cost and pricing

The cost of different ESG activities and any potential pricing benefits from labeled bond issuances are important considerations. The marginal benefit of pursuing an ESG activity should in general exceed its marginal cost, although any cost-benefit analysis would be highly dependent on country specificities. Considerations regarding the cost and pricing of issuing labeled bonds are discussed later in section 4.

The cost of not engaging on ESG issues could be a consideration for the DMO. Investor preferences are changing, and DMOs might consider what this means for the debt strategy. While factors around governance are for the most part reflected in sovereign debt pricing, factors around the other two pillars of E and S are not fully reflected in market pricing. While such factors are generally not a key driver of the cost of sovereign borrowing- these risks could be increasingly priced into sovereign borrowing costs (dependent on the ultimate climate change scenario). These dynamics provide a

rationale for the DMO to engage more actively on ESG issues as failure to be able to provide information to investors could have a negative impact on the cost of sovereign borrowing.

Implementing ESG activities other than the issuance of labeled bonds will involve costs, although those costs may also be incurred in the pursuit of normal bond market development. Increasing investor relations coverage is likely to be part of a larger-scale debt management strategy to diversify the investor base, while increasing governance and firmer institutional setting are fundamental to normal market development. Other approaches, such as engaging with the private sector or leveraging DMO expertise, should not be prohibitively expensive, although DMO capacity and resources should be factored in.

4+





The PDM ESG Framework

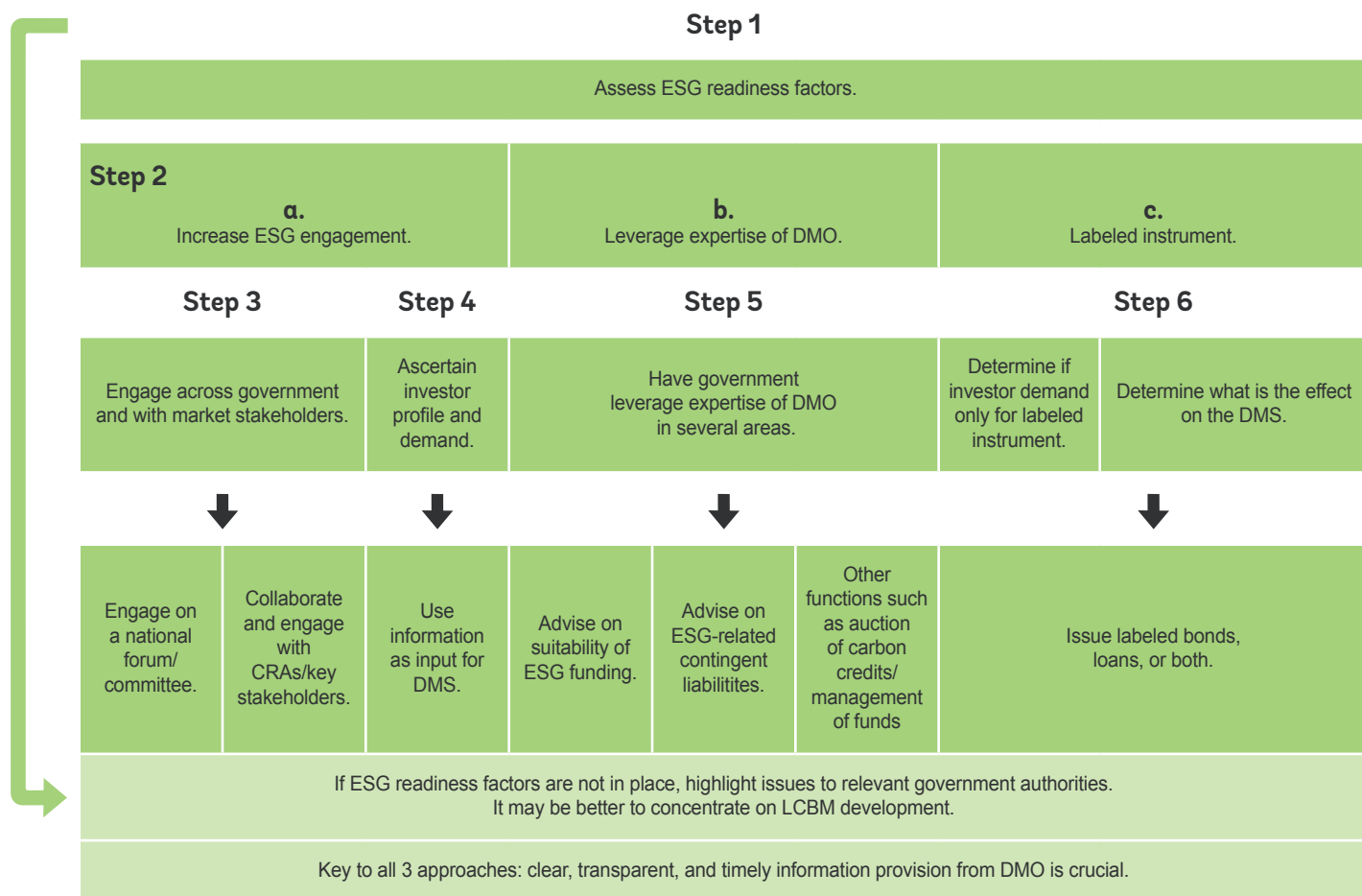
This section formalizes the DMO's decision-making on whether to engage on ESG issues around a PDM ESG framework ("the framework"). The framework (figure 4.1) draws on the experiences of sovereign issuers to date regarding ESG issues and outlines a systematic approach whereby debt managers can consider the marginal cost and benefits of various ESG activities. The level and intensity of specific ESG activities are largely dependent on the chosen approach and current level of DMO sophistication. The PDM ESG framework structures the discussion from the PDM viewpoint, with the aim of also contributing to bond market development over the medium to longer run.

Issuing labeled bonds and focusing more on ESG issues present an unprecedented opportunity for many DMOs in EMDEs. However, it is also important to note that certain ESG readiness factors should ideally be in place before the DMO engages on these issues because the various activities involve many trade-offs, may affect current capital market development, and require a supportive enabling environment. Because the ESG investing landscape is quickly evolving, DMOs might consider this framework as a continuous process in building institutional and government knowledge on ESG investing. While an initial supportive political environment is of course important for the pursuit of DMO ESG activities, the positive impact of development in this area (that is, better institutional arrangements, changing mindsets) could last and be effective through political cycles.



> > >

FIGURE 4.1 - Public debt management: ESG framework



Source: World Bank staff illustration

Note: CRAs = credit rating agencies; DMO = debt management office; DMS = debt management strategy; ESG = environmental, social, and governance; LCBM = local currency bond market



Steps in the PDM ESG Framework

Step 1:

The DMO might consider conducting an in-house assessment to document the current ESG market structure and topology in which it operates. The ESG market readiness factors should be assessed in relation to the current market backdrop (see section 3). This analysis could be conducted with respect to the domestic and international market. Countries that do not meet all the ESG market readiness factors could focus on addressing identified bottlenecks. If there is a positive enabling environment, the DMO could consider incorporating ESG activities into the LCBM development plan.

Step 2:

For DMOs where the findings of the initial ESG assessment study are positive on the basis of country specificities, the DMO could begin to engage with other government departments and market stakeholders on ESG issues in a more formal manner. Doing so would allow the DMO to establish and document a clear, transparent case study on the country's ESG work. This step would further allow the DMO to intensify investor relations efforts on ESG issues. It would be useful if all DMO ESG activities were aligned with the relevant national ESG strategy, if one exists (normally a national climate agenda or the like).

Step 3:

The DMO should consider the level of engagement with CRAs and other external agencies.

Step 4:

Once the DMO establishes a sound ESG message, it should consider engaging further with the investor base (both domestic and international). DMOs may need to make efforts to engage with new investors and gauge the level of potential demand, both for conventional instruments and for labeled instruments. When providing information to investors, the DMO might aim to adapt information for the specific investors and tailor presentations accordingly. EM investors are increasingly looking to engage with sovereign issuers on ESG issues, and DMOs could strengthen their knowledge on these issues to successfully interact with investors.

Step 5:

Many governments may also leverage the financial expertise of the DMO to provide advice on ESG-related issues, although this step is dependent on country specificities and the policy objectives of the government authorities and, more specifically, on whether there is a holistic ESG strategy on a national level.

Step 6:

After assessing the potential ESG approaches, except for specific labeled instruments, the DMO should consider the benefits and costs of issuing a labeled instrument. If the DMO considers that the cost of issuing a labeled instrument exceeds the benefits, the DMO could still engage on ESG topics by following the actions outlined in prior steps of the framework.

PDM ESG Activities

The following section documents in further detail the three PDM ESG activities.

1. Increase ESG Engagement

The first approach introduced in the framework derives from the DMO's relationship and convening power with market participants. As the main window of the government toward fixed-income markets, the DMO deals regularly with the main debt stakeholders: primary dealers and market intermediaries, domestic and foreign investors, CRAs, and others. In some cases, there is a specific unit within the debt office dedicated to investor relations that coordinates these exchanges; in other cases, the staff of the front office or another unit within the DMO plays this role. It happens often that the queries of debt stakeholders are outside the responsibilities of the government debt manager, but he or she will channel them to the relevant government departments and take care of the necessary follow-ups: the government debt manager has an obvious interest in ensuring that investors and market participants have a rapid and satisfactory response to their questions and requests.

Engaging with CRAs

The relationship between DMOs and CRAs offers a good illustration of the DMO's role: in many countries, the DMO is the primary counterpart of the country team of the CRAs, channeling their questions to the macroeconomic and budget staffs of the ministry of finance, as well as other ministries, if relevant. The DMO is usually in charge of organizing the meetings held by the CRAs with government officials during their regular visit to the country. It seems logical and efficient that the DMO should respond to this and also interact with CRAs on ESG issues. In many cases, the government debt manager is already playing this role with regard to the governance dimension of ESG, as he or she often produces (or leads the production of) transparent investor-friendly reports with updated statistics and other relevant information.²⁸ Similar to the process of making macroeconomic projections or fiscal policy, the government debt manager would not be the subject matter expert on ESG issues but would know the experts and would coordinate the flows of information between them and CRAs.

Integrating ESG into Normal Investor Relations

The same development would arise with other debt stakeholders, such as ESG investors. Over time, the government debt manager would increase his or her exposure to and knowledge of ESG issues, help frame the ESG governmental communication to capital markets, and even provide input on the formulation of ESG policies as far

as debt stakeholders are concerned. The increased exposure and actions would benefit the government debt manager, as he or she would better understand the changing investor behavior and be able to adapt the government communication and investor relation strategy, accordingly, ensuring sufficient emphasis is put on the government's ESG credentials. It could also facilitate a decision by the government debt manager to issue or not issue ESG instruments. At the most basic level, this strategy may entail the debt manager's maintaining more regular communication with both domestic and international investors as well as with rating agencies. Many government debt managers seem open to playing such a role: in a 2019 survey by the Organisation for Economic Co-operation and Development (OECD), of the 19 responding government debt offices, 11 indicated that they already considered ESG factors and adapted a somewhat a broader approach to ESG, highlighting sustainability strategies in their communications and investor relations strategies (OECD, 2020a).

Engaging with Investors

Investors have started to engage with sovereign issuers to get insights into the issuers' policies and priorities. Investors' engagement with sovereigns differs significantly from their engagement with corporate issuers. In general, investors are much more actively exerting pressure on corporate issuers on topics of interest to their stakeholders. Although investors have less leeway with sovereigns, they have started to use countries' outreach to investors in the run-up to a new primary market issue as an opportunity to raise topics such as sustainability issues. In addition, investors use platforms such as the UN PRI and other existing channels to pursue engagement activities together with other investors to expand influence (*Engage! The Engagement Magazine for Institutional Investors*, 2020²⁹).

Objectives for engaging with sovereigns have been driven by investors' investment goals. Because there are fewer than 200 sovereign issuers, compared to thousands of corporations, negative sovereign ESG screening may directly undermine diversification of sovereign fixed-income portfolios. At the same time, limiting portfolio exposure to "best in class" ESG screening may be damaging to portfolio returns because it would restrict investors' investment universe to higher-rated sovereigns. In this context, the role of DMOs in terms of investor engagement on ESG issues may increase.

28. Moody's uses the World Bank Governance scores as a quantitative input in sovereign ratings.

29. http://www.union-investment.it/home/Competencies/Sustainable_Investments/Topics/Government_Bonds.html

> > >

BOX 4.1. Engaging with investors: The role of investor relations within DMOs

Investor relations (IR) lies at the heart of sovereign debt management, good governance and fiscal transparency (Knight and Northfield 2020). Sound IR principles and practices are relevant for debt managers at all stages of market development. Many DMOs have dedicated investor relations offices while others operate within the auspices of the Ministry of Finance or Central Bank. The DMOs IR unit can act as a key point of contact with various external stakeholders (Knight and Northfield 2020).

Effective IR allows detailed scrutiny of debt management policy and borrowing by legislators, the public and the international community and is a key building block to international efforts to strengthen public debt transparency, as set out in IMF and World Bank (2018). The Institute of International Finance (IIF) has also worked extensively on developing IR and improving debt transparency, including evaluation criteria for both IR and data dissemination practices. (IIF 2005).

DMOs must be cognizant that investors are increasingly taking environmental, social, and governance (ESG) considerations into account when designing investment mandates. As a result, investors are beginning to engage more actively with DMOs on ESG related issues. The World Bank held round tables in April and October 2019 on the issue of sovereign engagement on ESG issues and the feedback from investors at this time, indicated strong interest (World Bank 2019). Investors should be realistic that the level of engagement that they will have with DMOs will differ from their experience of corporate engagement and also be highly dependent on the DMO in question. In addition, the whole area of engagement is a learning experience for DMOs and investors alike and each party should be conscious of this.

The DMO can act as the “entry point” on ESG for investors, channeling questions and data (if possible) to relevant government departments (figure B4.1.1). During this process, the DMO and investors will likely build a strong rapport, a development that could benefit the investors’ commitment to the market, over time. The Uruguay DMO is a good example of a DMO that has been proactive on ESG issues with investors. Their activities have included gathering data, insights, and knowledge on ESG indicators that facilitate the meaningful engagement of DMOs with the investor community on sustainability issues and impact investing (Knight and Northfield 2020). The benefit of being proactive in this area rather than reactive appears material for Uruguay, given the increased ESG investor interest in the country’s debt. A forthcoming World Bank treasury guide, “Engaging with Investors on Environmental, Social, and Governance (ESG) Issues: A World Bank Guide for Sovereign Debt Management Offices” also sheds more light on how the DMO can engage with investors on ESG issues.

> > >

FIGURE B4.1.1. - ESG investors focused on wide breadth of sustainability indicators



Source: World Bank staff illustration.



2. Leverage the Unique Expertise and Position of the DMO

The second approach introduced in the framework derives from the government debt manager's unique expertise and access to market participants. In several countries, the execution of market transactions is entrusted to the government debt manager to ensure government-wide coordination and reduce transaction costs through a single point of contact with market counterparts. Such a policy allows for better management of operational risks related to market transactions since the debt office generally uses its existing risk management framework and systems. It also ensures that any opposing transactions within the government can be netted before dealing with outside counterparts.³⁰ With regard to ESG policies, the expertise and general capital market role of the government debt manager could include the following:

- The auctioning of greenhouse gas emission allowances, on behalf of the ministry of environment. This helps formalize the function of carbon credit trading and ensure an efficient management of those credits.
- The management of a carbon fund, in countries that have decided to set up such a mechanism. The government debt manager is often best placed to manage such a fund and could be designated as the purchasing agent on behalf of the sovereign.

Because the introduction of carbon pricing continues to be slow and far from meeting the internationally agreed-upon objectives, policy makers are considering other complementary policy instruments. The government debt manager can play a role in helping government authorities formalize their strategy as long as it is related to capital markets. This second approach is dependent on country circumstances and the policy objectives of the government authorities. For example, countries that have a well-functioning and trusted sovereign wealth fund should probably task it with the management of a carbon fund, rather than tasking the debt office. Box 4.2 details country examples related to this approach.

30. This would be the case, for example, if line ministry A wants to lock the value in local currency of flows in a foreign currency it will receive at a future date while the government debt manager has debt payment in the same foreign currency at the same future date.

BOX 4.2. Country Examples of Other ESG-related Functions of DMOs

Negotiations of ESG loans. In some countries, depending on institutional setup, the DMO may be the main agent for the sovereign to negotiate bilateral and multilateral loans. From an ESG perspective, sovereign green loans and ESG-related loans have become increasingly popular, and the DMO can play an important role in terms of advising on the structure and technical details of the loan agreement. In many less-developed capital markets, loans may present a better cost-benefit proposition than the issuance of labeled bonds. This mainly relates to the higher preparation costs of labeled bonds and a lack of investor demand. While green loans must comply with the green loan principles, in many less-developed markets the debt unit may be better equipped to deal with the operational issues of a loan compared with the issuance of a green bond, which is a more market-intensive effort.

Auction of carbon credits. In France and Austria, for example, the respective DMOs are involved in the auction of carbon credits under the EU Emissions Trading System. In some other smaller euro-area countries such as Ireland and Malta, the DMO also performs other related tasks. In Ireland, for example, the Carbon Fund was established under the Carbon Fund Act 2007 for the acquisition of Kyoto units and any other such instruments or assets on behalf of the state. The Irish DMO, the National Treasury Management Agency, has been designated as the purchasing agent on behalf of the state and administers and manages purchases of Kyoto units.

Management of long-term costs of nuclear plants. The Swedish DMO, the Riksgälden, is responsible for ensuring that the nuclear power industry can finance the management and disposal of nuclear waste and spent nuclear fuel, the decommissioning and demolition of the plants, and the research necessary to enable those tasks. The debt office has the overall responsibility for ensuring that the nuclear industry meets its payment liability and for monitoring the function of the financing system. The Nuclear Waste Fund is a government authority, established within the DMO, whose mission is to receive and manage the fees paid by the nuclear power companies and owners of other nuclear facilities in Sweden. The fees are intended to finance future expenditures for managing and disposing of spent nuclear fuel and other waste.

Management of risk transfer solutions to manage catastrophic risks. Several economies have purchased market protection to manage catastrophic risks such as hurricanes or earthquakes. This arrangement typically involves the purchase of a policy that triggers in the event of catastrophic event occurring during the policy period. Several emerging markets have these policies in place, including the Caribbean Catastrophe Risk Insurance Facility (created in 2007 as a pooled facility to manage climate-related risks including tropical cyclones and excess rainfall) and the US\$1.36 billion 2018 Pacific Alliance catastrophe bond (issued to address earthquake risks in the four Pacific Alliance countries [Chile, Colombia, Mexico, and Peru]).

There are other approaches and roles that some DMOs currently play on ESG issues or that could be envisaged, but they are outside the mandate of PDM. For example, this is the case when government authorities decide on the issuance of ESG instruments such as green bonds purely to signal a political commitment to the topic, independent of considerations for capital market development and without explicit cost/risk assessment of the value of issuing these instruments. Another case would arise when the objective of issuing the ESG instruments is not directly related to the funding needs of the government but aims to offer a reference for nongovernment issuers of similar ESG instruments in the country (building a benchmark yield curve).³¹ In both cases,

there are positive externalities derived from the inclusion of the ESG instruments in the government DMS. However, these approaches fall outside the scope of this paper. Suffice it to mention that the resources needed by the government debt manager to implement such policy decisions should be carefully assessed ex ante and adequate safeguards should be in place so that the capacity of the government debt manager to assume its core mandate is not endangered. Moreover, in some incidences, a DMO will only become more active on ESG issues and begin to allocate resources to this endeavor after they have issued a labeled instrument; for example, when in-house expertise is established, ESG engagement itself may become easier and less expensive.

31. This is similar to the choice made in some countries with fiscal surplus to continue issuing government bonds to provide other domestic issues with a risk-free yield curve to benchmark and price their bonds.

3. Issue Labeled Instruments

The third ESG activity in the framework is directly related to the PDM mandate to fund the government at the lowest long-term cost with a prudent level of risk.³² This approach focuses on the issuance of specific ESG-related borrowing/ labeled instruments, such as green bonds. DMOs are increasingly coming under pressure from other government departments, investors, and political and academic circles, as

well as from market participants, to issue such bonds. While this increased pressure is often associated with a palatable vision for the future, at times it can ignore some of the fundamental constraints and specificities of a country’s bond market and stage of market development. Figure 4.2 provides an overview of the key advantages and disadvantages of issuing a labeled bond.

> > >

FIGURE 4.2. Key advantages and disadvantages of issuing labeled instruments

Sovereign issuer-labeled bonds	
Advantages	Disadvantage
Clear political signaling—demonstrates and implements sovereigns’ ESG agenda	Significant work involved; puts DMO capacity and resources under pressure
Potential for new investor demand—improves diversification	Investor demand also constrained by other factors (such as ratings)
Some evidence of more buy-to-hold investors—and less secondary market volatility	Upfront and ongoing transaction costs; potential increased foreign exchange risks if investor has an appetite for hard currency issuances or if domestic investor groups lack demand for local currency issuances, or both
Improved transparency and governance structures; also aids wider market development	Diversifies funding—may affect conventional bond market liquidity and functioning
Potential rise in demand and consequent decrease in borrowing costs from the inclusion in ESG indices	Risk of cannibalizing investor demand, particularly in domestic currency and increased corporate issuance
Potentially attract further FDI to the country	Reputational risk if bond’s credentials are challenged
Potentially opens market for corporate borrowers	Increased rigidity in budget execution (proceeds allocated to specific programs)
Potential positive treatment in indices calculation	

Source: World Bank staff illustration, adapted from OECD 2015.

Note: DMO = debt management organization; ESG = environmental, social, and governance; FDI = foreign direct investment.

32. As discussed in section 2, there is going awareness in the investment and policy communities that traditional risk management and measures of risk are not adequate to manage climate change and other ESG risks, with the Bank for International Settlements, central banks, and regulators advocating for “epistemological” change in risk assessment and risk management. Further, as investors integrate new data and techniques in their risk management practices, it could be expected to start affecting pricing of sovereign bonds.

Issuance Decision: The Cost-Risk Assessment

As for any borrowing instrument, market or nonmarket, the government debt manager needs to assess the cost-risk trade-offs involved in absolute and comparative terms with other instruments together with market development considerations. This process can be done in a number of ways, usually within the framework of a medium-term DMS that collects relevant input, tests scenarios, and develops a recommendation for the government authorities to endorse.³³ The cost of the new instrument is assessed regarding the different risks it entails, mostly market risks (interest rate, foreign exchange, liquidity) but as much as possible other risks as well (operational, reputational, and so on.). If the cost-risk assessment is deemed favorable, the next step would be to ensure that the new instrument would fit well into the target debt portfolio developed and implemented by the country. Two examples illustrate this point.

- **Currency of issuance:** Foreign ESG investors may not be interested in the domestic currency of the issuer (for example, institutional investors in Europe with liabilities in euros). Depending on the availability and cost of currency-hedging instruments, the government may have to denominate the new instrument in foreign currency, which may undermine the achievement of the DMS objective on currency risk.
- **Maturity:** ESG investors may have long-term objectives for their investments and a preference for longer-dated instruments, compared with other non-ESG investors. In this case, the issuance of ESG instruments may support the increase in the average maturity of the debt portfolio, often an objective under the DMS of EMDEs (figure 4.4).

One key input to this cost-risk assessment process relates to the potential demand for the instrument since government debt managers try to cater to the objectives, needs, and constraints of their lenders, existing and potential. Given the sustained increase in the size and number of ESG-related investors over the past decade, as described in section 2, it makes sense to assess the potential benefits and risks of including ESG instruments in a government DMS. As discussed in section 2, globally, ESG-dedicated funds are rising, and this is especially the case in EMDEs where the supply of ESG instruments remains limited, for sovereign as well as non-sovereign issuers.

Investor Base Diversification

Expanding the investor base not only provides additional demand for the issuer but may also reduce risks of a sudden stop by diversifying the profile of investors. Many of the sovereigns that have issued green bonds indicate in their issuance press releases information about the substance of ESG investor demand. In some cases, investors may also prefer to announce that they were part of a deal, with this information included in the press release. This is beneficial from the issuer and investor viewpoints and adds to the positive “mood music” regarding the issuance. Judging by sovereign labeled bond issuances to date (for the most part, green bonds), investor demand seems to be focused on longer maturities, in international markets, with most demand coming from fund managers (figures 4.3 and 4.4).

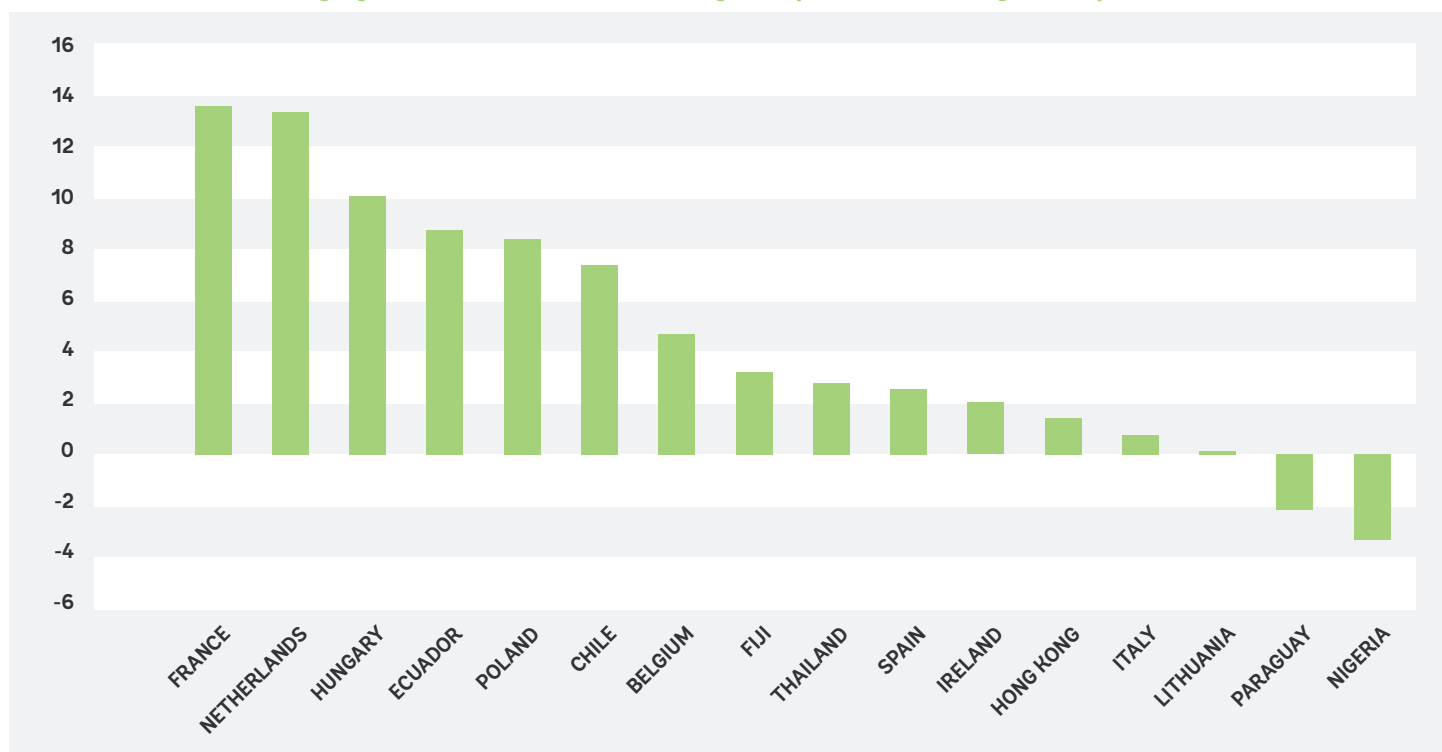
DMOs should consider how differently the new investors will behave compared with existing investors in cases of different shocks affecting the issuer (for example, global risk aversion or fiscal or monetary slippage in the issuer’s country). Moreover, the DMO should be cognizant of the behavior of the existing investor base and the evolution of investment mandates. Some market participants have mentioned that, as ESG investing evolves, the issuance of labeled instruments could in certain instances leave the remaining debt stock at a perceived lower rating on an ESG scale, and thus possibly affect strategic allocations.

Accessing investors that have different reaction functions has a lot of value for the issuer, and this will depend on the country circumstances as well as the instrument issued. Generally, though, most investors with an ESG mandate will be foreign to the issuer’s country and will be assessing their investments on a regional or global basis. As “general” foreign investors, they may be susceptible to rapid outflow in case of global or domestic shocks, but probably to a lesser degree given their specific mandate and the more limited universe of alternative ESG instruments to invest in. According to the OECD, there is also evidence of more “buy and hold” investors for green bonds, which can lead to lower volatility in the secondary market (OECD 2020a) (Box 2.1), although experience of this differs by market and investor type. Box 4.3 also considers how ESG instruments could be particularly noteworthy in retail debt programs, given the need for a change in societal mentality.

33. The Medium-Term Debt Management Strategy analytical tool developed by the IMF and the World Bank is often used by middle- and low-income countries to formulate their DMS.

> > >

FIGURE 4.3 . Sovereign green bond issuance maturity, compared to sovereign debt portfolio WAM

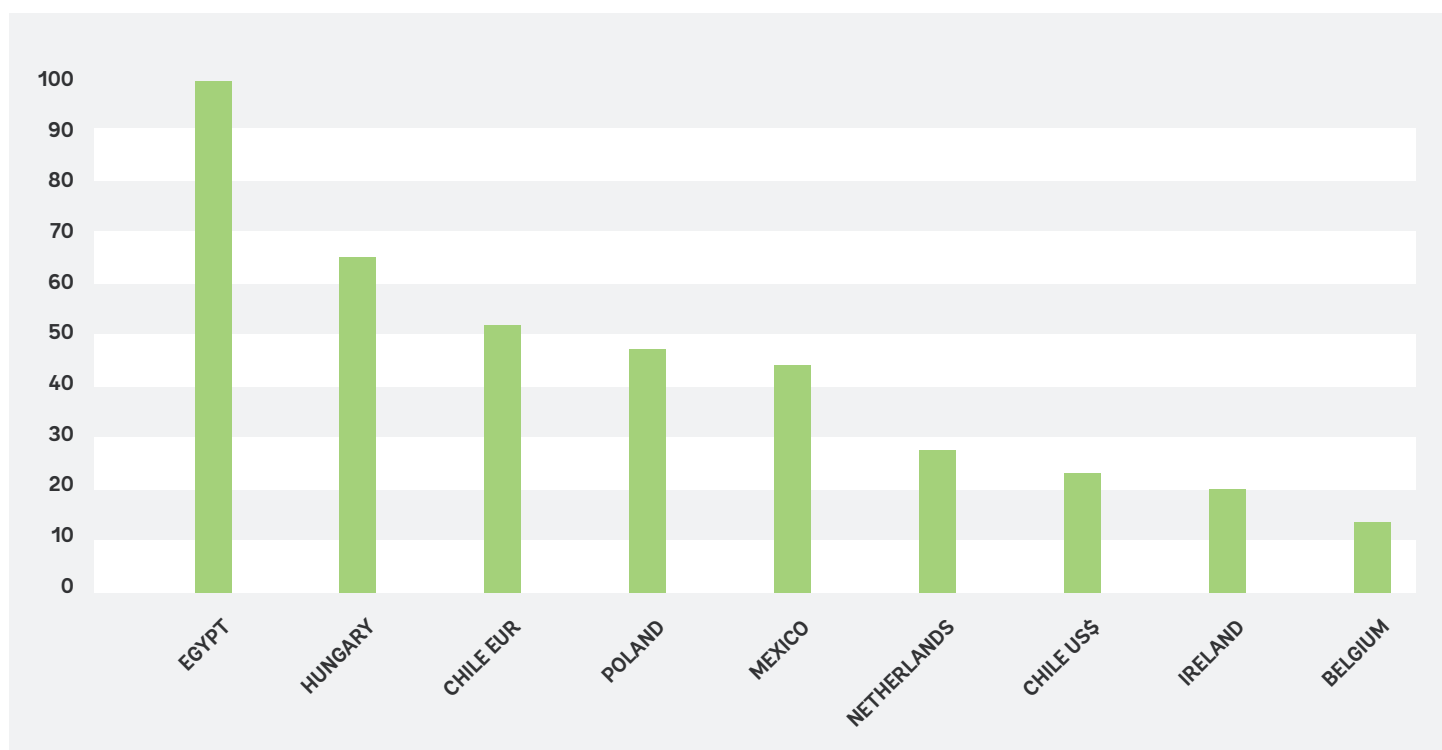


Sources: Bloomberg; World Bank staff calculations.

Note: WAM = weighted average maturity.

> > >

FIGURE 4.4 . Green bond issuance also diversifies investor base (% of allocations to ESG-focused investors)



Sources: Websites of countries' debt management offices; World Bank staff estimates.

Note: ESG = environmental, social, and governance.

BOX 4.3. Investor Diversification: Sovereign ESG Retail Debt Instruments

Governments rely on different channels to access their domestic retail investor base. They can reach out to retail investors directly or indirectly, for example through collective investment schemes; they can facilitate retail access to the standard instruments sold to wholesale actors or develop ad hoc instruments that would cater to specific needs of retail investors. In the latter case, developing specific ESG-related retail products could provide an opportunity for ESG-conscious individuals to support sustainable policies and investment in their home country. Ad hoc retail instruments have been used by governments for many years, such as lottery bonds and saving bonds, but no reference has been found of such ESG-related sovereign instruments being sold so far.^a An environmental- or climate-focused retail bond, for example, could be a powerful instrument to help mobilize retail savings, particularly from the younger generations, and could also act as a tool to impress upon the national psyche the need for environmental/climate action on a grand scale. Recently, Italy, the Philippines, and Thailand issued retail bonds with proceeds targeted at funding the respective country's response to COVID-19.

From the DMO perspective, the development of such products should follow the same procedure as any other debt instrument, looking at the potential risks and returns, assessment of the potential demand, benefits in terms of investor diversification, and other factors. Of particular importance for (all) retail products is the cost structure: reaching out to a potentially vast number of small investors generates high costs (marketing, volume of transactions, settlement procedures, and so forth) that are usually supported by the issuer, not by the investors, through lower returns compared to wholesale instruments.^b These costs may already be partially amortized for countries with an existing retail debt program, which may then be in a better position to develop ESG-related retail products, compared with countries with no retail debt program.

Retail programs are also important from a financial inclusion perspective and can have social benefits. Indeed, issuers should be mindful of drivers of financial inclusion when designing or redesigning any retail debt program. This could incorporate aspects around (a) access, (b) cost of access, (c) distribution channels, (d) pricing, and (e) marketing.

- a. There have been some private sector issuances. See, for example, a recent press release from the World Bank focusing on retail investors in Belgium: <https://www.worldbank.org/en/news/press-release/2017/10/19/world-bank-offers-first-sustainable-growth-bonds-for-retail-investors-in-belgium>.
- b. Retail investors are well informed of the price of other instruments and can access the wholesale bonds through financial intermediaries (bank, broker, asset manager).

Pricing and Cost of Issuing a Labeled Bond

The DMO should assess the price of labeled bonds compared with other instruments with similar characteristics (maturity, redemption profile, fixed or floating coupon, currency). The existence of a premium on the price of sovereign labeled instruments, the so-called greenium in the case of sovereign green bonds, has generated a lot of discussion and is still debated. The Amundi/IFC recent *Emerging Market Green Bonds Report* looked at the green premium for EM sovereign issuers, noting that it was not possible to draw “any general conclusions from observations” (Amundi Asset Management and IFC 2020, 19). The IMF estimated in 2019 that “there [was] no consistent premium or discount at issuance between green and non-green sovereign bonds by the same issuer but secondary market liquidity [was] slightly worse, possibly driven by the nature of the buy-and-hold

investor base” (IMF 2019, 88). According to anecdotal feedback from government debt managers who issued green bonds, it does not seem that there is a significant positive or negative greenium, taking into account the potential lower liquidity of sovereign green bonds compared with their conventional bonds³⁴ and the prices of the two categories of instruments in primary and secondary markets.

Issuance costs away from market pricing are likely to differ depending on whether the sovereign labeled bond is issued in the domestic or international market and on existing banking relationships, although many of these costs are also associated with conventional bond issuance. The costs associated with domestic issuances tend to be lower, compared with issuances in the international market.³⁵ In addition, the costs of the first issuance will be

34. In several cases, the issued amount of a green bond is lower than the issued amount of the equivalent conventional bond (benchmark size), which mechanically affects its liquidity on the secondary market.

35. The costs are mainly related to the fees associated with a syndication, legal opinion, use of international settlement systems, and so forth.

higher compared with subsequent issuances, as many of the mechanisms and much of the groundwork have already been done. In some incidences, banks may waive part of the fees related to a labeled bond issuance, particularly on first-time instances, to make the issuance proposition more appealing for the issuer, seeing the transaction as the start of a longer-term engagement. Indeed, for local domestic banks, the issuance of a labeled bond may be viewed as an opportunity to build a local sustainable finance franchise, and this could result in strong local bank support. In addition, many multilateral development banks, including the World Bank and IFC, offer technical assistance and expertise in this area.

Labeled bond structuring and monitoring costs should also be considered. Costs related to the structuring of the labeled bonds and the monitoring mechanism of the use of funds to be reported to investors should be factored in. Both processes often entail working with external firms to develop an appropriate labeled bond framework and to verify use of proceeds on an annual basis. These costs vary from country to country depending on the use of the resources raised through labeled bonds, but they may be nontrivial for a first issuance or if the labeled bonds represent only a small fraction of the government borrowings.³⁶

Costs such as appointing legal counsel, arranging road shows, and paying staff overtime can be significant for the DMO and may be extra for labeled bond issuance relative to conventional issuance. In addition, as previously discussed, costs covered by other government departments, such as the development of the labeled bond policy framework and monitoring and reporting on the use of proceeds, should be considered. Many of these costs will occur over the lifetime of the projects associated with the issuance. Attempts should be made by the issuer to understand the full all-in cost of the issuance. In some cases, on a present value basis, these costs are similar in magnitude to the fees on a standard sovereign syndication and would come in addition to the usual fees associated with a syndication. This cost assessment should also consider if the issuance is a one-off issuance or if there is scope to do multiple issuances.

The list of benefits and costs to assess is not limited to what has been detailed here and could include, among others, the possible inclusion in EM ESG sovereign debt indexes (see annex A), the relevance of green bonds for the asset and liability management of the sovereign,³⁷ the market behavior of green bond prices in high-volatility environments, and the increased rigidity in fiscal management (netting of specific expenditures with specific revenues³⁸). This list ultimately depends on the country circumstances and on the willingness and capacity of the issuer to assess and quantify a number of factors.

Impact on Debt Management Strategy

The impact of issuing a labeled instrument on the other instruments issued by the government can be difficult to quantify. The World Bank-IMF guidelines mention, among the relevant conditions for developing an efficient government securities market, “consolidating the number of debt issues into fewer, larger individual lines in key maturities with a view to eventually providing market benchmarks” (World Bank and IMF 2014, 38). Benchmark bonds of sufficient outstanding size are associated with better liquidity because market makers and end investors can buy and sell larger volume with tighter bid-ask spreads. A new class of instruments mechanically reduces the volume of existing instruments, which may therefore affect their liquidity, consequently raising their cost for the issuer. This general principle depends on the country’s circumstances, its issuance strategy, and whether the issuance is in the domestic or international markets.³⁹ Decisions on the issuance of green bonds in the domestic market, can be broadly summed up as the following alternatives:

- A country with large borrowing needs that has no difficulty in issuing its conventional bonds in “benchmark size” may be interested by an additional class of instrument that could attract new investors and reduce the burden on existing instruments.
- A country with more limited borrowing needs may already struggle to issue sufficient volumes of conventional bonds in its domestic market to ensure liquidity. The impact of issuing green bonds on existing instruments would be negative in this case and would need to be weighed carefully in the final decision to offer such instruments.

36. As more green bonds are issued, the marginal cost of structuring and monitoring should diminish. A forthcoming World Bank publication on the experience of Chile’s green bond issuances will explore these issues in more detail.

37. There are multiple ways to look at this aspect. One would be that by “forcing” the government to spend funds to reduce carbon emissions or mitigate the effects of global warming, green bonds are reducing the climate-related risks faced by the country in the medium to long term, hence lowering the probability of future fiscal expenditure. The quantification of these benefits would generally be done outside the DMO, by the staff of the ministry of environment or other line ministries, with technical support from the macroeconomic team of the ministry of finance.

38. In some countries, this could even lead to problems with general principles of public accounting (non-netting of revenues with expenses).

39. Most countries do not have a commitment to provide regular benchmark size issuances in foreign currency.



This assessment is not specific to labeled bonds and is part of the due diligence assessment for every new class of instruments (for example, inflation-linked bonds or floating-rate bonds). It should be added that several innovative approaches have recently been developed by government debt managers in advanced economies to address the impact of issuing green bonds on the liquidity of the existing debt portfolio (for example, Denmark and

Germany; see box 4.4). Although it is too early to assess their success, these innovations may not be templates for most EM countries given the associated operational complexities. Indeed, the twin bond proposal is only a possibility in Germany because of the extensive secondary market presence of the Deutsche Finanzagentur (German Debt Management Office) and the size of the German government debt market.

> > >

BOX 4.4. Innovative Approaches to Green Bond Issuance

Green Twin Bonds: The Deutsche Finanzagentur issued the first green German government bond (a green Bund) in September 2020. The structure of the green Bund is innovative.

- The green bonds will initially be kept for market intervention at the debt office when conventional bonds are issued by auction.^a The green bonds will have identical maturity and coupon as conventional bonds.^b
- The green bonds will be issued into the market during the second phase of a benchmark cycle after the tapping of conventional bonds has been completed. When issuing the green bonds (by auction or syndication), the government will tap the conventional bonds by the same amount but will retain these volumes for market intervention. The green bonds will then be exchangeable into conventional bonds so that the potential outstanding amount of conventional bonds remains unaffected by green issuance.^c

Green Certificates: Denmark has been working on a model for sovereign green bonds that enables small issuers with limited funding needs to access the green bond market without compromising liquidity in the government bond market. The idea is to split (strip) the two commitments attached to any green bond: (a) a financial commitment to pay interests and principal, and (b) a commitment to spend on eligible green projects an amount at least equivalent to the proceeds from the green bonds.

The financial commitment will be issued as a conventional government bond and the other commitment as a green certificate. Both instruments will be sold at auction together; that is, the buyer will receive the equivalent of a green bond. He or she will be able to sell the bond and the certificate separately on the secondary market. The owner of a conventional bond will be able to buy a green certificate in the secondary market to own a green bond. The Danish authorities will commit to provide investors with transparent reporting on the use of proceeds and the impact on the environment, similar to the commitments of issuers of conventional green bonds. It is still unclear whether the Danish Debt Office will proceed with this approach, and if it does, how market participants will react to this innovation.^d

a. The green bonds can be made available in repos/lending to ensure liquidity.

b. The green bonds will, however, have separate International Securities Identification Number (ISIN) codes.

c. Interview published in Borsen-Zeitung on November 23, 2019, available in German at <https://www.boersen-zeitung.de/index.php?li=1&artid=2019226003&artsubm=&subm=>.

d. Information retrieved from the website of the central bank of Denmark, available at <http://www.nationalbanken.dk/en/governmentdebt/IR/Pages/Model-for-sovereign-green-bonds.aspx>.

Compliance Risk

The issuance of labeled bonds also introduces the concept of compliance risk related to the relevant labeled bond principle that the bond has been issued under.

Complying with a labeled bond framework is a resource-heavy process and requires coordination and commitment across government. Clear monitoring and reporting processes are critical to maintain investor satisfaction regarding the use of proceeds. The proper reporting of the use of proceeds, outputs, and impact from expenditures needs to be transparent, timely, and measurable. Reporting will generally entail a mix of quantitative and qualitative indicators, which investors can use to assess the impact of their investment. An annual report on allocation and use of proceeds is normally part of the process.

Noncompliance with the “official” framework or guidelines for labeled bonds is a risk for sovereign issuers.

Noncompliance can take many forms. In some cases, it may relate to inadequate information on use of proceeds or on the impact of different investments, whereas more material noncompliance could relate to using the proceeds for some alternative purposes not related to the labeled bond framework. Green bond frameworks, for example, are voluntary process guidelines that recommend transparency and disclosure; hence, they offer investors few contractual protections. Use of proceeds, ongoing maintenance or withdrawal of the published second-opinion review, and annual reporting are not normally

included as direct covenants in the terms and conditions of labeled bonds, and as a result, noncompliance is not regarded as a default or step-up event. Of course, noncompliance could result in investors selling in the secondary market and various negative press headlines. Ramifications of this aspect of sovereign labeled bonds are still not clear. Indeed, over the longer term, in the event that noncompliance becomes a more systematic occurrence, investor perception of ESG investing could be damaged, particularly in the EMDE universe.

Many investors, particularly in EMs, are attracted to this extra oversight on the use of proceeds, and one may view it as a credit enhancement of sorts, although in a default scenario such bonds would be expected to rank *pari passu* with other sovereign instruments. The required coordination could also help improve institutional processes, ensure better governance and transparency across government departments, and create positive externalities for the functioning of government. Many ESG investors are particularly hands-on and may expect open dialogue with government debt managers about the reporting process and use of proceeds. Some investors may be particularly vocal and ask for specific measurement criteria. In some cases, the issuer may not be able to provide this information, but judging by the experience of sovereign issuers to date, these interactions are also very much a learning process, and open dialogue (to the extent possible) with investors on these matters is the most desirable approach.

> > >

BOX 4.5. Sustainability-linked (KPI-linked) bonds

Sustainability linked instruments are increasingly being marketed by investment banks, although no sovereign has issued this type of instrument to date. While traditional labeled bonds must prove that the capital they raise will be allocated to specific sustainable projects, sustainability-linked bonds qualify as sustainable because their financial and/or structural characteristics can vary depending on whether a defined ESG objective is achieved. These instruments have only been issued by corporates to date. Within the EMDE context, the positive experience from Brazilian corporate Suzano in September 2020 is likely to raise attention on this type of instrument. In addition, the European Central Bank (ECB) has made sustainability-linked bonds eligible as collateral for Eurosystem monetary policy operations (September 2020), which will likely support the development of this market segment in Europe. Key performance indicator (KPI)-linked loans are also gaining in popularity, particularly among corporates, although such loans would be excluded from any investment indexes.

In the sovereign context, at first glance, this type of bond appears attractive, given that there are no strict criteria for use of proceeds. However, there are notable shortcomings, including the selection of suitable KPIs, the fact that these instruments would not be attractive to labeled bond dedicated funds and generally the non-binding nature of the pricing structure. Moreover, given embedded optionality of its cash flows, integration in portfolios of most institutional investors may not be straightforward given their investment guidelines and practices.



Conclusion



This paper has highlighted the growing importance of ESG investing in the sovereign debt landscape and how the move toward a more sustainable capital market is changing the financial sector ecosystem. It's clear that the potentially severe impact of climate change on the economy is a “tragedy of the horizon” (Carney 2015) and that society as a whole must embrace the ideals of a more sustainable future. As such, this challenge also has clear implications for DMOs and is likely to require some adaptation efforts as a response to these structural shifts in terms of investor base and investor demand. The move toward a sustainable future poses significant opportunities and challenges for EMDEs in particular, and EMDE DMOs should be ready to adapt to a “new normal.”

This paper shows that DMOs, dependent on the specific ESG market readiness factors, can play an important role in a country's move to a sustainable future and that it is unwise for them to ignore these developments. While the issuance of sovereign green bonds has garnered much investor attention and media coverage in recent years, particularly in the euro area, this paper highlights that there are many other areas in which the DMO can also contribute to a more sustainable future, in a positive and meaningful way. The paper identifies a suite of ESG readiness factors that can help a DMO decide on the appropriateness of pursuing each of the identified ESG activities. While each sovereign can rightly aspire to engage on ESG issues and incorporate ESG-related activities into its LCBM development plan, it is important to understand that the existence of ESG market readiness factors may contribute to the success of various approaches. For certain sovereigns where these factors have not been addressed, it may still make sense to pursue a specific ESG strategy for other reasons. However, in countries where the LCBM is at a nascent stage of development, formal DMO ESG activities will likely play a negligible role in market development, given limited financial and human resources. In these countries, focusing on developing the preconditions of market development, such as institutional setting and governance, would nevertheless often incorporate ESG aspects.

While the DMO's overriding primary role is to ensure that the government's financing needs are met at the lowest possible cost and with a prudent degree of risk, the paper outlines various ESG activities that a sovereign issuer could consider to take advantage of the shifting ESG-oriented investment landscape. Moreover, since the DMO is an important public body in any country's financial market, the signaling effect of its actions should not be underestimated. It also comes at a time when ESG and climate finance are firmly on the agenda of a large group of financial actors, including the central bank community, which clearly builds momentum. Even small actions by the DMO, such as highlighting ESG issues more prominently in its annual report or integrating ESG considerations into some of its operational activities, can send an important signal to the wider financial market and act as a spur for change. Finally, a practical framework for the sovereign issuer is proposed to help debt managers identify which ESG approach could be followed and which factors to take into consideration. While there is no fixed template for the sovereign issuer on which ESG-oriented path to pursue because of the specificities of each country, DMOs should keep an open mind and remain proactive in this space. Eventually, similar to general climate change issues, any sovereign engagement in ESG activities (including that of DMOs) should be approached holistically and through a longer-term lens because fragmented and short-term actions can lead to suboptimal outcomes.





Appendix A

Issuing a Green Bond: Select Practical Considerations

The issuance of a green bond requires significant commitment from the DMO as well as coordination across the government departments with “green” spending. Experience shows that political buy-in is of utmost importance, and the stronger this commitment is, the better. Many DMOs that have issued green bonds have been driven by explicit political decisions made by the government. This (a) ensures cooperation across key ministries, (b) communicates political commitment to investors, and (c) may help alleviate any DMO legal concerns about the proper use of the funds borrowed.

The total project life cycle for issuing a green bond is generally between nine months to 2 years, although subsequent issuances can be organized much faster. Most DMOs that have issued green bonds have not hired new staff, and the new duties are carried out by existing staff. Although each issuance is different, recent sovereign issuance experience indicates that a green issuance project requires one full-time-equivalent position over a period of six to nine months during the live project phase. In the pre-live and post-issuance phases, the green bond workflow requires half to three-quarters of one full-time-equivalent staff position. There are generally two timelines to any green bond project; (a) internal approval and (b) external approval.

- **Six to 18 months prior to issuance:** The DMO will need to discuss the potential issuance internally; conduct detailed analysis, also interacting with market participants; and decide whether the issuance of a green bond makes sense. This timeline could also be driven or overtaken by political pressure. Some DMOs also have close interaction with other DMOs that have issued green bonds and can learn from their experience.
- **Six to 9 months prior to issuance:** The external engagement will generally entail (a) getting concrete political approval, (b) hiring structuring advisers, and (c) developing and issuing a green bond framework. Once the political approval has been received, the DMO should establish a working group with all key stakeholders involved. The DMO may not necessarily be in the lead here but will play a key role. This working group oversees the implementation of the green bond framework. It is also responsible for the allocation reports and impact reporting and helps in coordination. Certification of projects can take six months on average and requires close interaction with the verifying entity.

- **The DMO may decide to interact more frequently with banks and also hire some banks to advise on the issuance process.** Experience dictates that the DMO should hire at least two banks for this role and ensure that the banks chosen have a good understanding of sustainable finance and grasp of the broader context of the country. This is important given the many interactions, and it may take time to evaluate. The advisers are generally engaged with on a nonfee basis, although these banks would be included as leads on the first syndication.
- **The advisor banks have a key role to play in advising the DMO on the green bond framework.** They also help organize a marketing campaign and advise the DMO on interactions with investors. In some instances, the DMO has held a workshop with the adviser banks to finalize a suitable green bond road show pitch. The DMO will need to source representatives from the other government ministries who have expertise and confidence in interacting with investors. This may be a challenge for some countries.

Post issuance

- **The reporting process is challenging and requires strong coordination.** The process is overseen by the working group, of which the DMO is a strong member. At this point, the shortcomings in measuring project impact may become apparent and may potentially act as a bottleneck. Experience shows that this process is ongoing, and countries learn on the job. The adviser banks can also be useful in the post-issuance process and can advise on the reporting.



EM ESG-Aligned Sovereign Fixed Income Indices

ESG fixed-income indexes are an important mechanism to attract large-scale investment in a sustainable future. While ESG-based fixed income indexes are not mainstream, there is a growing consensus that as the financial sector and society more generally focus on a sustainable future, AUM tracking of such indexes will increase. As such, sovereigns that perform better in ESG scoring should see greater demand from ESG-oriented investors. There are currently two significant providers of sovereign EM fixed income indexes that incorporate ESG factors, while other index providers are also increasingly being used by investors. These two indexes incorporate ESG factors:

- **JPMorgan Emerging Market (JESG EMBI) Indexes:** The JESG incorporates ESG score integration and positive screening (for example, green bonds) on the base of J. P. Morgan's flagship EM sovereign indexes (EMBI, GBI-EM, and CEMBI—of these, only GBI-EM tracks sovereigns only).
- **Climate-adjusted FTSE Russell Global Government Bond Index (WGBI):** This is an index of large investment-grade countries. Given market size qualifications, only a few emerging markets and developing economies form part of the index.

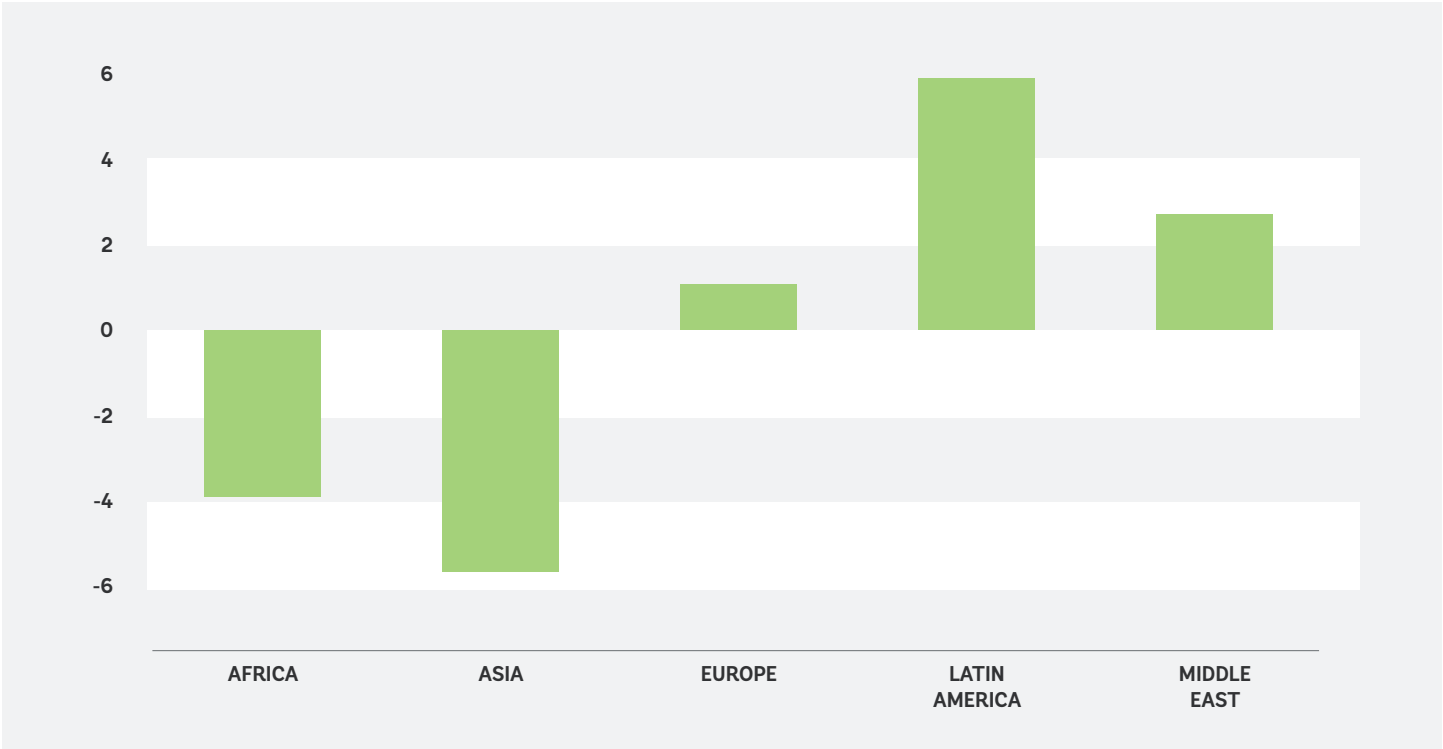
The JESG is the most prominent EM ESG-aligned index, surpassing US\$18 billion in benchmarked assets since its launch in 2018. Currently, Europe accounts for a disproportionate share of assets benchmarked to the JESG family, but there is increasing interest from U.S. managers. Given the resiliency of the JESG indexes and increasing demand from asset managers, AUM benchmarked to JESG indexes are expected to surpass US\$20 billion by the end of 2020.

Once the baseline index is selected, the JESG overlay is constructed using a combination of computing JESG index scores, considering ethical factors and exclusions, and calculating new ESG weights. Index scores are calculated using data from RepRisk, Sustainalytics, and Climate Bonds Initiative inputs. Issuers with better ESG scores will have higher weights relative to the baseline index weights. This methodology overweights green bonds issuances. Figure A.1 shows the regional differences in weightings in the JPMorgan EBM index based on ESG criteria. It is clear that the Africa region in particular underperforms under such an approach.

While the evidence is still mixed, J. P. Morgan analysis suggests that EM sovereigns that align with ESG factors have outperformed peers. J. P. Morgan analysis finds that JESG EMBI sovereigns have consistently performed better than EMBI sovereigns with over 50 basis points annualized outperformance over the past seven years.

> > >

FIGURE A.1 Ratio of JPMorgan EMBIG index to comparable ESG-adjusted index, by region



Source: J. P. Morgan.
Note: EMBIG = Emerging Markets Bond Index Global.



Central Banks and ESG

Central banks are playing an increasingly active role in promoting the move towards a sustainable global economy (Carney 2015; ECB 2019). Some have shown an inclination to internalize climate change in their policy objectives and frameworks. Others are more reluctant. (Brunnermeier and Landau 2020). Central banks are considering ways that they can contribute positively in four main areas: (a) in their role as prudential supervisor and overseer of financial stability, (b) in their role as a large-scale investor, (c) via the conduct of monetary policy analysis and operations, and (d) as signalers to the wider financial sector (ECB 2020). The Network for Greening the Financial System (NGFS) is also an important initiative for the financial sector's efforts in the area of sustainable finance as it is helping to build consensus and evolve thinking in the area.

First, as prudential supervisor, many central banks are beginning to consider ways that banks, which they supervise, can properly assess the risks from climate change. Many central banks are working on analytical frameworks so that they can better model the effects of climate change and inform and support investors in pricing these risks appropriately.

Second, many central banks are also large-scale investors that manage portfolios with various mandates and risk tolerance. An increasing number of central banks are engaging in various strategies to implement sustainable investing in these portfolios, including negative screening; best-in-class; ESG integration; impact investing (including buying green bonds⁴⁰); and voting and engagement. The NGFS has recommended that central banks should expand their objectives to include management of climate change risks and climate change mitigation in addition to traditional "liquidity, safety and preservation of capital" in their portfolio management duties. This marks a significant evolution in how central banks manage their reserve portfolios while nothing that sustainability considerations need to be balanced against liquidity, safety and return (BIS Quarterly Review 2019).

Third, central banks are also "soul searching" on the extent that the effects of climate change should be incorporated into monetary policy frameworks, with particular debate on (a) the dichotomy between the usual time horizon of monetary policy objectives versus the long-term nature of climate change and (b) whether central banks should actively discriminate against non-green assets in their operations. Notwithstanding these debates, some central banks are coming under pressure to use monetary instruments actively to promote the fight against climate change (Honohan 2019).

Finally, central banks are important signalers and influencers for the wider financial sector. Including the work of the NGFS, an increasing number of central banks are involved in defining rules and standards and promoting better understanding of climate change.

40. A 2020 NGFS survey on reserve management of 40 of its central bank members, found that 75 percent invest in green SSA bonds, 73 percent in green corporate bonds, and 67 percent in green covered bonds, compared with a respective 62 percent, 56 percent, and 67 percent in 2019. Second, more central banks apply a negative screening filter within their fixed income portfolios: 30 percent for SSAs, 82 percent for corporates, and 33 percent for covered bonds. This compares with a respective 23 percent, 56 percent, and 33 percent in 2019. The survey also shows an increasing commitment of central banks to the Principles of Responsible Investment (PRI).





Appendix B

Asset Managers and their ESG Policies

> > >

FIGURE B.1 -List of asset managers and sovereign bond ESG integration policies (with links)

Asset Manager	Title	Year
PGIM	Our Sovereign ESG Framework	2017
Aberdeen Standard	Considering ESG for Emerging Market Sovereigns	2018
Aegon Asset Management	ESG Integration in Sovereign Portfolios	2018
Franklin Templeton	Environmental, Social and Governance Factors in Global Macro Investing	2018
Lazard Asset Management	Giving Credit Where It's Due: ESG Factors in EM Sovereign Debt	2018
PIMCO	Applying ESG Analysis to Sovereign Bonds	2018
Western Asset Management	ESG Investing in Sovereigns: Navigating the Challenges and Opportunities	2018
UBS	The Next Frontier: ESG Integration in Fixed Income	2018
Neuberger Berman	ESG for EMD: Toward Best Practice	2019
Allianz Global Investors	An ESG Framework for EM Sovereign Bonds	2019
Aviva Investors	Sovereign Interests: ESG Matters in Emerging Market Debt	2019
Barings	ESG for Sovereigns: One Size Does Not Fit All	2019
BlackRock	Sustainability: The Bond That Endures	2019
BlueBay and Verisk Maplecroft	ESG Risk Factors Are Material for Sovereign Debt Investing	2019
Hermes Investment Management and Beyond Ratings	Pricing ESG Risk in Sovereign Credit	2019
M&G Investments	Are Government Bonds Compatible with an ESG Approach?	2019
Morgan Stanley Investment Management	ESG and Sovereign Fixed Income Investing: A Better Way	2019
Amundi	A Study of Asset-Owner Priorities for ESG Investing in Asia	2019
TCW	Incorporating Environmental, Social, and Governance (ESG) Factors into the Investment Process	2020
LGIM	ESG in LGIM's Emerging Market Debt (EMD) Investment Process	2020

Note: ESG = environmental, social, and governance.





Appendix C

ESG and data

Sovereign ESG Data Providers

There is significant variation in sovereign ESG scoring across different providers, reflecting different philosophical and methodological choices about the meaning and purpose of sovereign ESG. Some providers place a higher value on progress toward sustainability goals, whereas others may focus more heavily on where ESG factors can pose material credit risks. According to State Street Global Advisors (2019), MSCI and Sustainalytics are among the most widely used ESG data providers. J.P. Morgan’s JESG line of emerging market sovereign debt indexes uses a combination of Sustainalytics and RepRisk’s scores to calculate the relative portfolio weights in the ESG-tilted index versus its standard indexes. FTSE Russell’s Climate Risk-Adjusted Government Bond Index uses Beyond Ratings’ environmental scoring, which assesses a country’s transition risks, physical risks, and resilience to climate change. Table C.1 provides details about the contribution of sovereign ESG methodologies to J.P. Morgan and FTSE bond indexes.

> > >

TABLE C.1 - Sovereign ESG methodologies used in market bond indexes

Index	Data Providers	Data Descriptions
J.P. Morgan JESG Emerging Market Sovereign Bond indexes	Sustainalytics	Detailed structural data are used for analyzing.
	RepRisk	High-frequency data are used to complement.
FTSE Climate Risk-Adjusted Government Bond Index	Beyond Ratings	Focused on climate; scoring assesses.

Sources: MSCI, Sustainalytics, Beyond Ratings, Vigeo Eiris, and RobecoSAM.
Note: ESG = environmental, social, and governance.

ESG data providers responded to a demand for sovereign ESG metrics by creating frameworks for sovereign assessment (table C.2). Because frameworks should ideally provide comparable information to benchmark a wide variety of countries, most of the underlying data come from publicly available sources such as the World Bank, United Nations, and nongovernmental organizations. E, S, and G factors are concepts that do not have an objective measure, so data providers create a framework that aggregates individual data points into E, S, and G pillars and in turn aggregates these into an overall ESG score. Following are some of the key distinguishing features of the main providers.

MSCI divides E, S, and G factors into risk exposure and risk management factors. Risk exposure scores measure a country's strength or vulnerability to a given factor. Risk management scores measure a country's ability to manage that risk.

Sustainalytics framework uses the World Bank's data on natural and produced capital (E), human capital (S), and institutional capital (G) to create national wealth scores. Next, factors measuring ESG performance, ESG trend, and ESG events are aggregated to help quantify a country's ability to manage that wealth in a sustainable manner. Sustainalytics ESG scores, complemented by faster-moving data from RepRisk, are used in J.P. Morgan's JESG EM sovereign fixed income indexes.

Beyond Ratings was recently acquired by FTSE Russell. Beyond Ratings' climate assessment is being used in the Climate-Adjusted World Government Bond Index (WGBI). Beyond Ratings' assessment gives greater consideration of transition risk compared with other providers.

Vigeo Eiris was recently acquired by Moody's. It divides indicators into two groups. One measures a country's commitment toward the ESG issue assessed. The other measures the actions undertaken or the results achieved related to the issue. Additionally, Vigeo Eiris applies certain indicators to selected groups of countries on the basis of their level of development. Vigeo equally weights E, S, and G, unlike other providers.

RobecoSAM's sustainability ratings were recently acquired by S&P. RobecoSAM has created an alignment matrix showing how its indicators and subindicators align with the Sustainable Development Goals.

The RepRisk Index for countries uses the World Bank's World Governance Indicators as a baseline, then adjusts them up or down daily using machine learning algorithms that scan large volumes of news from around the world. It is not directly comparable to the other providers, and it does not have set weights for E, S, and G. RepRisk's scores are used as a fast-moving complement to Sustainalytics ESG scores in J.P. Morgan's JESG emerging market sovereign fixed income indexes.

> > >

TABLE C.2 - Overview of ESG rating score weightings

	E%	S%	G%
MSCI	25	25	50
Sustainalytics	15	35	50
Beyond Ratings	30	30	40
Vigeo Eiris	33	33	33
RobecoSAM	20	30	50

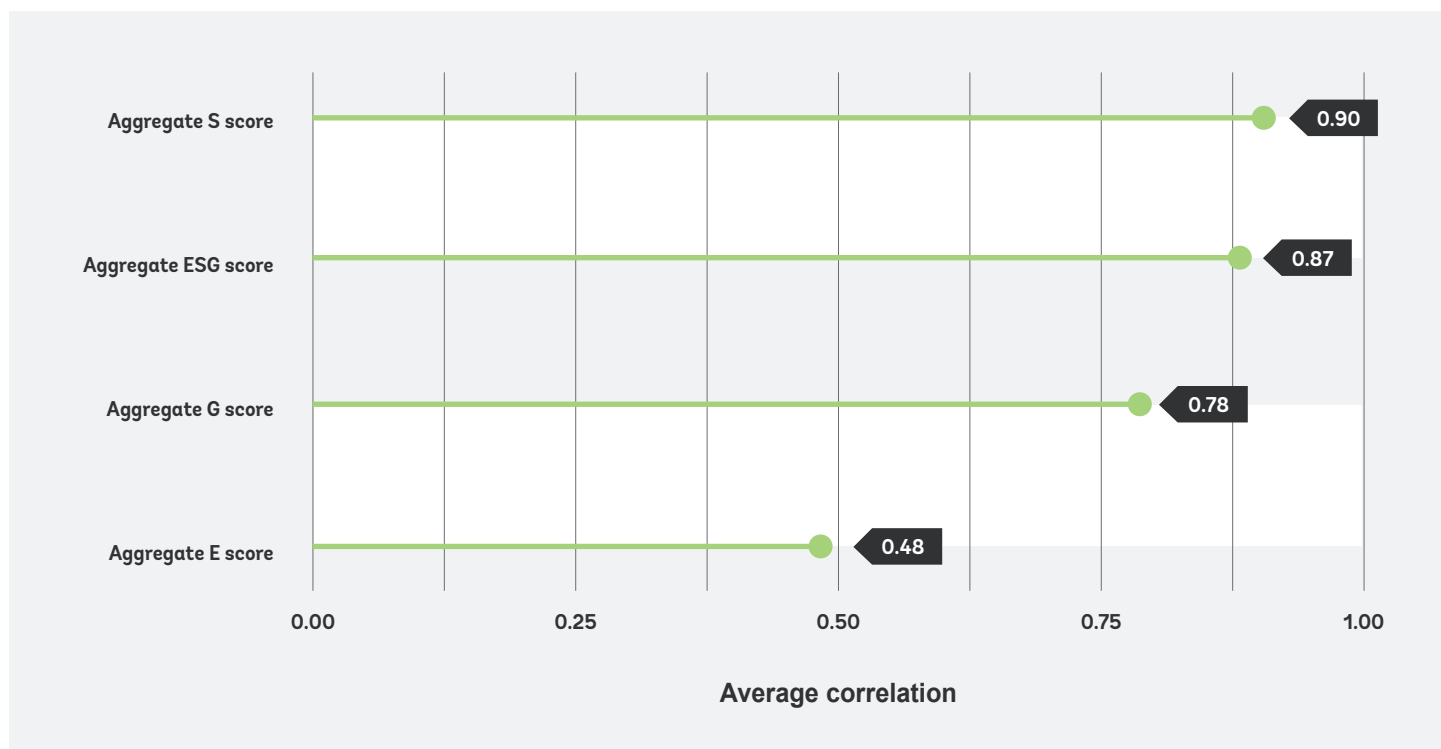
Sources: MSCI, Sustainalytics, Beyond Ratings, Vigeo Eiris, and RobecoSAM.
 Note: E = environmental; S = social; G = governance.

The new World Bank study on sovereign ESG scores by major ESG providers (including FTSE Russell, MSCI, RepRisk, RobecoSAM, Sustainalytics, and Vigeo-Eiris) has found a high degree of convergence of countries' overall ESG scores (Gratcheva and Emery, forthcoming). This finding is in contrast to divergence in corporate ESG scores by the same providers presented in a 2019 MIT paper, "Aggregate Confusion: The Divergence of ESG Ratings" (Berg, Kölbel, and Rigobon 2019). World Bank analysis of

sovereign scores based on replicated MIT methodology found that these providers highly agree on countries' S and G scores but diverge on E, as shown in figure C.1. The study also found that sovereign ESG scores have a statistically significant correlation with the wealth of a country, as shown in figure C.2. Specifically, in the case the JPMorgan Sovereign ESG index, the index is 12 percent wealthier than its non-ESG cousin by overweighting higher ESG performers that are wealthier countries.

> > >

FIGURE C.1 - Average correlation of sovereign ESG scores and individual E, S, and G pillars

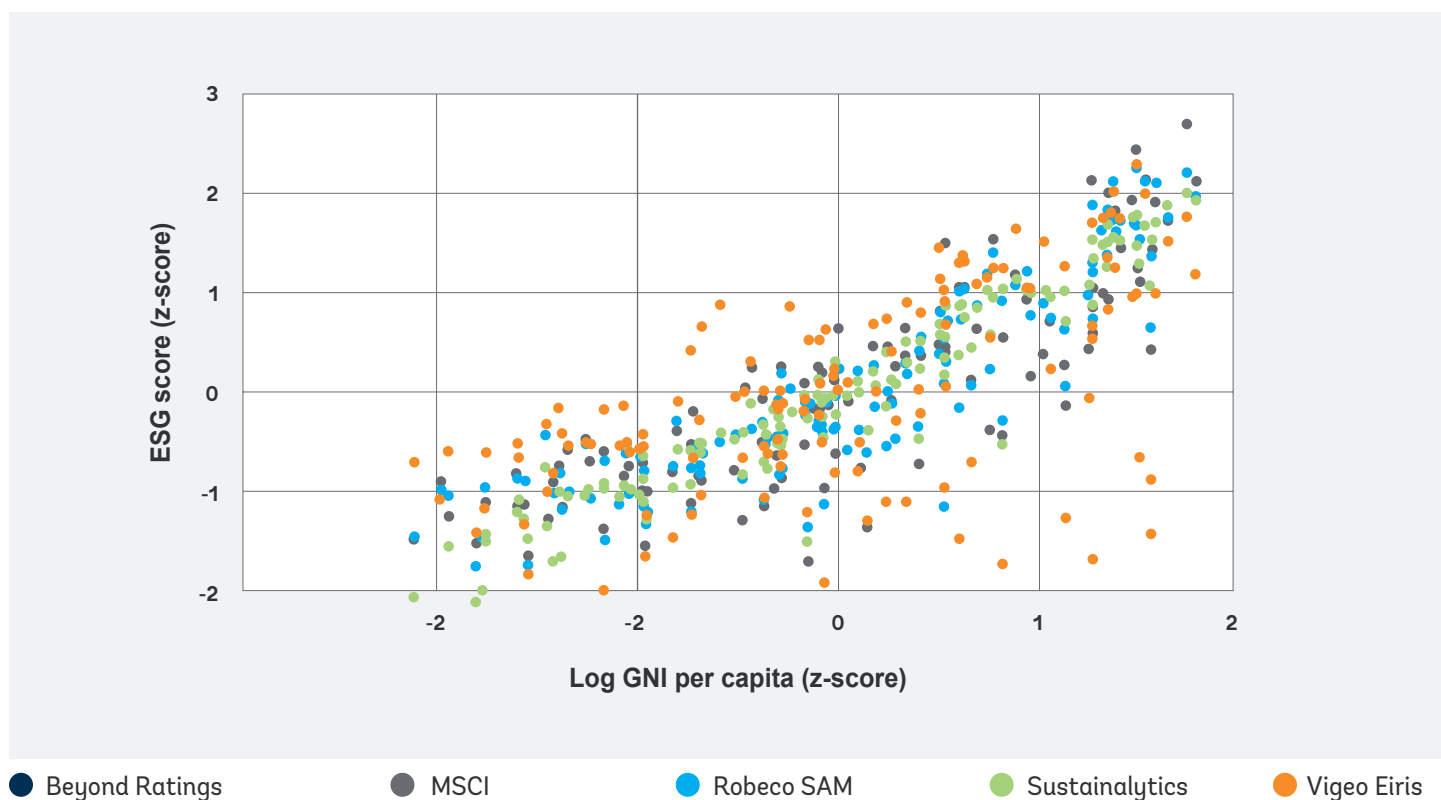


Sources: MSCI, Sustainalytics, Beyond Ratings, Vigeo Eiris, and RobecoSAM.

Note: E = environmental; ESG = environmental, social, and governance; G = governance; S = social.

> > >

FIGURE C.2 - Relationship between sovereign ESG scores and countries' wealth, all ESG providers



Source: MSCI, Sustainalytics, Beyond Ratings, Vigeo Eiris, and RobecoSAM.

Note: GNI = gross national income. The z-score describes the position of the raw score in relation to the mean, measured in standard deviation units.





References

Amundi Asset Management and IFC (International Finance Corporation). 2020. *Emerging Market Green Bonds Report 2019*. Washington, DC.: IFC. <https://www.ifc.org/wps/wcm/connect/a64560ef-b074-4a53-8173-f678ccb4f9cd/202005-EM-Green-Bonds-Report-2019.pdf?MOD=AJPERES&CVID=n7Gtahg>

Bolton, Patrick, Morgan Despres, Luiz Awazu Pereira da Silva, Frédéric Samama, and Romain Svartzman. 2020. *The Green Swan: Central Banking and Financial Stability in the Age of Climate Change*. Basel, Switzerland: Bank for International Settlements. <https://www.bis.org/publ/othp31.htm>

Arslanalp, S., D. Drakopoulos, R. Goel, and R. Koepke. 2020. “Benchmark-Driven Investments in Emerging Market Bond Markets: Taking Stock.” IMF Working Paper No. 20/192, IMF, Washington, DC. <https://www.imf.org/en/Publications/WP/Issues/2020/09/25/Benchmark-Driven-Investments-in-Emerging-Market-Bond-Markets-Taking-Stock-49740>.

Berg Florian, Julian F. Kölbel, and Roberto Rigobon. 2019. “Aggregate Confusion: The Convergence of ESG Ratings.” Working paper, MIT, Cambridge, MA. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3438533

Blommestein, Hans J., and Anja Hubig. 2012. “Is the Micro Portfolio Approach to Sovereign Debt Management Still Appropriate?” https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2078953.

Blommestein, Hans J., and Philip Turner. 2011. Interactions between Sovereign Debt Management and Monetary Policy Under Fiscal Dominance and Financial Instability. <https://www.oecd.org/finance/public-debt/49931946.pdf>.

Böhm, 2020. Engagement with governments is a balancing act. *Engage! The Engagement Magazine for Institutional Investors*, 2020, page 20 via the Union Investment Sustainability website https://union-investment.com/home/Competencies/Sustainable_Investments.html.

Brown, Michael, and Alex Sienaert. 2019. “Governance Improvements and Sovereign Financing Costs in Developing Countries.” MTI discussion paper 14, World Bank, Washington, DC. <https://openknowledge.worldbank.org/handle/10986/31888>.

Brunnermeier, Markus, and Jean-Pierre Landau. 2020. Central Banks and Climate Change.” *VoxEU*, January 15. <https://voxeu.org/article/central-banks-and-climate-change>.

Carney, Mark. 2015. “Breaking the Tragedy of the Horizon—Climate Change and Financial Stability.” Speech by the governor of the Bank of England and chairman of the Financial Stability Board, given at Lloyd’s of London, September 29. <https://www.bis.org/review/r151009a.pdf>.

- Cassard, Marcel, and David Folkerts-Landau. 1997. "Sovereign Debt: Managing the Risks." *Finance and Development* (December): 12–15. <https://www.imf.org/external/pubs/ft/fandd/1997/12/pdf/cassard.pdf>.
- Currie, Elizabeth, Jean-Jacques Dethier, and Eriko Togo. 2003. "Institutional Arrangements for Public Debt Management." Policy Research Working Paper 3021, World Bank, Washington, DC, April. https://www.researchgate.net/publication/2563663_Institutional_Arrangements_for_Public_Debt_Management.
- ECB (European Central Bank). 2019. "Climate Change and Financial Stability." *Financial Stability Review*, May. <https://www.ecb.europa.eu/pub/financial-stability/fsr/html/ecb.fsr201905~266e856634.en.html>.
- European Central Bank, 2020. Speech by Isabel Schnabel, Member of the Executive Board of the ECB, at a virtual roundtable on "Sustainable Crisis Responses in Europe" organized by the INSPIRE research network, July 17, 2020. <https://www.ecb.europa.eu/press/key/date/2020/html/ecb.sp200717~1556b0f988.en.html>.
- Fender, Ingo, Mike McMorrow, Vahe Sahakyan, and Omar Zulaica. 2019. "Green Bonds: The Reserve Management Perspective." *BIS Quarterly Review*. https://www.bis.org/publ/qtrpdf/r_qt1909f.htm.
- Global Capital. 2020. "IFC Shifts ESG Focus onto Banks with New Dealer Scorecards." Global Capital, June 11. <https://www.globalcapital.com/article/b1m0vs39rksvj2/ifc-shifts-esg-focus-onto-banks-with-new-dealer-scorecards>
- Gratcheva, Ekaterina, Skarnulis, Andrius and Stewart, Fiona . Forthcoming. "Credit Worthy: Proposal for an ESG 'Through-the-Transition' Approach for Sovereign Credit Ratings", World Bank, Washington DC.
- Gratcheva, Ekaterina, and T. Emery. Forthcoming. "Demystifying Variation in Sovereign ESG Ratings: Practical Guide for Policymakers and Investors." World Bank, Washington DC.
- Grut, Trivedi, and Alves. 2020. "Global Markets Daily 24 June 2020: Assessing ESG Strategies in EM Sovereign Credit through H1." Goldman Sachs research portal. (with subscription).
- GSIA (Global Sustainable Investment Alliance). 2018. "Global Sustainable Investment Review 2018." http://www.gsi-alliance.org/p-content/uploads/2019/06/GSIR_Review2018F.pdf.
- Hentov, Elliot, and Alexander Petrov. 2019. "How Sovereign Asset Owners Think about ESG." State Street Global Advisors, <https://www.ssga.com/library-content/pdfs/official-institutions-/how-sovereign-asset-owners-think-about-esg.pdf>.
- Honohan, Patrick. 2019. "Should Monetary Policy Take Inequality and Climate Change in Account?" PIIE Working Paper 19-18, Peterson Institute for International Economics, Washington, DC. <https://www.piie.com/publications/working-papers/should-monetary-policy-take-inequality-and-climate-change-account>.
- ICMA (International Capital Market Association). 2020. "Sustainable Finance: High-Level Definitions." ICMA, Zurich. <https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/Sustainable-Finance-High-Level-Definitions-May-2020-110520v4.pdf>.

IMF (International Monetary Fund). 2019. *Global Financial Stability Report: Lower for Longer*. Washington DC. <https://www.imf.org/en/Publications/GFSR/Issues/2019/10/01/global-financial-stability-report-october-2019>

IMF (International Monetary Fund) and World Bank. 2018. “G20 Note: Improving Public Debt Recording, Monitoring, and Reporting Capacity in Low and Lower Middle-income Countries.” IMF and World Bank, Washington, DC. <https://www.imf.org/external/np/g20/pdf/2018/072718.pdf>.

IIF (Institute for International Finance). 2005. “Strengthened Investor Relations Best Practices.” IIF, Washington, DC. <https://www.iif.com/Publications/ID/3500/Strengthened-Investor-Relations-Best-Practices-2005>.

J. P. Morgan Global Index Research Group. 2020. Phone Call with staff member.

JPM Global Index Research. 2020. “JESG on Cloud Seven.” J.P. Morgan Research (with subscription).

Kim, Gloria, Jarrad Linzie, Vincent Tao, Shaku Pithavadian, Viquar Shaikh, Kumaran Ram, Nikhil Bhat, and Komal Patel. 2018. “Introducing the J.P. Morgan ESG Index Suite (JESG).” J.P. Morgan Research (with subscription).

Knight, James, and Bill Northfield. 2020. “Sovereign Investor Relations: From Principles to Practice.” IMF Working Paper 20/204, International Monetary Fund, Washington, DC. <https://www.imf.org/en/Publications/WP/Issues/2020/09/25/Sovereign-Investor-Relations-From-Principles-to-Practice-49720>.

Moody's. 2020. “The Causes of Sovereign Defaults.” Sovereign Default Series report, Moody's, New York, August 13.

OECD (Organisation for Economic Co-operation and Development). 2015. “Green Bonds: Mobilising the Debt Capital Markets for a Low-Carbon Transition.” Policy Perspectives report, OECD, Paris. <https://www.oecd.org/environment/cc/Green%20bonds%20PP%20%5Bf3%5D%20%5Bfr%5D.pdf>.

OECD (Organisation for Economic Co-operation and Development). 2020b. “Sovereign Borrowing Outlook for OECD Countries 2020, pre COVID-19 Edition.” <http://www.oecd.org/daf/fin/public-debt/Sovereign-Borrowing-Outlook-in-OECD-Countries-Feb-2020.pdf>.

OECD (Organisation for Economic Co-operation and Development). 2020b. *Sustainable and Resilient Finance: Business and Finance Outlook 2020*. <https://www.oecd.org/daf/oecd-business-and-finance-outlook-26172577.htm>

Raddatz, C., S. Schmukler, and T. Williams, 2017, “International Asset Allocations and Capital Flows: The Benchmark Effect,” *Journal of International Economics*, Vol. 108, pp. 413–30 (September). <https://www2.gwu.edu/~iiep/assets/docs/papers/2017WP/WilliamsIIEPWP2017-10.pdf>

State Street Global Advisors. 2019. “The ESG Data Challenge.” March. <https://www.ssga.com/investment-topics/environmental-social-governance/2019/03/esg-data-challenge.pdf>.

Togo, Eriko. 2007. "Coordinating Public Debt Management with Fiscal and Monetary Policies: An Analytical Framework." Policy Research Working Paper 4369, World Bank, Washington, DC. <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/724711468313861120/coordinating-public-debt-management-with-fiscal-and-monetary-policies-an-analytical-framework>.

Turner, Philip. 2011. "Fiscal Dominance and the Long-Term Interest Rate." FMG Special Paper 199, Financial Markets Group, London School of Economics, London. www2.lse.ac.uk/fmg/workingPapers/specialPapers/home.aspx.

UN (United Nations). 2019. *Global Sustainable Development Report 2019*. New York: United Nations. <https://www.un.org/development/desa/publications/global-sustainable-development-report-2019.html>.

UNPRI (United Nations Principles for Responsible Investment). 2019. *A Practical Guide to ESG Integration in Sovereign Debt*. Geneva: United Nations Environment Programme Finance Initiative and New York: United Nations Global Compact. <https://www.unpri.org/download?ac=9696>.

World Bank. 2019. "Roundtable: Sovereign Issuer Engagement on Environment, Social and Governance (ESG) Issues." World Bank, October 21. <https://www.worldbank.org/en/events/2019/10/21/roundtable-on-sovereign-issuer-engagement-on-esg-issues>.

World Bank and IMF (International Monetary Fund). 2014. "Revised Guidelines for Public Debt Management." World Bank, Washington, April 1. <http://documents.worldbank.org/curated/en/539361468170971115/pdf/866520REV0SecM0C0disclosed040160140.pdf>.

World Bank and IMF (International Monetary Fund). Forthcoming. "Guidance Note for Developing Government Local Currency Bond Markets."

